

World Economic and Social Survey 1995



CURRENT TRENDS AND POLICIES
IN THE WORLD ECONOMY



UNITED NATIONS

DEPARTMENT FOR ECONOMIC AND SOCIAL INFORMATION
AND POLICY ANALYSIS

World Economic and Social Survey 1995

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in the World Economy**



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Note

Symbols of United Nations documents are composed of capital letters combined with figures.

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PREFACE

*THIS EDITION OF THE **WORLD ECONOMIC AND SOCIAL SURVEY** shows two economic and social realities existing side by side.*

At a time when the global economy is comparatively healthy, many regions are enjoying increasing prosperity and show an ability to sustain their growth. Simultaneously, for many of the world's citizens, this is an era of hardship - and worse suffering seems to lie ahead.

In a world that is tightly linked economically, this imbalance threatens the long-term welfare of both developed and developing economies. Through the United Nations, the international community has the capacity and the obligation to transform this situation.

A continuum of global conferences in recent years has allowed us to form a new vision of worldwide development and to identify the steps by which we can realize this vision. It is urgent that the international community show commitment to advancing along the path that it has mapped out; delay can only make a remedy more difficult and more expensive.

*As an authoritative source of important information, this **Survey** represents a major reference document. But by reviewing the global economic and social landscape, it also poses fundamental questions about our priorities and about our commitment to the future. I hope that this **Survey** will contribute to a knowledgeable and far-ranging debate about our policies and to a clearer understanding of how we can build a better and fairer world for the future.*

Boutros Boutros Ghali



BOUTROS BOUTROS-GHALI
Secretary-General

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EXPLANATORY NOTES

The following symbols have been used in the tables throughout the report:

- .. **Two dots** indicate that data are not available or are not separately reported.
- **A dash** indicates that the amount is nil or negligible.
- **A hyphen (-)** indicates that the item is not applicable.
- **A minus sign (-)** indicates a deficit or decrease, except as indicated.
- . **A full stop (.)** is used to indicate decimals.
- / **A slash (/)** between years indicates a crop year or financial year, for example, 1990/91.
- **Use of a hyphen (-)** between years, for example, 1990-1991, signifies the full period involved, including the beginning and end years.

Reference to "tons" indicates metric tons and to "dollars" (\$) United States dollars, unless otherwise stated.

Annual rates of growth or change, unless otherwise stated, refer to annual compound rates.

In most cases, the growth rate forecasts for 1995 and 1996 are rounded to the nearest half of a percentage point.

Details and percentages in tables do not necessarily add to totals, because of rounding.

The following abbreviations have been used:

ACP	African, Caribbean and Pacific (Group of) States
CAP	Common Agricultural Policy (of the European Union)
CFA	Communauté financière africaine
CGIAR	Consultative Group on International Agricultural Research
CIS	Commonwealth of Independent States
COMTRADE	External Trade Statistics Database
DAC	Development Assistance Committee (of OECD)
DSB	Dispute Settlement Body (of the Uruguay Round of multilateral trade negotiations)
EAP	Enhanced Access Policy (of the International Monetary Fund)
EBRD	European Bank for Reconstruction and Development
EC	European Community
ECE	Economic Commission for Europe
ECLAC	Economic Commission for Latin America and the Caribbean
ECU	European currency unit
EDF	European Development Fund

EMS	European monetary system
EMU	Economic and Monetary Union
ERM	exchange rate mechanism
ESAF	Enhanced Structural Adjustment Facility (of the International Monetary Fund)
EU	European Union
Eurostat	Statistical Office of the European Union
FAO	Food and Agriculture Organization of the United Nations
G-7 countries	the seven industrialized countries
GATS	General Agreement on Trade in Services (Final Act of the Uruguay Round)
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GIS	geographical information system
GNP	gross national product
GSP	Generalized System of Preferences
HIV/AIDS	human immunodeficiency virus/acquired immunodeficiency syndrome
IARCs	international agricultural research centres
ICP	International Comparison Programme
IDA	International Development Association
IEA	International Energy Agency
ILO	International Labour Organization
IMF	International Monetary Fund
INTRASTAT	system of data collection for intra-EU trade
IRRI	International Rice Research Institute
mbd	million barrels per day
MERCOSUR	Southern Cone Common Market
MFA	Multi-Fibre Arrangement
MFN	most favoured nation
NATO	North Atlantic Treaty Organization
NIEs	newly industrialized economies
NNP	net national product
OCR	optical character recognition
ODA	official development assistance
ODI	Overseas Development Institute
OECD	Organisation for Economic Cooperation and Development
OPEC	Organization of the Petroleum Exporting Countries
PPP	purchasing power parity
Project LINK	International Research Group of Econometric Model Builders, with Headquarters at the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat
SAF	Structural Adjustment Facility
SDRs	special drawing rights (IMF)

SFF	Supplementary Financing Facility (of the IMF)
SITC	Standard International Trade Classification
SOE	state-owned enterprise
TFP	total factor productivity
TPRM	Trade Policy Review Mechanism (of the Uruguay Round)
TRIMs	trade-related investment measures
TRIPs	trade-related intellectual property rights
TRPM	Trade Policy Review Mechanism
UEMOA	Union économique et monétaire de l'Afrique de l'ouest
UN/DESIPA	Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNIDIR	United Nations Institute for Disarmament Research
UNU	United Nations University
VAT	value-added tax
WTO	World Trade Organization

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the United Nations Secretariat concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The term "country" as used in the text of this report also refers, as appropriate, to territories or areas.

For analytical purposes, the following country classification has been used:

Developed market economies:

North America, southern and western Europe (excluding Cyprus, Malta and former Yugoslavia), Australia, Japan, New Zealand.

Major developed market economies (or the Group of Seven):

Canada, France, Germany, Italy, Japan, United Kingdom of Great Britain and Northern Ireland, United States of America.

Economies in transition:

Albania, Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia and the former USSR, comprising the Baltic republics and the Commonwealth of Independent States (CIS).

Developing countries:

Latin America and the Caribbean, Africa, Asia and the Pacific (excluding Australia, Japan and New Zealand), Cyprus, Malta, former

Yugoslavia. For some analyses, China has been shown separately.

South and East Asia:

Unless otherwise stated, South Asia, South-East Asia and East Asia, excluding China.

Mediterranean:

Cyprus, Malta, Turkey, former Yugoslavia.

West Asia:

Bahrain, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates, Yemen.

For particular analyses, developing countries have been subdivided into the following groups:

Capital-surplus countries (or surplus energy exporters):

Brunei Darussalam, Iran (Islamic Republic of), Iraq, Kuwait, Libyan Arab Jamahiriya, Qatar, Saudi Arabia, United Arab Emirates.

Deficit countries (or capital-importing countries) subdivided into the following two subgroups:

Other net energy exporters (or deficit energy exporters):

Algeria, Angola, Bahrain, Bolivia, Cameroon, Colombia, Congo, Ecuador, Egypt, Gabon, Indonesia, Malaysia, Mexico, Nigeria, Oman, Papua New Guinea, Peru, Syrian Arab Republic, Trinidad and Tobago, Tunisia, Venezuela, Viet-Nam, Yemen.

Net energy importers:

All other developing countries.

Miscellaneous groupings:

Fifteen heavily indebted countries:

Argentina, Bolivia, Brazil, Chile, Colombia, Côte d'Ivoire, Ecuador, Mexico, Morocco, Nigeria, Peru, Philippines, Uruguay, Venezuela, former Yugoslavia.

Least developed countries: (48 countries)

Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Samoa, Sao Tome and Principe, Sierra Leone, Solomon Islands, Somalia, Sudan, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen, Zaire, Zambia.

Sub-Saharan Africa:

African continent and nearby islands, excluding Nigeria, northern Africa (Algeria, Egypt, Libyan Arab Jamahiriya, Morocco and Tunisia), South Africa.

The designations of country groups in the text and the tables are intended solely for statistical or analytical convenience and do not necessarily express a judgement about the stage reached by a particular country or area in the development process.

I A UNITED NATIONS PERSPECTIVE ON THE WORLD ECONOMY, 1995

The global economy is in the strongest condition in many years. Total world output — and thus total income — is growing at the most rapid rate of the 1990s, but not so rapidly as to threaten an outbreak of high inflation. Real output per capita is rising in the largest number of countries in at least 15 years, although there are still many countries where output per person continues to stagnate or fall. Prospects for improvement in those countries are seen to depend heavily — although not exclusively — on policy design and policy choices in the countries themselves.

There are, nevertheless, several elements in the global economic situation and short-term outlook that warrant close monitoring by the international community and pose questions for consideration. One involves an appreciation of the constraints on the use and effectiveness of macroeconomic policy that arise from the development of financial markets, various dimensions of international integration and political factors. Another one that may be especially important for United Nations discussions is that there appears to be a new orientation of policy towards international cooperation between developed and developing countries. In this orientation, Governments see themselves on an ostensibly more equal footing, although the orientation may not be fully consistent with global concerns about poverty eradication.

THE EXPANSION OF WORLD OUTPUT AND THE CHANGING CONTENT OF NATIONAL POLICY

The world economy seems to have attained a “cruising speed” in the growth of output of about 3 per cent a year,¹ which at the moment appears sustainable. Economic growth rises and falls in cycles and presumably will continue to do so, but the effort of policy makers in the major economies has been to try to lengthen the period of upswing, even at the risk of making it slower. Thus far, the strategy has worked and the forecast is that it will continue to work at least through 1996 (see table I.1).

Although the rate of growth of output is not very rapid — it is about at the average of the 1980s — it is unusually widespread. Less than one third (30 per cent) of the countries are expected to experience a decline or stagnation in per capita output in 1995. The corresponding figure was more than one half (55 per cent) in 1993.²

¹ World output and its growth are measured here in national prices and exchange rates of 1988 (with selected adjustments), in contrast to the measurement technique that is now used in certain publications of the International Monetary Fund, in which a single set of prices, known as “purchasing power parities”, is applied to all countries; under that measurement scheme, world output growth is closer to 4 per cent a year (for additional details, see Introduction to the Statistical Annex).

² The difference in number of countries covered in the early and later periods in table I.1 is mainly accounted for by the break-up of the Soviet Union. Excluding the successor States of the USSR, less than 30 countries out of 121 are expected to witness a fall or stagnation in GDP per capita in 1995.

Table I.1.
GROWTH OF WORLD OUTPUT, 1981-1996

Annual percentage change							
	1981-1990	1991	1992	1993	1994 ^a	1995 ^b	1996 ^b
World	2.8	0.4	0.7	1.0	2.6	2¾	3¼
Developed market economies	2.8	0.8	1.5	1.0	2.9	2¾	3
Economies in transition ^c	2.0	-8.8	-15.5	-8.6	-9.9	-6	2
Developing economies	3.1	3.4	4.9	5.0	5.4	5	5
Memorandum items:							
Number of countries with falling or stagnant per capita output	48	58	62	76	48	41	..
Number of countries in sample	122	122	136	137	137	137	..

Source: UN/DESIPA.

^a Preliminary estimate.

^b Forecast, based in part on Project LINK.

^c Based on reported GDP, which increasingly underestimates activity in several countries.

Growth and macroeconomic policy issues in developed market economies

The developed market economies, which account for almost three fourths of world output, have emerged from the recessionary period of the early 1990s. The recessions in individual countries were generally short and less steep than in earlier cycles, particularly for the United Kingdom of Great Britain and Northern Ireland and the United States of America, and the recoveries have also been relatively gradual (see table A.2). On the other hand, in Japan, where slow rates of growth were previously considered a "recession", the present cycle has caused output to actually fall and the rebound is turning out to be extremely slow. The recession hit the European continent in 1993 and, while output has been recovering for two years, the double-digit rates of unemployment left in its wake remain a major cause for concern.

Indeed, one major aspect of the present recovery is the slow rate of decline in the unemployment rate. It is expected to average 7½ per cent of the labour force of the industrialized economies as a whole in 1995, not significantly less than its peak in 1993 and 1994 (see table A.6). This is a social and economic matter of great importance, as highlighted by the heads of State and Government who met in March in Copenhagen.³ It also puts heavy political pressure on macroeconomic policy managers to step up the growth of aggregate demand at the risk of higher inflation, even if it will add only temporarily to total employment. However, the solution seems to lie mainly in a greater effort for human capital development, regulatory reform and infrastructure investment.⁴

³ See *Report of the World Summit for Social Development, Copenhagen, 6-12 March 1995* (A/CONF.166/9), chap. 1, resolution 1, annexes I and II.

⁴ The employment problem in the global economy was a focus of *World Economic and Social Survey, 1994* (United Nations publication, Sales No. E.94.II.C.1), chap. VI.

The main thrust of macroeconomic policy today is to keep a tight rein on the recovery in order to hold back inflation, while using the recovery period as an opportunity to reduce the structural components of fiscal deficits. Policy makers see themselves as operating in a relatively new environment in which maintaining the confidence of the financial markets takes high priority (as large volumes of funds may be moved quickly from market to market and across national boundaries) and in which the traditional tools of macroeconomic policy are less potent than they were in the past (see chapter IV).

In some cases, especially the United States, fear of the public deficit mainly pertains to long-run dynamics, as the current situation is a relatively enviable one among developed market economies: the general government deficit (which consolidates all levels of government and gives a good idea of the public-sector borrowing requirement) was already reduced to only 2 per cent of gross domestic product (GDP) in 1994 (see table A.8). Of the seven major industrialized economies, only Japan had a comparably small deficit, a measure of the capacity of that country's Government to nurture the economy's weak recovery with further fiscal stimuli, as the Government announced it would do. Elsewhere, budgetary consolidation remains a particular focus of attention, especially in the European Union, where the targets for policy harmonization associated with the Maastricht Treaty were not close to being met by most countries.

Signs of improvement in the economies in transition

Although the figures in table I.1 indicate that aggregate annual production of the economies that are in transition from planned to market economies will not begin to increase until 1996, the situation in the transition economies may still be judged as encouraging. First, the data for individual countries reveal that all the central and eastern European transition economies and the Baltic States began in 1994 to climb out of the economic depression that everywhere accompanied the early stages of the transition process (see table A.3). The recovery is slow, however, and the social and economic disruptions, in particular high rates of unemployment, remain severe. Indeed, even the Polish economy, which is in its fourth year of growth, has yet to attain the level of output of 1989, the year the opportunities for rapid transition first opened.

Second, the data for several of the transition economies, especially the successor States of the Soviet Union, are considered to be biased downwards because of the difficulties in adequately capturing the activity in the non-state sector, where small-scale enterprises abound (see Introduction to the Statistical Annex). It is even possible, although it would be difficult to confirm it at this point, that GDP in the Russian Federation is already rising.

Third, even if the rise in output is slow in coming, the reforms that have been put in place are likely to raise the quality of much of the output that is produced. At the macroeconomic policy level, as well, rates of inflation are in general decline and the centrality of budgetary correction to stabilization policy has been broadly acknowledged. Indeed, the focus of policy makers has been turning to microeconomic and institutional features of market-oriented reforms because the supply response to stabilization and adjustment was unexpectedly slow (see chapter VI).

Economic growth and policy management in developing economies

The developing countries are in their fourth year of 5 per cent growth of GDP, and 1996 is expected to become the fifth year. This is indeed an important trend, especially set against the 1980s average growth of 3 per cent a year. Unfortunately, not all countries grow by 5 per cent a year. The statistic is a weighted average that aggregates the developing countries in such a manner that the result corresponds to what it would be if the developing countries were one country.

As in years past, the rapidly growing economies are concentrated in Asia. The 15 developing countries with the highest expected growth rates in 1995 are China, Viet Nam, Singapore, Thailand, Malaysia, Republic of Korea, Indonesia, Taiwan Province of China, Papua New Guinea, Myanmar, Sri Lanka, Tunisia, Uganda, India and the Philippines, in descending order. The forecast growth rates range from 10 to 5.8 per cent. In contrast, clustered among the slower growing developing economies are a disproportionate number of African countries.

The economic situation in Africa is nevertheless improving, although the improvements are slow and modest. The GDP of the sub-Saharan Africa grouping grew in 1994 for the first time in two years,⁵ but the population in those countries grew faster. Per capita output might rise this year, but marginally at best.

There are cases in Africa, however, in which adjustment programmes have begun to pay off in economic expansion. For example, certain countries, including Ghana, Mauritius, Tunisia and Uganda, have had a string of years of substantial growth of GDP. Also, in the wake of the CFA franc devaluation in 1994, the economy of Côte d'Ivoire began to grow; it had previously shrunk for seven consecutive years. But sustained high rates of growth are exceptions. Indeed, in view of the continuing disappointments in Africa's economic performance, the Economic and Social Council has decided to focus its "high-level segment" in July 1995 on Africa's development (decision 1995/203).

The World Summit for Social Development committed the international community to reducing poverty and integrating all people into the economic mainstream, as well as reducing unemployment, as noted above. The situation in Africa underlines the difficulty of the task, but severe poverty exists in Asia and in Latin America and the Caribbean as well. Serious progress in poverty alleviation in poor countries requires rapid and sustained economic growth; growth is not a sufficient condition, but it is a necessary one.

How to bring about the appropriate economic adjustments and revive economic growth has been a major focus of international discussion for 15 years, if not longer. Current thinking about adjustment gives greater prominence to national initiative in the design of adjustment programmes, where knowledge of local economies is greatest, and to questions of proper sequencing of policy measures. The contingencies of policy-making are also a focus of attention, underlining the importance of flexibility in programme execution in the light of changes in international conditions and what has come to be called the "path dependence" of policy design (see chapter V).

After the exchange-rate crisis in Mexico in late 1994 and the financial shock it spread over Latin America, there has been much concern about adequately timed corrections of policy. In the event, Latin America's economic growth rate, which had finally been gathering steam after the "lost decade" of the 1980s, is set to drop precipitously in 1995 to less than half the 1994

⁵ Defined to exclude Nigeria and South Africa, which otherwise swamp the data of the smaller economies.

rate (see table A.4). Creditor Governments and the financial community, including investors who lost considerable sums in the wake of the crisis, have asked whether better international surveillance of domestic policy might avert future crises. This is a question about information, analysis and the politics of policy-making; it is a complicated question that does not yet seem to have a clear answer.

THE NEW ORIENTATION OF INTERNATIONAL POLICY FOR DEVELOPMENT

An uncertainty about the idea of enhanced surveillance of national macroeconomic policies is whether it would seek to operate under a model of unequal relations (conditionality) or of equivalences (policy coordination). Increasingly, developing countries are seeking and receiving treatment in international economic and financial relations under something closer to the latter model (see chapter VII).

This can be seen, for example, in the more active participation of many developing countries in the recent Uruguay Round of multilateral trade negotiations, not to mention the large increase in the number of countries that joined the General Agreement on Tariffs and Trade and have now joined the World Trade Organization. In the process, developing countries lost some of the “special and differential” treatment that they had enjoyed in the area of trade, but they gained the possibility of a more rule-bound treatment of their trade and more input into multilateral trade policy.

In the area of international finance, the corollary to diminished “special and differential” treatment on the trade side can be seen in the changing attitudes of several industrialized countries towards foreign assistance programmes. Commonly termed “aid fatigue”, it is having a very negative impact on the availability of official development assistance (ODA). Aid fatigue does not apply to all forms of ODA, certainly not to assistance in humanitarian emergencies, which generally finds broad popular support in donor countries as long as people feel confident that the assistance actually reaches those in need. But aid fatigue does seem to reflect reduced expectations that are widespread about the broad economic capacities of States, donor and recipient.

These developments suggest that the future of ODA may lie in a new model of assistance, one in which international programmes and projects increasingly focus on concrete, internationally shared concerns and are part of jointly pursued activities. Whether the effort is in improving public health facilities in developing countries to combat AIDS, or environmental programmes, or research on new varieties of seeds that would help initiate a green revolution in Africa, the starting point of the new model is that all countries involved in an issue have something to contribute and a stake in the solution. Not all countries would be in a position to bring money to the table, but all would bring something.

Such a new approach would be consistent with present-day thinking on the role and responsibilities of economic agents and would be similar to approaches being taken to economic and social problems faced at the national level. However, it is unlikely to be an effective model for tackling the problems of the people of the world community that are becoming increasingly marginalized, notably the poor. In effect, the World Summit for Social Development in Copenhagen has already highlighted the gravity of the problem and challenged the international community to address it.⁶

⁶ See Report of the World Summit...

PART ONE

STATE
OF THE
WORLD
ECONOMY

II THE CURRENT SITUATION IN THE WORLD'S ECONOMIES

In terms of short-term economic dynamics, this is one of the most favourable moments in recent years for the world's economies, although it is not without serious problems. The industrialized economies have emerged from recent recessions and are in expansionary phases of their business cycles, while inflation remains relatively under control and Governments are focusing on budgetary consolidation. There are concerns, nevertheless, about the strength of the recovery in some countries and the limited impact it is having in reducing unemployment.

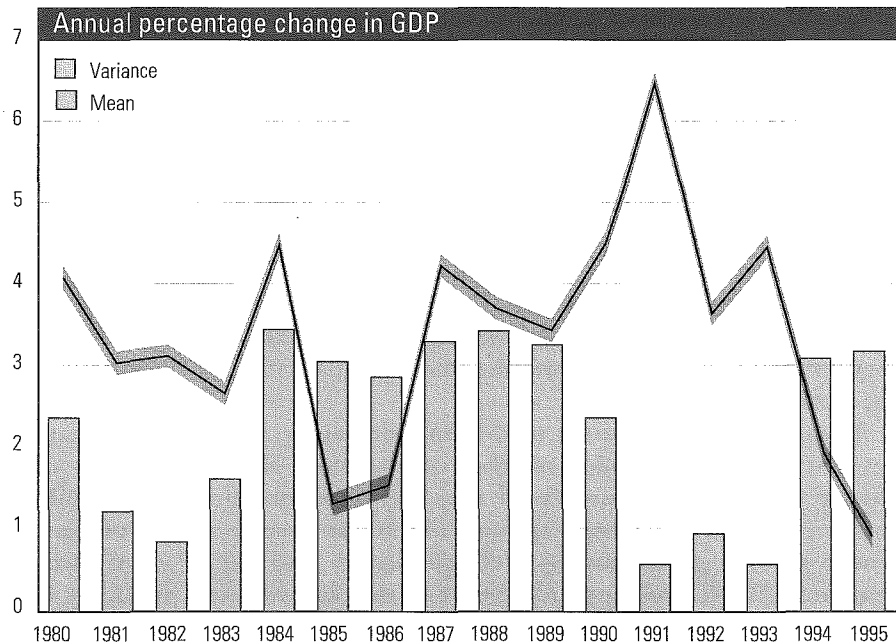
Among the economies in transition from central planning to market systems, an increasing number of countries show clear signs of having turned the corner from economic contraction to economic recovery, while consensus spreads about the requirements of economic reform programmes. Yet, economic and social conditions remain difficult and unemployment is still inordinately high, as is inflation in most countries.

Meanwhile, the developing countries seem to have reached the encouraging situation in which not only has the average rate of economic growth been maintained at a relatively high rate since 1992, but the efforts to tame inflation have borne fruit. Even in Africa, where economic growth has been painfully slow, the pace of output growth has increased and per capita output is expected not to fall in 1995 for the first time this decade. This is, of course, hardly an optimistic assessment of the African economy, while Latin America in 1995 is experiencing the contractionary side to the inflows of volatile international portfolio investment that it enjoyed in recent years.

THE UNFOLDING EXPANSION IN DEVELOPED MARKET ECONOMIES

The economic recovery in the developed market economies appears to have become well established and widespread. The overall pace of expansion in the industrialized countries as a group is likely to show little change in 1995 from the unexpectedly high rate of almost 3 per cent recorded in 1994 (see table A.2). In addition, the difference in growth rates among countries is becoming smaller. More precisely, the variance of growth rates has been falling since 1991, when it was unusually high, and it is expected to be unusually low this year (see figure II.1). The reason is that the unsynchronized recessions — first in North America, Australia, New Zealand and the United Kingdom of Great Britain and Northern Ireland and later in continental Europe and Japan — have been followed by recovery and expansion phases of the business cycle (still unsynchronized) in all the developed market economies.

Figure II.1.
STATISTICAL CHARACTERISTICS OF GROWTH RATES
OF GDP OF INDUSTRIALIZED COUNTRIES, 1980-1995



Source: UN/DESIPA

Note: Statistics cover data of 22 countries

Indeed, the growth of the economies of Australia, New Zealand, the United Kingdom and the United States of America is forecast to slow down in 1995, albeit not abruptly, to a more sustainable rate, while in continental Europe, economic growth is forecast to proceed at or marginally above the 1994 rate. The Japanese economy is expected to continue its recovery, although it is anticipated to be unusually weak by the standards of previous upswings.

Thus far, accelerating growth has been accompanied by low or even falling inflation, which is especially apparent in quarterly movements over the past two years of gross domestic product (GDP) and consumer price inflation (see table II.1). For the seven major industrialized countries taken together, consumer price increases were in the neighbourhood of only 2 per cent at an annual rate as 1994 ended. The low point for inflation has probably passed, however, although there seems little prospect of any substantial pick-up in inflation pressures in the short run.

Unemployment has remained intractable. Eight countries, all in Europe, are expected to still have double-digit rates of unemployment in 1995 (Belgium, Denmark, Finland, France, Greece, Ireland, Italy and Spain), while Australia, Canada, the Netherlands, Sweden and the United Kingdom are also forecast to see average unemployment rates in 1995 of about 8 per cent or more. Thus, even though the recovery is generating new job opportunities, it is not creating jobs at so rapid a rate — nor could it without risking higher inflation — as to make for more than a slow reduction in unemployment.¹

¹ That is, unemployment is very much a structural adjustment issue (see *World Economic and Social Survey, 1994* (United Nations publication, Sales No. E.94.II.C.1 and corrigendum), chap. VI).

Table II.1.

KEY ECONOMIC INDICATORS IN SEVEN MAJOR INDUSTRIALIZED ECONOMIES, 1993-1994

	Quarter							
	1993				1994			
	I	II	III	IV	I	II	III	IV
Growth of gross domestic product^a								
Canada	3.7	4.1	1.6	3.6	4.0	6.8	4.7	5.9
France	-3.5	0.8	0.8	0.4	3.6	5.3	3.2	2.7
Germany ^b	-6.4	2.3	2.6	-2.0	2.0	4.1	5.3	3.0
Italy	-1.3	0.9	-2.7	4.9	1.4	4.0	5.4	0.1
Japan	3.5	-2.1	1.1	-2.8	3.2	0.7	3.5	-3.4
United Kingdom	2.5	2.5	3.3	3.2	4.0	6.0	3.1	3.1
United States	1.2	2.4	2.7	6.3	3.3	4.1	4.0	5.1
Total	0.6	1.1	1.8	2.3	3.2	3.7	4.2	2.3
Unemployment rate^c								
Canada	11.0	11.3	11.3	11.0	10.9	10.6	10.1	9.7
France	11.1	11.5	11.9	12.3	12.4	12.5	12.5	12.4
Germany ^b	5.3	5.6	6.0	6.6	6.8	6.9	6.9	6.8
Italy	9.1	10.7	10.3	10.7	11.7	12.5	11.8	12.2
Japan	2.3	2.4	2.5	2.8	2.8	2.8	3.0	2.9
United Kingdom	10.5	10.3	10.4	10.1	9.9	9.6	9.5	8.9
United States	7.0	6.9	6.7	6.5	6.5	6.1	5.9	5.5
Total	6.8	6.9	6.9	7.0	7.1	6.9	6.8	6.6
Consumer price increases^d								
Canada	3.0	0.7	1.5	1.8	-1.8	-1.5	2.2	1.1
France	3.0	2.6	0.8	1.9	1.8	2.2	0.7	1.9
Germany ^b	7.2	4.0	1.8	2.2	5.4	2.8	1.4	1.4
Italy	5.0	5.0	3.5	4.2	5.5	2.7	3.0	4.0
Japan	0.0	3.5	1.9	-1.1	0.7	1.5	-1.1	2.3
United Kingdom	-2.9	6.7	1.1	1.5	0.7	7.3	0.0	2.8
United States	3.3	3.3	1.5	2.9	2.5	2.5	3.6	1.9
Total	2.6	3.6	1.7	1.8	2.2	2.5	2.4	2.1

Source: UN/DESIPA, based on data of IMF, OECD and national authorities.

Note: Growth rates of total GDP and consumer price increases are weighted averages, with GDP and consumption weights, as appropriate.

^a Percentage change in seasonally adjusted data from preceding quarter, expressed at annual rate.

^b Germany is western Germany only in this table.

^c Percentage of total labour force; seasonally adjusted data as standardized by OECD.

^d Percentage change in average consumer price index in quarter relative to preceding quarter, expressed at annual rate.

Economic performance of the major economies

The economy of the United States expanded by more than 4 per cent in 1994, which is likely to have been its peak growth rate in the current business cycle. The main engines of growth were capital investment, exports and spending on consumer durable goods. Since late last year, however, there have been some signs of moderating growth in interest-sensitive sectors, including automobiles and housing. A selective diminution in spending on consumer non-durables is also taking place. By late 1995 or early 1996, the deceleration in economic activity could become progressively more inclusive, as capital investment slows somewhat from the brisk pace of growth of about 18 per cent in real terms, recorded in both 1993 and 1994. At the same time, business equipment spending and exports are likely to remain on a moderately expansionary path. Both sectors are relatively insensitive to increases in short-term interest rates and will benefit from the economic recovery under way in Europe and Japan, as well as from the "super-competitive" dollar. All told, the economic activity in the United States will moderate over the current year but *remain quite healthy, with the composition of growth being even more skewed than before towards capital investment and exports.*

In 1994, Canada's economy was the fastest growing among the seven major industrialized countries, with a 4.5 per cent growth rate. Growth of demand was led by exports and investment, while consumption was stronger than expected owing to a drop in the personal saving rate as well as a surge in employment. Robust expansion is likely to continue in 1995. Despite the vibrant economy, only a modest pick-up in inflation is foreseen, as the output gap opened by the last recession is still significant.

According to the Economic Planning Agency, the Japanese economy bottomed out in October 1993. Thus far, however, the pace of the recovery has been slower than that recorded in earlier economic upturns. A pick-up in economic activity was initially supported by private consumption, private residential investment and public spending. Personal consumption is forecast to continue to expand, though slowly and with some fluctuations owing to weak income growth and a lack of significant improvement in the employment situation. Residential investment, stimulated by low interest rates and an increased access to special low-cost government loans, registered double-digit growth last year and was still very strong in early 1995. This brisk pace of growth, however, could hardly be sustained, while public-sector investment is likely to have peaked, albeit at a high level. At the same time, after three consecutive years of decline, business investment started to turn around in late 1994. Yet, the recovery in business investment seems to be rather weak owing to excess capacity that is unlikely to be eliminated during 1995 and to the shift of production facilities offshore because of the strong yen. As for the external sector, the weaker trade balance will remain a drag on growth.

The disruption caused by the Kobe earthquake — while a major human disaster — appears to have had only a very short-term dampening effect on economic activity in Japan. There has been no indication that the recovery has been derailed. Moreover, rebuilding activity is likely to give an extra boost to economic growth.

European growth has become more synchronized in 1995, as the continental economies are gaining momentum while economic activity in the United King-

dom is moving marginally lower, aligning with that in most countries of Europe. Along with some deceleration in its rate, the shape of the British recovery is changing as consumption has been slowing, while investment and, in particular, the strengthening trade balance are taking the lead. Thus far, the economy has been able to achieve a very favourable combination of healthy growth and low inflation not seen since the early 1960s. The balance of payments has also improved markedly, moving into surplus for the first time since 1987, and unemployment is falling.

On the European continent, an unexpectedly strong rebound experienced in the first half of 1994 could be attributed to the boost from exports and inventories, with the latter being the result of the sharp improvement in business confidence (see figure II.2). Activity slowed a little during the remainder of the year, while a transfer from inventories to investment and consumption as the main generators of growth was taking place. Consequently, output is now expanding more in line with final demand, with investment spending taking over as the primary source of growth.

The early 1990s had witnessed a resumption of the fall in the investment share of GDP that had been seen over the previous two decades. Because of this weakness, the acceleration in industrial activity in 1994 produced a relatively larger rise in capacity utilization than in the previous recovery. Thus, there is likely to be plenty of scope for investment to pick up strongly in 1995 and beyond. Only a moderate advance is expected in private consumption, as fiscal tightening is likely to put a lid on real disposable income growth.

Macroeconomic policy stances

With recovery clearly under way and inflation down to unusually low rates, policy makers in the developed market economies have sought to maximize the chances of a sustained period that combines low inflation and significant real income growth. For reasons discussed in chapter III below, the strategy has been to prevent higher inflation from taking hold by acting in anticipation of inflationary forces and so monetary policy has been tightened well before higher inflation showed itself in the standard price indices. Consequently, monetary policy in 1994 began moving away from an accommodative stance, with the transition generally being led by the countries furthest ahead in their business cycles.

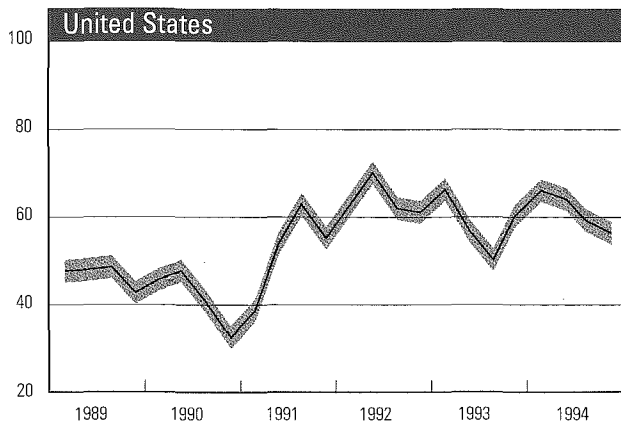
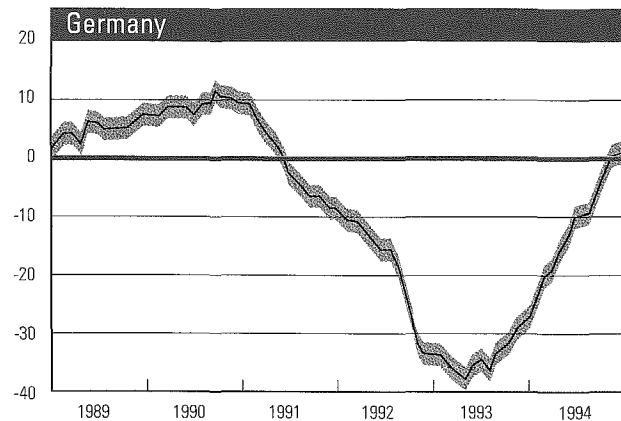
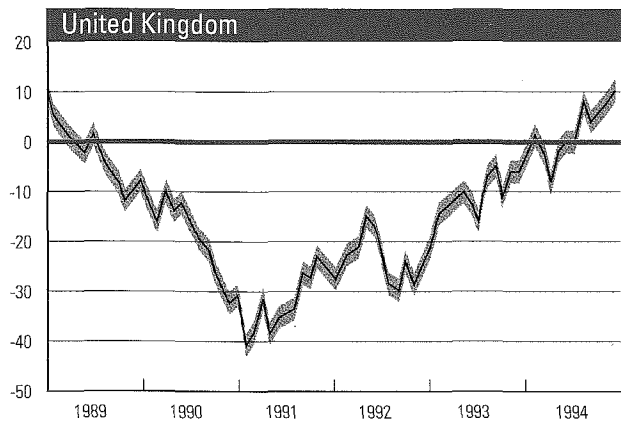
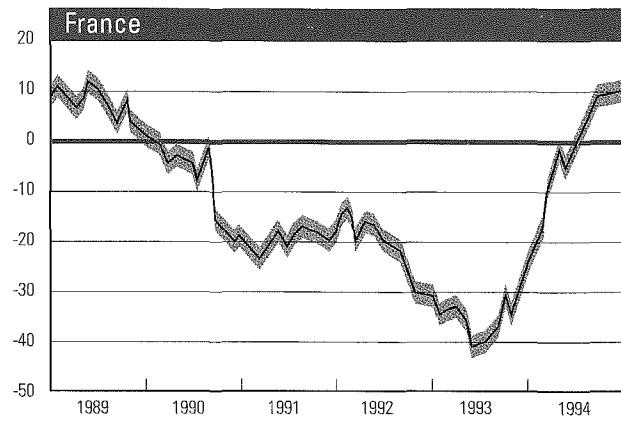
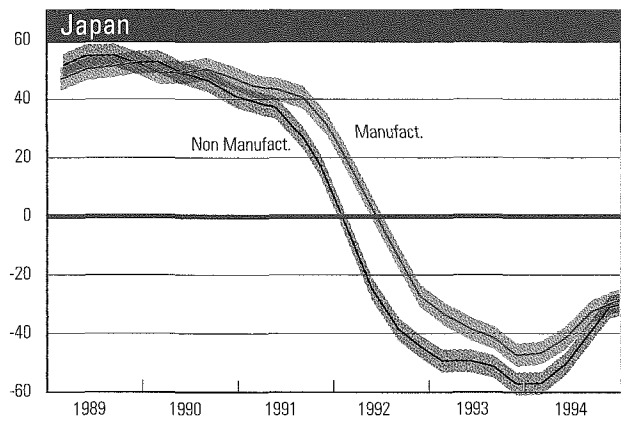
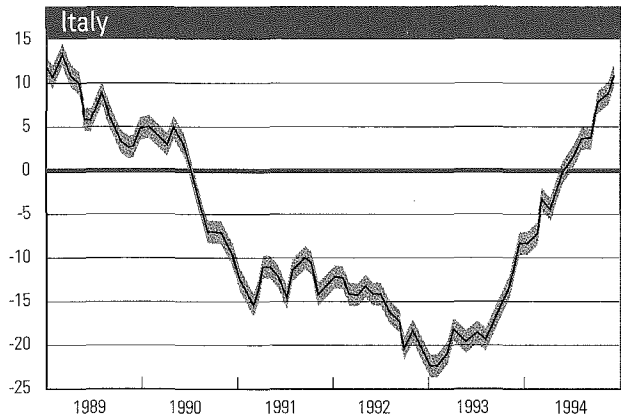
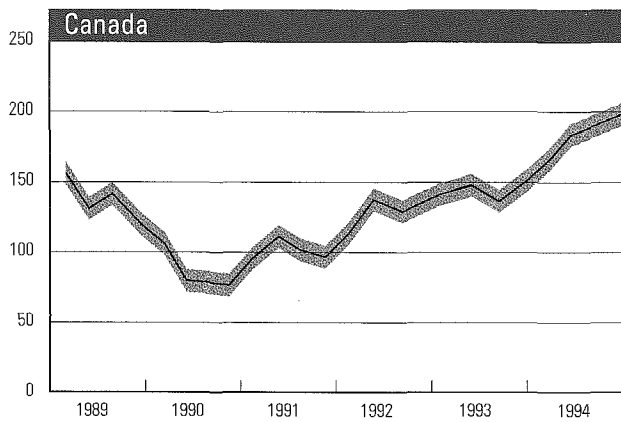
At the same time, in the light of widespread concerns about the level of public debt (see chap. III), most of the countries are also seeking to reduce structural budget deficits. Indeed, the cyclical upturn is directly contributing to smaller government deficits and is making it politically less painful to adopt budget-cutting measures. In 1994, the most significant shifts towards fiscal restraint occurred in Canada, Germany and the United Kingdom. A fractional tightening took place in the United States and the smaller continental European economies. In 1995, many European countries, including Germany, Italy, Spain, Sweden and the United Kingdom, as well as Canada, plan a significant further fiscal squeeze. Also, a significant fiscal tightening could be expected in France. Taken together, these plans imply that the upturn will be subjected to a greater drag from fiscal policy than was the case at the same stage in the recovery of the early 1980s. The present recovery may thus be slower, but it may also last longer than the earlier cycle.

Figure II.2.
BUSINESS CONFIDENCE
IN SEVEN MAJOR ECONOMIES, 1989-1994

Source:

Canada: The Conference Board of Canada
 Japan: *Tankan* (Bank of Japan)
 United States: The Conference Board
 Others: *European Economy*

Note: For Canada and United States, measure is an index based on survey data (1977=100 and 1985=100, respectively); for others, indicator is an average on the responses to questions on production expectations, order books and stocks.



Inflation management through monetary policy

Active efforts to steer economies remain, as they have been in recent years, mainly a function of monetary policy, even as policy makers are increasingly aware of the limits to what monetary policy can do. Thus, in order to prevent rapid economic growth from putting upward pressure on inflation, the Federal Reserve Board of the United States began to tighten monetary policy early last year and, by February 1995, it had doubled short-term interest rates in seven steps to 6 per cent. It did so even though inflation was not an immediate threat: consumer prices in the United States rose by only 2.7 per cent in 1994 for the second year in a row, the slowest pace since 1986. After the February 1995 interest rate lift, however, there have been some indications that the United States monetary authorities would like to pause to assess the impact of the past moves.

Indeed, the year-long monetary policy tightening might have contributed to the slowing of economic growth in early 1995. Nevertheless, as of April 1995, it was not yet clear whether the past actions had been sufficient to keep inflation fully under control and whether an adjustment to a slower, more sustainable, pace of growth is occurring. The reasons are that, first, although interest rates has risen significantly, they began at the bottom of the current economic cycle at the very low level of 3 per cent, the lowest since 1963. Moreover, the contractionary effect on demand from the higher short-term interest rates has been partly offset by the stimulus to the production of tradable goods arising from the fall in the dollar. In addition, in 1995 the fiscal stance of the United States is likely to become broadly neutral, whereas in 1994 it was restrictive. On the other hand, inflationary pressures have so far been weaker in the present upturn compared with previous recoveries. In any case, since much of the monetary tightening occurred in late 1994-early 1995, its full effect may not be felt before the end of the current year.

Pre-emptive tightening of monetary policy has also been initiated in Australia and the United Kingdom. Since August 1994, the Reserve Bank of Australia has raised its key cash rate by 2.75 percentage points to 7.5 per cent. The Bank of England began tightening in September 1994. Since then, base rates have been raised in three steps from 5.25 per cent to 6.75 per cent. Meanwhile in Canada, the downward pressure on the Canadian dollar caused by the monetary tightening in the United States, as well as by investor concerns over Canada's external debt and budget deficits, forced the Bank of Canada to raise short-term interest rates sharply despite negligible inflation.

In continental Europe, monetary policy has also had to respond to currency pressures. By mid-1994, the start of the recovery seemed to have brought monetary easing to an end. At the same time, France, Germany and the smaller countries that closely shadow the monetary stances of Germany were not expected to begin to tighten monetary conditions quickly as inflation seemed under control. Moreover, in those countries that had experienced large declines in their exchange rates since September 1992 — particularly, Italy, Spain and Sweden — inflation also remained subdued.

The currency turmoil of early 1995, however, significantly altered the macroeconomic policy landscape across Europe. At the beginning of March, Belgium, Denmark and France raised interest rates to shore up their exchange rates, the movements of which are restricted within the bands allowed in the exchange rate mechanism (ERM) of the European Union. Those moves were

required solely for reasons of exchange-rate management and took place in the absence of new inflation pressures.

The steep rise in the deutsche mark also prompted Germany's central bank to act. On 30 March 1995, the Bundesbank cut the discount rate by half a percentage point to 4 per cent in order to discourage financial inflows into Germany and take some exchange-rate pressure off Germany's partners in the ERM. Also, the cut in the discount rate would help offset the negative effect that the exchange-rate appreciation had begun to exert on economic recovery. Indeed, demand for credit had slowed and corporate plans to invest in new machinery were softening, while inflation continued to slow. Austria, Belgium, the Netherlands and Switzerland followed Germany in cutting their rates.

The March 1995 European monetary easing is likely to be the bottom of the interest rate cycle in the "core" European countries. The German inflation rate is forecast to bottom out in the second half of 1995. The subsequent tightening, however, could be less substantial than in the past two cycles owing to the already dampening effect of the strong mark and the currencies associated with it in the ERM. In any event, the shift to a rising interest rate environment in those countries is likely to proceed in step with Germany, as economic conditions in the group are closely aligned.

In Italy, Spain and Sweden, on the other hand, the recent exchange-rate depreciation amid strong economic growth is bringing about a significant resurgence in inflation. Interest rates were thus raised in all three countries and may need to rise further and substantially.

The special case of Japan

Whether it was because Japan was in a less mature stage of its recovery or was more vulnerable to exchange-rate movements, there was more concern in Japan than in other industrialized economies that the cyclical recovery itself was put in jeopardy by the international events of 1994 and early 1995. Thus, additional government spending, tax cuts and expansionary monetary policy characterized macroeconomic policy in 1994 and they indeed appear to have supported the economy through the most critical phases of the recession. Prior to the massive earthquake in Kobe in January, the bulk of the earlier fiscal easing was expected to end in 1995. However, the reconstruction efforts following the earthquake may leave the overall fiscal stance little changed from 1994. Coupled with the new economic package announced in April, it appears that fiscal policy is likely to remain supportive of economic growth in 1995.

Until recently, Japanese monetary authorities maintained an unchanged monetary policy, with the official discount rate held at the record low of 1.75 per cent, as set in September 1993. In the second half of 1994, however, amid signs that the economy was recovering, the Bank of Japan allowed short-term market interest rates to edge up and this gradual move was expected to continue. However, the sharp rise in the value of the yen since the start of 1995 cast some doubts over the sustainability of the upturn. In response, the Bank of Japan first lowered short-term market rates through extra injections of liquidity and then, in April, it lowered the official discount rate to 1 per cent. It was expected that the lower interest rates would help stem the rise of the yen in foreign exchange markets, as well as help to stimulate domestic spending and thus production.

TURNING-POINTS IN THE TRANSITION ECONOMIES

The process of transition to market economies is conventionally dated from the start of the present decade in central and eastern Europe — sometimes denoted eastern Europe for short — and from 1992 in the former Soviet Union. Today, at mid-decade, greater progress in the transition can be seen in the former grouping of countries than in the latter, although both regions demonstrate the signs of the strain of going through major social and economic changes. The dimensions of short-term macroeconomic performance reflect these developments as well.

The return of economic growth in central and eastern Europe

For the first time since 1989, the overall economic situation in the transition economies of eastern Europe has brightened. The most notable new feature is that GDP grew in all the countries of the region in 1994 — as well as in all of the Baltic States (see below) — and a similar result is forecast for 1995 (see table A.3). While these achievements are still fragile in certain cases, the fact is that Poland has seen three consecutive years of economic growth and Romania two. Although growth in 1994 was uneven and its determinants differed across countries, it may well mark the beginning of the payoff for the very difficult early years of economic decline and social stress.

The nascent recovery has not been strong enough for long enough, however, to seriously dent the levels of unemployment in eastern Europe. Up to the beginning of 1995, the return to economic growth in this region has had only a marginal impact on employment (see table II.2), most probably confirming the existence of significant labour-hoarding in the region.² Besides, labour markets in the transition economies are marred by structural rigidities and the formation of large pools of long-term unemployed. Under these conditions, economic growth — especially when its duration is unsure — would not be expected to bring about an equivalent reduction in unemployment.

Sources of the economic growth

The determinants of the growth of these economies are of a heterogeneous nature and it is premature to judge the robustness and sustainability of the recovery overall. Some sources of growth were common to most transition economies; others were of a local character, reflecting the socio-economic and political environment in the different countries.

External factors — especially the building recovery in western Europe and the resulting upsurge in demand for eastern exports — played a very important role in the growth of aggregate demand and output. This is especially significant because when the transition process began, these countries were hit with two trade-related economic shocks. One was the dismantling of the Council for Mutual Economic Assistance and the managed intraregional trade relations that it embodied. The second shock was that the industrialized countries slipped into recession and thus, even with special policy-based incentives, particularly regarding exports to the European Union, exporting became difficult. The generally inefficient enterprises of the transition economies were suddenly exposed to the direct impact of competition at world levels during a recessionary period. By 1994, however, the eastern economies appear to have become better placed to take advantage of increased export opportunities.

² The drop in unemployment recorded in Bulgaria, which is based on data for officially registered unemployed, largely reflects an inadequacy of the unemployment statistics, which do not fully cover unemployed persons who have exhausted their unemployment benefits.

Table II.2.
UNEMPLOYMENT, INFLATION AND THE GROWTH OF WAGES
IN CENTRAL AND EASTERN EUROPE, 1990-1994

percentage					
	1990	1991	1992	1993	1994 ^a
Unemployment, at end of period (percentage of labour force)					
Albania	9.8	9.4	26.7	22.3	18.0
Bulgaria	1.8	11.5	15.6	16.4	12.8
Czech Republic	0.8	4.1	2.6	3.5	3.2
Hungary	1.9	7.8	13.2	12.6	10.9
Poland	6.3	11.8	13.6	15.7	16.0
Romania	1.3	3.0	8.4	10.2	10.9
Slovakia	1.6	11.8	10.4	14.4	14.6
Consumer prices (annual percentage change)					
Albania	..	104.0	237.0	31.0	15.8
Bulgaria	23.8	338.5	91.3	72.9	96.2
Czech Republic	9.9	56.7	11.1	20.8	10.0
Hungary	28.9	35.0	23.0	22.5	18.8
Poland	585.8	70.3	43.0	35.3	32.3
Romania	5.1	174.5	210.9	256.1	136.7
Slovakia	10.6	61.2	10.0	23.2	13.4
Nominal wage rate^b (annual percentage change)					
Albania	..	..	..	..	..
Bulgaria	31.8	167.7	102.3	53.6	49.7
Czech Republic	3.5	16.7	22.5	25.0	16.0
Hungary	22.6	33.4	27.8	22.0	22.5
Poland	397.6	76.5	37.6	31.3	36.5
Romania	10.5	121.3	166.0	213.5	129.3
Slovakia	4.5	14.2	18.5	21.2	17.0

Source: UN/DESIPA and ECE.

^a Preliminary.

^b Annual average of monthly per capita gross earnings from wages, salaries and distributed profits.

In all central and eastern European transition economies, growth was led by a relatively strong performance of industry, especially in comparison to the uneven year in agriculture (see table A.10). Indeed, much of the export expansion was in manufactures. Even so, the success stories in industry were usually concentrated in a few of the manufacturing sectors.

Another common feature of the countries in the region is that the most dynamic segment of their economies appears to be the newly established private firms, which can be distinguished from the privatized sectors. Privatized companies, although showing improved performance and undergoing substantial restructuring, in general continue to suffer from inherited flaws in their behaviour and performance, such as overstaffing and low efficiency. As analysed in more detail in chapter V below, for the most part, these once-planned enterprises have yet to become the "firms" of market-based economies.

Even with such broad similarities, the economic dynamics in the region in 1994 were quite differentiated. Among the higher-income economies, the fastest rates of growth in 1994 were in Slovakia and Poland and their experience might be compared. In Poland, supply-side adjustment, most notably in industry, appears to have been the leading domestic source of economic growth. Industrial output in Poland grew by 12 per cent in 1994 (see table A.10), but that in the private sector of industry grew by 23 per cent. The behaviour of Polish firms also appears to have changed. For example, there are indications of aggressive marketing behaviour by Polish companies, which shows up in a change in the commodity composition and geographic structure of exports, including a recovery of exports to other eastern European markets.³ Indeed, the Polish economy displays the features of a robust recovery: growing consumption and strong export performance are coupled with growing investment and improved performance of domestic producers.

In Slovakia, in contrast, domestic factors appear to have played an almost negligible role in the strong GDP growth in 1994, which was almost completely attributable to the growth of exports and the improving balance of trade. In fact, domestic demand declined in 1994.

Investment recovery begins

In analysing the determinants of the recovery in central and eastern Europe, it is important to distinguish between the short-term and long-term aspects of growth. Owing to the unprecedented transitional depression of the previous years, capacity utilization in the transition economies still remains very low. As aggregate demand expanded in 1994 in most transition economies, capacity was available to raise output. Obviously, this is a short-run effect as there is a limit to the growth of the utilization of existing capacities and, besides, it is not clear how much of the available capacity is obsolete.

Sustainable long-term growth in the transition economies can only be achieved on the basis of a supply-side restructuring of a massive scale and this, in turn, means extensive new investment outlays. It is thus significant that 1994 was the first year of the transition in which a notable revival of investment was recorded, if only in some of the transition economies. Indeed, a boom in investment was an important domestic source of demand, helping to drive up economic growth in the Czech Republic, Hungary and Romania. Poland also experienced a rather substantial rate of growth of investment in 1994

³ See Danuta Hübner, "Growth after stabilization?", paper presented at the Project LINK spring meeting, 15-18 March 1995, United Nations, New York.

for the first time since the start of the transition (see table A.10).

It remains to be seen whether the investment increase of 1994 will become a lasting trend and to what extent it will cover the whole group of transition economies, as the investment outlook is still rather uncertain and the risks of investment are perceived as remaining quite high in this region. In other words, the growth of investors' confidence manifested in 1994 is still rather fragile. The transition economies are seen to remain vulnerable to domestic and external shocks and economic and political changes. Moreover, the macroeconomic environment in a number of transition economies can still be characterized by persistent inflation, high interest rates and low predictability of policy stances, all of which discourage investors; indeed, in such cases the domestic saving rates in general are rather low.

The inflation problem

As the patterns of demand growth differed considerably from country to country in the transition economies, so, too, have the other dimensions of macroeconomic activity (see table II.2). The Czech Republic seems closest to macroeconomic stabilization in the sense that the Government is expecting inflation rates to fall to single-digit levels from 1995 on. Slovakia also seems relatively close to such a state.

The two remaining high-inflation countries, Bulgaria and Romania, had very different stabilization experiences in 1994, although the annual inflation data in table II.2 tend to mask the difference. That is, Romania applied a set of tough macroeconomic measures, including, *inter alia*, tighter control over the money supply and liberalization and unification of the exchange rate. Working in the framework of a stand-by agreement with the International Monetary Fund, inflation slowed during the year and, on a December-to-December basis, consumer price inflation was down to 62 per cent and a further substantial improvement is expected in 1995. In Bulgaria, on the other hand, macroeconomic instability surged following a run on the currency in March 1994 and the introduction of value-added taxes in April. With inflation accelerating, the December-to-December inflation rate rose in 1994 to 122 per cent.

The inflation stories in Hungary and Poland lie between these sets of cases. While having substantially reduced annual price increases, these countries remain burdened with a significant rate of inflation. But the persistence of inflationary concerns despite the strong emphasis on macroeconomic stabilization in the first phase of transition in these countries suggests a phenomenon that seems to exist to lesser or greater degree in all the transition economies, namely, that there are limits to the degree of price stabilization that can be achieved with purely macroeconomic measures. The Polish Government, in particular, managed to cut its budget deficit to less than 3 per cent of GDP in 1993 and 1994 and has been pursuing a rather stringent monetary policy; however, this was not sufficient to cut down inflation. Further progress in curbing inflation seems to require addressing more closely the microeconomic and structural issues such as market imperfections, competition, enterprise behaviour, structure of public spending, and expectations of economic agents and the general public.

Economic recovery takes hold in the Baltics

In two years, 1992 and 1993, the three Baltic States — Estonia, Latvia and Lithuania — lost about 40 per cent of output. In 1994, the haemorrhaging of output ended and GDP began to grow once again, if only by 2 per cent. The expectation for 1995 is that growth will continue, accelerating slightly (see table A.3). The important point, however, is that the recovery has begun.

If an illustration was needed to show that rapid and decisive economic reform works, while a gradualist approach prolongs and complicates the transition process, the three Baltic States are it. Price liberalization followed by tight financial policies, in particular in fiscal and monetary fields, brought inflation down and set the basis for macroeconomic stabilization and radical systemic reforms. New national currencies were successfully introduced and strengthened. Unemployment remains relatively low even while privatization and enterprise restructuring gather steam.

After having successfully weathered a tremendous terms-of-trade shock in 1991-1993, the three countries succeeded in weaning their economies from an unsustainably high degree of dependence on trade with the rest of the former Soviet Union. Trade reorientation from the countries of the Commonwealth of Independent States (CIS), where demand for Baltic goods remains quite low, to the recovering markets of the Nordic and other western European countries was very important in terms of reversing the output decline. Indeed, exports — as well as services and private consumption — were the main stimuli to growth.

Investment remains sluggish, however, in all three States and the first signs of a turn-around in manufacturing has so far been visible only in Estonia. To assure sustainable GDP growth the three Baltic countries would have to widen the base of dynamic enterprise, in particular by speeding up the process of privatization and enterprise restructuring.

Persistent decline reported by the Commonwealth of Independent States

For the Russian Federation and the other CIS countries, the picture reported by their statistical authorities for 1994 is one of continued and unremitting economic decline. The cumulative fall in production from 1990 to 1994 totals 47 per cent of the level of output in 1989. Moreover, the reported rate of decline actually accelerated in 1994 compared to 1993 in two thirds of the countries (see table II.3). Armenia, Georgia and Tajikistan, which showed somewhat slower rates of economic decline, were special cases altogether, since their less negative performance in 1994 was primarily shaped by such factors as the cessation of military hostilities. However, these data point to such a severe contraction of activity and in some cases are so inconsistent with other data that their reliability has come to be regarded as extremely low (see introduction to the statistical annex). Analysis of the economic situation in these countries is thus extremely difficult.

Table II.3

ECONOMIC INDICATORS IN THE COMMONWEALTH OF INDEPENDENT STATES, 1993-1994

Annual percentage change

	GDP		Industry		Consumer prices	
	1993	1994	1993	1994	1993	1994
Armenia	-14.8	-2.0	-10.3	6.9	1 920	5 060
Azerbaijan	-13.3	-22.0	-7.0	-24.8	1 210	1 880
Belarus	-9.0	-20.0	-7.4	-19.3	1 290	2 320
Georgia	-35.0	-30.0	-26.6	-39.7	..	..
Kazakhstan	-12.9	-25.0	-14.8	-28.5	1 760	1 980
Kyrgyzstan	-16.4	-26.0	-25.3	-24.5	1 290	380
Rep. of Moldova	-4.0	-30.0	0.3	-29.9	1 280	590
Russian Federation	-12.0	-15.0	-14.1	-20.9	940	294
Tajikistan	-17.3	-12.0	-7.8	-30.8	2 240	340
Turkmenistan	10.0	..	4.0	-25.0	1 730	2 810
Ukraine	-14.0	-19.0	-8.0	-27.7	10 260	500
Uzbekistan	-2.4	-4.0	3.6	1.0	1 330	1 650

Source: CIS Statistical Committee.

In particular, while official data for the Russian Federation indicate that the fall in GDP in 1994 was even steeper than in 1993 and that industrial production contracted more than a fifth (see table II.3), it is most likely that the decline was actually far less. Indeed, even the officially reported data seem to indicate that the decline in output might have bottomed out and data for the last quarter of 1994 and the first quarter of 1995 point to some tentative signs of recovery.⁴

Whatever the reality in terms of total levels of economic activity, other data indicate the speed with which the Russian Federation's economy has been undergoing very profound changes. Thus, almost two thirds of the GDP in 1994 was produced in the non-state sector compared to slightly over one half in 1993. The share of services in GDP grew from 42 per cent in 1993 to 50 per cent in 1994 and 54 per cent in the first quarter of 1995.

What these data suggest is that the Russian Federation might well be at a watershed when the cumulative effect of economic reforms finally starts to generate the long-expected economic upturn. But how and whether entrepreneurs choose to participate in this activity — and thus the aggregate rate of increase — still depends, *inter alia*, on the institutional framework (see chap. V) and macroeconomic conditions.

⁴ See Goskomstat of the Russian Federation, *Sotsial'no-ekonomicheskoye polozheniye Rossii, 1994* [The Russian Federation's social and economic situation in 1994], Moscow, January 1995, p. 5.

Progress in stabilization policy

Macroeconomic stabilization has largely eluded the CIS since the breakup of the Soviet Union, although significant progress in certain countries is within reach in 1995. The Russian Federation, in particular, had various anti-inflation campaigns that greatly reduced inflation, albeit each time over only a limited period. This was the experience again in 1994. As a result, although the annual increase in consumer prices in 1994 fell significantly from the almost 1,000 per cent rate of 1993, it remained in triple digits (table II.3).

Monthly inflation in the Russian Federation had dropped from nearly 20 per cent in January to an all-time low for the reform period of 4 per cent in August, once again giving rise to optimistic predictions of an impending stabilization and recovery of output. But as had happened before, this moment of opportunity was lost in a surge in government expenditure, while government revenue collection progressively weakened. The enlarged deficit was financed out of new money creation. By October, the monthly inflation rate returned to double digits, again amid the perceived aggravation of political instability, growing signs of disarray and inconsistency in government economic policy, and a further worsening of inflationary expectations.

The "collapse" of the rouble in mid-October served to bring the inconsistencies of the government's stabilization efforts into sharp political focus (see box II.1). As a result, in late 1994 and early 1995 the President, the Government and the Central Bank took steps to tighten monetary policy, improve revenue performance and hold expenditures down. Money supply growth was severely cut back in the first quarter of 1995. As a result of these measures, monthly inflation slowed from almost 18 per cent in January to 8 per cent in April.

The further significant reduction of inflation as a necessary basis for structural reform and sustained recovery was declared the major task of government policy for the year. This course of action is being supported by a substantial stand-by credit from the International Monetary Fund which was approved in April after prolonged and intensive discussions with the Russian Government about its programme to lower the budget deficit and bring monthly inflation to low single digits by the end of the year. There appears to be a clear realization this time that a firm resolve to continue tight monetary and fiscal policy is imperative.

In Ukraine, prices rose more than 10,000 per cent in 1993, but by "only" 500 per cent in 1994. The new leadership that took office in the summer of 1994 in conditions of a prolonged and steadily worsening economic crisis, lost no time in initiating long-overdue economic reforms. The first steps were aimed at containing the mushrooming budget deficit that had been formed, in major part, by large credit subsidies to state-owned enterprises. Prices were gradually liberalized, basic market institutions began to be introduced and a privatization programme was finally launched. These measures have broken the country's slide towards hyperinflation and disastrous collapse of output and, significantly, generated a perception of the return of positive dynamics in economic policy. The task ahead, however, remains formidable. Persistent inflation, serious balance-of-payments problems and slow restructuring of enterprises mean that recovery of output will probably not come in 1995.

Box II.1.

HOW MUCH IS
A ROUBLE WORTH?

WHEN THE RUSSIAN FEDERATION was part of the Soviet Union and a centrally planned economy, the foreign exchange rate of the rouble was essentially an accounting convention. Dollars were not convertible into roubles or vice versa except in very limited amounts. Production planning was not based on relative prices. Today, more than three years since the dissolution of the Union of Soviet Socialist Republics, the Russian Federation is no longer a planned economy, if not yet fully a market economy. But market prices matter now and it is important that they reflect relative scarcities, as they are normally expected to do in market economies. With the rouble having become convertible for current-account transactions rather quickly, its exchange rate is now an especially important price. But is it at the correct level? How could one tell?

Determining the "correct" exchange rate has, in fact, become a very sensitive issue for the Russian Federation's policy makers, both because of growing foreign participation in mass privatization and the increasing openness of the economy, with import penetration increasing dramatically and export sectors becoming less isolated from the rest of the economy than they had traditionally been. Also, "dollarization" of internal retail and service sectors — as a parallel means of payment — continues to expand despite repeated official attempts to ban it.

In the early years, between 1989 and 1992, the number of enterprises that were permitted to earn and hold foreign currency greatly expanded and a market in foreign exchange began to develop. The wholesale end of that market, the Moscow Inter-bank Currency Exchange (MICEX), along with smaller regional markets in other major cities, began to determine the exchange rate.^a The exchange rate floated, albeit with considerable intervention by the Central Bank, but only a small proportion of the Russian Federation's foreign-exchange earnings or expenditures was ever converted on the MICEX or any other exchange. Thus, despite the fact that the MICEX rate became the official exchange rate of the Russian Federation in July 1992, there was — and still is — little reason to believe that market forces operating on the MICEX would lead it to settle at the economically appropriate or "equilibrium" exchange rate.

In any event, the exchange rate is widely believed to have been undervalued in 1992, but to have become overvalued by 1994. One reason for the former belief was that if the country's GDP were converted into dollars at the 1992 rates, it would be absurdly low, i.e., less than 2 per cent of the GDP of the United States. Another reason is that even though the nominal exchange rate fell quite rapidly from late 1992 to the end of 1993, Russian inflation was even more rapid and thus the "real" exchange rate appreciated (see figure).^b This is believed to have resulted in the rouble becoming overvalued, which is demonstrated by the fact that by mid-1994 most exports, even metals, had become unprofitable. This perception was shared by most market participants, and by mid-October they brought about the rouble's "collapse".

Indeed, the story of the rouble panic well illustrates the shortcomings of the foreign-exchange market as it had evolved, as well as its political sensitivity. The dramatic plunge of the rouble/dollar exchange rate provoked excited commentaries, even including allegations of a political conspiracy against economic reforms. It seems, though, that the real cause of the wild fluctuations of the exchange rate was fairly conventional foreign exchange speculation that had been exaggerated by the very unstable and frail economic and financial environment in the Russian Federation.

The story of the "collapse" began in August 1994, when the rouble was already widely believed to be overvalued. Even though month-to-month inflation rates fell from nearly 20 per cent in January 1994 to a low of 4 per cent in August, demand for dollars remained strong owing to persistent expectations of high inflation and a perception of instability. The rouble seemed bound to depreciate in real terms. The Central Bank — whose interventions were estimated to amount to 40-70 per cent of daily trading — had repeatedly hinted that it favoured gradual real depreciation of the rouble to pro-

^a The early years of foreign-exchange trading were traced in *World Economic Surveys* for 1992 (United Nations publication, Sales No. E.92.II.C.1 and corrigenda), pp. 85-86 and 1993 (United Nations publication, Sales No. E.93.II.C.1), pp. 120-122.

^b A "real" exchange rate should be calculated as a trade-weighted average exchange rate against the currencies of main trading partners, corrected for differential rates of inflation in the prices of tradable goods and services. The real rate shown in the figure is a very rough, if commonly cited, approximation: it shows the rouble/dollar exchange rate, corrected for differences between the growth of the consumer price index in the Russian Federation and the United States.

mote the country's exports. The only question was when and by how much.

Inflation was expected to rise mainly because the Government had issued a wave of credits for agriculture and the northern territories in the summer. The credits were channelled through commercial banks which, as a result, had large rouble holdings and were looking for short-term opportunities to invest them profitably and to hedge against the expected surge of inflation. With real interest rates declining and with a severely limited securities market (three- and six-month treasury bills were the only rouble instruments at the time), currency speculation became "the only game in town" and, with rouble depreciation seen as imminent, a no-lose game at that. Thus, the banks began buying large amounts of dollars.

The beginning of the fall of the rouble was triggered by an abrupt withdrawal of the Central Bank as a supplier of foreign exchange on the MICEX on 22 September. Some market players believed that the Central Bank had depleted its reserve holdings and could no longer defend the current exchange rate, while others saw the Bank as finally initiating the expected devaluation. In any case, after a day's hesitation, the rush to buy dollars snowballed. The situation was aggravated by the massive entry of speculators, who borrowed roubles to buy dollars.^c Commercial banks and other major rouble holders thus bid heavily for dollars, further depreciating the exchange rate.

The Central Bank sought to stabilize the exchange rate at the lower level and thus resumed intervention on 29 September, but it lasted only until 4 October. On 11 October, the again snowballing speculation cost the rouble a fifth of its value (R 3,926 per dollar compared to R 3,081 the day before). Next day, the Central Bank acted again, but with a different approach. It raised its discount rate from 130 to 170 per cent per annum and insisted that the MICEX change its settlement procedures: the banks would henceforth only be allowed to bid for dollars with roubles deposited in special accounts the day before trading. These measures plus profit-taking by major currency speculators were combined with strong statements by the Government that the rouble would not be allowed to plummet further.

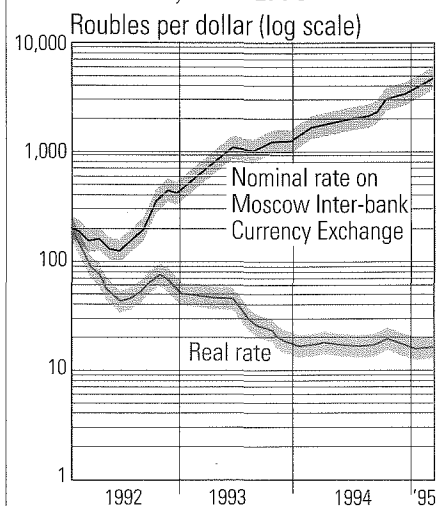
Psychologically, the fall had been too steep and too abrupt and was thus not perceived to be sustainable. Rouble money-market rates soared and the dollar scarcity was replaced by rouble scarcity. As a result, the nominal exchange rate bounced back on 13 October and briefly stabilized at about R 3,000 to one dollar. The rouble has depreciated steadily in nominal terms since then and is expected to depreciate further, but probably with less volatility.

To prevent repetition of the October "collapse", the Central Bank also sought to further limit the rouble demand for hard currency by tightening the limits of open currency positions of commercial banks, while raising reserve requirements and the discount rate. In addition, some purely administrative steps were taken, such as an introduction late in December of a 10 per cent limit on daily exchange-rate fluctuations at the MICEX to slow potential speculative movements.

These measures, obviously, are a completely different matter than targeting a particular exchange rate and then defending it. Though there were some indications that an option of pegging the rouble exchange rate was explored in early 1995, pegging was not adopted. It seems that the reason was only in part the macroeconomic instability, political manoeuvring and lack of reserves to support a peg in the face of heavy speculative activity. But also, the entire domestic price structure of the Russian Federation is still in transition. There continue to be grave distortions of relative prices that the current mechanisms have so far not been able to rectify. Perhaps most important, the exchange rate is still not the price that determines the bulk of decisions about production of, or expenditure on, tradable goods. In this situation, there is no practical method to determine the "correct" exchange rate and thus no reason for the Central Bank to strongly defend one particular exchange rate over another for the time being. In other words, there seems little alternative at the present time to continuing the managed float of the rouble.

^c The more than two days' delay between bidding and transaction settlement allowed banks to bid for dollars on the MICEX with the expectation that they would be able to borrow roubles in time for actual payment.

NOMINAL AND REAL EXCHANGE RATE OF THE ROUBLE, 1992-1995



Source: UN/DESIPA, based on national data.

THE DEVELOPING ECONOMIES: THE ROBUST, THE VULNERABLE, THE WEAK

Developing countries are now into their fourth year of relatively strong economic growth: aggregate GDP is expected to rise about 5 per cent in 1995 (see table II.4). As economic growth in 1994 had actually been almost 5.5 per cent, the 1995 outlook marks a slight slow-down. If this is a negative development, a strongly positive one is that inflation continues to decelerate in the developing countries as a whole and, in 1995, in each regional grouping taken individually (see table A.13).

Behind the relatively steady average rates of increase in GDP is a story of strong contrasts and sharp changes. The strong contrasts embody the continuation of one trend that has long bedevilled the international policy community, namely that while per capita incomes rise regularly in the developing world as a whole, in Africa they rarely rise. If the forecast for 1995 is realized, it will mark the first year in this decade that per capita output does not fall. Considering the boost from favourable commodity prices in 1994, however, this remains a disappointing result.

Meanwhile, China continues to fight to lower its output growth rate in order to ease inflationary pressures. In South and East Asia, growth prospects have continued to improve, propelled by dynamic factors that have been operating for several years.⁵ Private and public investment continue high, including foreign direct investment as part of the private investment, supplementing the large domestic efforts. In addition, export growth, which had been strong even in years of international recession, was reinforced in 1994 by the recovery in developed economies and the appreciation of the yen, which makes the exports of these countries more competitive. Together, these various impulses to aggregate demand more than cancel out the dampening effect of a tightening of monetary policy in most Asian countries, boosting the GDP growth rate expected for 1995.

The sharp change that is at the heart of the projected deceleration of the average GDP growth rate in 1995 is the souring of the sentiment of international and domestic wealth holders regarding Latin America and the Caribbean in the wake of the Mexico crisis that surfaced in December 1994. As a result, there was a sudden and sharp reduction in private capital inflows to Latin America (as well as some slow-down in inflows to "emerging markets" in other regions).

Before mid-December 1994, Latin America and the Caribbean were expecting economic growth to continue to build in 1995. But by March 1995 it had become clear that current account deficits that could no longer be financed had to be drastically restrained, requiring a sudden reduction of at least \$30 billion (nearly 3 per cent of GDP) in the region's absorptive capacity. The contraction of the current account will have to be the largest in Mexico (which had accounted for almost 60 per cent of the regional total); although to different degrees, all Latin American countries are being affected, as will be described below. The expected consequence is an approximate halving of the regional growth forecast.

⁵ *World Economic and Social Survey, 1994* discussed, in particular, why South and East Asia were able to keep up a high pace of growth despite recession in the developed economies (pp. 53-57).

Table II.4.

DEVELOPING COUNTRIES: RATES OF GROWTH OF GROSS DOMESTIC PRODUCT, 1981-1995

Annual percentage change							
	1981 - 1990	1991	1992	1993	1994 ^a	1995 ^b	Memo item: approximate share in 1994 world output
Developing countries^c	3.1	3.4	4.9	5.0	5.4	5	19.4
Latin America and the Caribbean	1.2	2.9	2.2	3.0	4.4	1 3/4	4.6
Energy exporters	1.7	4.7	3.7	0.8	2.3	-1 1/4	1.6
Energy importers	1.0	1.8	1.3	4.3	5.6	3 1/4	3.0
Africa	2.0	1.3	0.8	0.5	2.1	3	2.1
Energy exporters	2.1	2.1	2.7	0.1	0.9	2 3/4	1.1
Energy importers	1.9	0.6	-1.3	1.0	3.4	3	1.0
West Asia	-0.8	-0.2	5.7	2.2	0.4	1 3/4	2.3
South and East Asia	6.0	5.4	5.2	5.5	6.5	7	6.4
China	9.0	8.0	13.2	13.4	11.8	10	3.4
Mediterranean	2.1	-5.6	-1.4	0.1	-2.8	2 3/4	0.6
Memo item:							
Sub-Saharan Africa (excluding Nigeria and South Africa)	1.8	0.4	0.0	-0.5	2.1	3	0.6
Major developing economies							
Brazil	1.5	0.9	-0.8	4.1	5.7	4	1.8
India	2.0	4.0	3.9	4.9	5 3/4	1	.7
Republic of Korea	8.4	9.1	5.1	5.8	8.4	8 1/4	1.3
Mexico	1.6	3.6	2.8	0.4	3.5	-3 1/2	1.0
Iran (Islamic Republic of)	2.8	6.0	6.0	1.8	0	1	1.0
Taiwan Province of China	7.7	7.2	6.6	6.3	6.4	6 3/4	0.7
Indonesia	4.8	6.6	6.3	6.5	7.3	7 1/2	0.6
Argentina	-1.4	8.9	8.7	6.4	7.0	0	0.5
Thailand	7.2	8.0	7.4	8.0	8.6	8 3/4	0.5
South Africa	1.5	-1.0	-2.2	1.2	2.3	3	0.4
Saudi Arabia	-0.8	6.0	3.0	1.0	-2.7	1 1/2	0.4
Turkey	4.3	0.7	6.4	8.0	-5.4	2 1/2	0.4

Source: UN/DESIPA.

^a Preliminary estimate.^b Forecast, based in part on Project LINK.^c Covers 93 countries that account for 99 per cent of the population of all developing countries.

Latin America and the Caribbean: vulnerable growth

In 1994, Latin America and the Caribbean had the fastest economic growth rate in at least a decade (see table A.4). In 1995, it will have one of the slowest. The change results mostly from the sudden turn-around in Mexico and Argentina, which are shifting from growth in 1994 to stagnation or contraction in 1995 (see table II.4). But there is also a more generalized tightening of fiscal and monetary policies aimed at improving budget and current account balances, forced by the sharp fall in capital inflows and the increase in their cost.

Thus, GDP of the region is expected to grow between 1.5 and 2 per cent this year, far lower than forecast before the ripple effects of the December 1994 Mexico crisis were felt in the region. Economic growth barely faster than population growth is expected to be accompanied by slowing inflation and significant corrections to budget deficits.

In 1994, GDP per capita in the region grew by well over 2 per cent, led by an acceleration in activity in Brazil in the wake of the "Real Plan" (almost 6 per cent growth of GDP) and the impressive expansion in Peru (12.5 per cent), spurred by a brisk rise in investment and exports. Several other countries, including Argentina, Bolivia, Chile, Colombia and Costa Rica, tended to converge towards 4 to 5 per cent growth, showing greater similarity than in previous years. Only in Venezuela did the recession deepen in 1994, with an estimated decline of close to 4 per cent, triggered by a vast banking and exchange rate crisis that has cost the Government about \$8 billion, or more than 11 per cent of GDP, to cover the bail-out of ailing banks.

In Central America, a rate of expansion of about 3.5 per cent in 1994 is expected to be roughly repeated in 1995. This subregion is less affected by the sudden shift in private foreign capital flows, because its current account deficit is financed to a far larger extent by official finance and migrants' remittances. Higher banana and coffee exports, as well as non-traditional exports, are also helping to sustain the pace of GDP growth in 1995.

In the Caribbean, Cuba and Haiti were still in critical economic condition, with high unemployment and shortages of goods and services. Cuba's economy may have bottomed out in the second half of 1994, leaving output on the order of half of what it was in 1989. Prospects for Haiti, with the lifting of the economic embargo last October and a \$1.2 billion aid package on the way, are starting to improve this year, after a 30 per cent fall in GDP since the military coup of September 1991.

Although last year's economic growth in Latin America and the Caribbean was four times higher than the average growth in the previous decade, it was insufficient to reduce unemployment and underemployment, as the workforce is growing rapidly. Often, economic restructuring and attempts to increase competitiveness have a negative short-term impact on the demand for labour and this appears to have been the case in Latin America as well. In Argentina open urban unemployment continued to rise, exceeding 11 per cent of the workforce, and also in Venezuela unemployment rose sharply to 9 per cent. In Mexico, austerity and recession are bringing severe job losses this year. Reduction in urban poverty in several countries had accompanied economic recovery during the early 1990s,⁶ but such a trend is now being halted or reversed.

With few exceptions, notably Venezuela, the downward trend in inflation in

⁶ See Economic Commission for Latin America and the Caribbean, *Social Panorama of Latin America, 1994* (LC/G.1844), pp. 5-20.

the region continued in 1994, and not counting Brazil, inflation dropped to about 16 per cent by year end. Moreover, the new stabilization plan in Brazil has sharply lowered inflation since the introduction of the real last July (see chap. IV). In Mexico, in contrast, the combination of a 50 per cent devaluation and hikes in taxes and public prices are expected to push consumer price increases in that country from 7 per cent last year to over 40 per cent in 1995.

Africa: weak growth

Economic growth picked up in Africa in 1994 and is expected to strengthen further in 1995, as the conditions that stimulated it in 1994 are set to improve. Growth in 1995 will reach its highest rate in six years, matching the population growth for the first time in as many years. Growth in 1994 was stimulated by agricultural production and an increase in demand for Africa's exports from the recovering developed market economies. The improvement in the export prices of non-oil commodities during 1994 contributed to growth, but depressed oil prices dampened it in the oil-exporting countries. A significant output response to the improved non-oil commodity prices is expected for 1995.

After years of low cocoa and coffee prices, the increase in prices is stimulating exports. In the recent past, harvesting was sometimes not worth the effort, and trees had been neglected and even uprooted. Now, production capacity is being rehabilitated, which may, however, hasten the day prices move again downwards.

Inadequate or irregular rainfall in 1994 curtailed agricultural production in some countries, for example in Algeria, Botswana, Malawi, Tunisia and Zambia, in southern Africa and in the Horn of Africa. The return of rains and government intervention in Ethiopia, supported by the international community, prevented the worsening of a famine. On the other hand, a two-year drought ended in Morocco and contributed to a GDP growth rate of 11 per cent. Kenya also benefited in 1994 from better rainfall than in recent years. Total cereal production in Africa increased by 9 per cent and total agricultural production rose by more than 2 per cent in 1994. Agricultural prospects for 1995 are generally good, except in the war-torn countries, and in Morocco, Tunisia and southern Africa, where drought threatens crops.

Civil strife severely disrupted economic activity in 1994 in Algeria, Angola, Burundi, Liberia, Rwanda, Sierra Leone, Somalia and the Sudan. Suffering increased immensely in Angola, Liberia and the Sudan, and among the Rwandan refugees, as a result of the obstruction of relief operations. GDP in Rwanda collapsed by perhaps 50 per cent in 1994 and its economic and social infrastructure and institutions have been severely damaged or destroyed during the massacres. As a result, an estimated 3 million refugees and internally displaced persons are facing food shortages in early 1995.

Economic activity in Nigeria was hampered by political uncertainty, strikes and foreign exchange shortages in 1994. These shortages were partly caused by lower oil prices, but also by a fixed and overvalued exchange rate that discouraged exports and the sale of foreign exchange earnings through official channels. Nigeria announced in its January 1995 budget that the free, parallel foreign exchange market — outlawed a year earlier — was once again permitted. The new liberalized and much depreciated exchange rate will have a positive impact on exports, but political uncertainty and lack of reform in other

areas continue to restrain economic activity in Nigeria in 1995. In Zaire, the new Government has taken some steps to gain control of the money supply and bring hyper-inflation down, but with the withering away of the formal economy and political instability this is no easy task.

In South Africa, labour unrest, uncertainty and public holidays surrounding the first democratic election in April 1994 contributed to a temporary halt in the economic recovery, but growth resumed strongly in the second half of 1994. With the recent peace agreement in Angola and the successful elections in Mozambique and South Africa, southern Africa is without a major conflict for the first time since the early 1960s and reconstruction, development, economic reform and regional cooperation are gaining in prominence. In other countries as well, for example in Gabon, Guinea-Bissau, Madagascar, Malawi and Togo, political transitions are allowing economic reforms to move up the agenda.

Franc zone

The devaluation of the CFA franc in January 1994 and the ensuing economic adjustments,⁷ helped by international finance, debt relief, strong international commodity prices and good weather, has stimulated exports and the growth of output (see table II.5). Implementation of reforms and the effects of the devaluation have generally been better in the western than in the central part of the franc zone. Economic reforms accompanying the devaluation have focused on the public sector, labour laws, taxes, health and education. Results of the devaluation are particularly encouraging in Côte d'Ivoire, as for the first time in eight years the economy grew in 1994. The recovery in Côte d'Ivoire is favourable to neighbouring countries as well. In particular, livestock exports from the Sahelian countries have increased. On the other hand, the relatively poor performance in the oil-exporting countries in 1994 is in part a result of low oil prices.

Capital is returning to some countries, especially to Côte d'Ivoire. Deposits in commercial banks in the region have increased but the pace of lending has been slow, despite interest rate cuts by the central banks since mid-1994, as domestic demand remains depressed and investors undecided.

Prices increased fast after the devaluation, but for 1994 as a whole, inflation was restricted to 25 to 40 per cent in almost all countries (see table II.5). As the devaluation was 100 per cent in domestic currency terms, substantial competitive gains have been created. Inflation was controlled by the steep decline in purchasing power associated with the devaluation, by temporary price freezes and subsidies, by limited wage increases in the public sector, containing government expenditures, and reductions in some tariff and tax rates. However, in some countries inflationary pressures re-emerged at the end of 1994 as price controls have been progressively abolished and stocks imported before the devaluation are being depleted.

A wave of strikes and demonstrations immediately followed the devaluation, but these abated in nearly all countries. In the Congo and the Niger, however, economic hardship combined with political instability continue to fuel strikes for wage increases.

Inflation has negatively affected living standards and demand, particularly in urban areas. Public works, *inter alia*, have been used to cushion the impact. The income and price effects of the devaluation have shifted demand from

⁷ Developments leading up to the devaluation and a preliminary assessment were discussed in *World Economic and Social Survey, 1994...*, pp. 47-50.

Table II.5

ECONOMIC INDICATORS FOR THE COUNTRIES OF THE FRANC ZONE

Annual percentage change						
	Exports ^a		GDP		Consumer prices	
	1987-1993	1994	1987-1993	1994	1987-1993	1994
Oil-exporters						
Cameroon ^b	-0.5	9.6	-5.0	-3.8	0.7	12.7
Congo	7.0	-0.5	1.4	-1.5	2.0	40.3
Gabon	7.9	1.3	0.6	0.3	0.9	35.2
Oil-importers						
Benin	-2.1	10.4	1.9	3.4	2.5	38.6
Burkina Faso	9.4	10.8	2.2	1.2	0.2	24.7
Central African Republic	0.9	21.1	-0.7	5.8	-1.3	24.6
Chad	2.0	2.2	3.2	4.1	-0.1	41.3
Comoros	19.1	8.8	1.2	0.8	2.1	25.0
Côte d'Ivoire	-0.1	15.5	-1.2	1.7	3.1	25.8
Equatorial Guinea	-0.5	26.2	3.9	2.5	-0.5	40.6
Mali	7.4	72.0	2.4	2.4	-1.2	32.0
Niger	-0.5	-34.9	-0.0	4.0	-1.9	35.6
Senegal	1.1	16.1	1.9	2.0	-1.1	32.0
Togo	-5.7	24.8	-1.2	10.7	0.1	41.4

Source: UN/DESIPA, based on IMF data.

^a Based on imports reported by partner countries, in current United States dollars.

^b GDP and inflation are for fiscal years ending 30 June.

imported to locally produced commodities, but, on the other hand, manufacturing has suffered from the drop in aggregate domestic demand and higher costs of imported inputs. Some subsectors with a low use of imported inputs, such as food processing and textiles, have been able to maintain output or increase exports. Tax and custom revenues have generally increased but they have stayed below targets, because the fall in domestic demand and import volumes was sharper than predicted.

Growth is to improve further in the franc zone in 1995 under favourable external circumstances and will be mainly driven by exports as domestic demand remains low. Some capacity constraints are, however, emerging, for example in livestock exports and in sectors with high import content. Timber exports from central African countries were boosted in 1994, but environmental concerns have been raised about their sustainability.

Long-term prospects of the region remain dependent on the structural and institutional reforms. An encouraging step in this direction is the establishment in January 1995 of the Union économique et monétaire de l'Afrique de l'ouest (UEMOA), which aims at the free movement of people, goods and capital, with the long-term goal of forming a common market.

Asia: mainly robust

In table II.4, growth rates of GDP are shown for the dozen largest developing countries, after China. Including China, nine of the countries are in Asia (taking Turkey as part of Asia) and include many of the most robust economic performances in the world. In West Asia and in Turkey, on the other hand, one finds some of the countries that weathered unusually difficult years in 1994 owing to adjustment imperatives (the Islamic Republic of Iran, Saudi Arabia and Turkey) and that are expecting only slow recoveries in 1995.

West Asia: contraction of the public sector

In West Asia, output virtually stagnated in 1994. For 1995, the expected higher average oil prices will help to improve internal and external balances and support a measure of economic recovery.

Contractionary fiscal policies in the major oil-exporting countries in 1994 were made necessary by lower oil prices and revenues. Political instability in Yemen and continuation of economic sanctions against Iraq were further brakes to the economy in the region. In all oil-exporting countries, with the exception of Kuwait and the Syrian Arab Republic and the United Arab Emirates, GDP declined despite increased private-sector activities. By contrast, all oil-importing countries experienced relatively strong economic growth, largely as a result of expansion in private-sector activities.

Weak oil prices, combined with a pattern of high public spending that remains from the previous era, have put a strain on the current account and government budgets. Falling state revenues and the need to reduce budget deficits have thus forced Governments in the major oil-exporting countries to cancel or delay new projects. In some of these countries, including Saudi Arabia and the United Arab Emirates, Government has recently raised prices of public services, though not for all consumers. Policy reform in most oil States has aimed at cutting public spending, enhancing the role of the private sector and liberalizing trade and investment.

In the Islamic Republic of Iran, lower oil output and revenues led to a reduction in government spending and in public and private investment. The economy stagnated. With oil production expected to rise steadily over the next few years and domestic oil consumption to be curbed by the rise in domestic oil prices, oil export earnings should recover, supplemented by rising non-oil exports. Import restrictions, such as the ban on foreign purchases when a similar national good exists, arose from the need to obtain a trade surplus to service Iran's large short-term debt obligations.

The economy of the United Arab Emirates recovered in 1994, primarily as a result of rapid expansion of the non-oil sectors. In Kuwait, economic growth was 4.5 per cent in 1994. The budget deficit increased, as new military expenses could not be altogether offset by cuts in non-oil construction and maintenance activities. Beset since the Gulf war by dwindling financial assets, the Government plans to reduce subsidies on petroleum products and services such as water and electricity, increase customs levies and introduce charges for domestic telephone calls, which are now free.

In the oil-importing countries, economic activity, helped by the prospects of peace, has improved considerably. The Israeli economy grew by more than 6

per cent, driven by private-sector activity, high growth in domestic demand and expanding exports. With the gradual elimination of the Arab boycott, foreign direct investment in Israel is expected to increase and exports are expected to expand further. Economic activity in Jordan remained buoyant and is expected to improve further in 1995 because of sustained economic reform. In Lebanon, growth of 7 per cent in 1994 is accelerating, fuelled by the rehabilitation and reconstruction of the country's infrastructure, although inflation and rising public debt are a threat.

Inflation remained generally lower than 5 per cent in the countries of the Gulf Cooperation Council, moderate in Israel, Jordan, Lebanon and the Syrian Arab Republic, and relatively high in Iraq, the Islamic Republic of Iran and Yemen.

South and East Asia: renewed acceleration

Economic growth in South and East Asia will further accelerate in 1995, continuing the trend of the past three years (see table II.4). The economic recoveries in India and the Philippines are expected to strengthen further from 1994 levels, reaching growth rates of almost 6 per cent. Economic expansion in Viet Nam is forecast to accelerate to almost 10 per cent. Indonesia, Malaysia and Thailand will maintain their high economic growth rates (7 to 9 per cent), while moderate growth (5 to 7 per cent) will be maintained in Hong Kong and Taiwan Province of China. In contrast, growth in the Republic of Korea and Singapore will moderate to 7-8 per cent.

The impetus for growth in 1995 comes from both domestic and international sources. Export growth will remain robust for the region as a whole and will be an important contributor to expansion in most economies owing to recovery of the industrialized economies and the exchange-rate depreciation resulting from linkages of one sort or another of domestic currencies with the United States dollar. Investment growth, domestic and foreign, will be the most important stimulus for most of the regional economies. Private investment continues to abound, while high levels of government investment in infrastructure will be maintained or even increased in some economies, such as Hong Kong, the Republic of Korea, Singapore, Thailand and Viet Nam. Consumption will increase substantially in many economies, as income levels improve from continued strong economic growth. The exceptions are Hong Kong and Singapore, where tightening credit, particularly in the consumer sector in the latter, and asset deflation from rising interest rates in the former, will have an adverse impact on consumption.

Inflationary pressures that began to build up in 1994 are expected to remain in 1995 but are to be contained by tight monetary policy. Worsening productive capacity constraints in the many rapidly growing economies remain an important cause of the problem. While slower capital inflow since late 1994 has slowed growth in the money supply in some cases (India, Indonesia, the Philippines and Thailand), effective exchange-rate depreciation in most economies because of the weak dollar could aggravate price pressures this year.

Monetary policy, which turned contractionary late last year and early in 1995, is expected to remain tight in 1995 in several economies. As fiscal policy will be neutral to slightly expansionary in most of the region, the burden of maintaining price stability falls on monetary policy. This will result in stable or somewhat higher interest rates in the region. Some economies (Hong Kong,

Indonesia, the Philippines and Thailand), which were forced to raise interest rates significantly to boost their exchange rates in the aftermath of the Mexican peso crisis, are expected to maintain interest rates at higher levels to restrain inflation.

China: the difficulties in managing economic success

With the annual rate of inflation accelerating to more than 24 per cent in 1994 and only a slight slow-down in GDP growth, cooling down the Chinese economy has proved a difficult challenge. GDP growth in the year was nearly 12 per cent and industrial production grew by about 18 per cent. Compared with 1993, when the respective rates were 13 and 24 per cent, the 1994 rates point to a degree of success, but acceleration in inflation to above 24 per cent, the highest rate since the founding of the People's Republic, sent out a warning signal.

While the 28 per cent expansion in fixed investment continues to generate inflationary pressure, official wage increases for state-sector workers caused total wage payments to urban workers to skyrocket by more than 80 per cent in the first three quarters of 1994. Official procurement prices for farm products were also raised to stimulate production. These measures, combined with adverse weather conditions, caused prices of foodstuff to rise rapidly. Another major contributor to inflation is the growth in money supply, largely used to support loss-making state enterprises, which pose a policy dilemma for the Chinese Government (see chap. IV).

Agriculture experienced a year of stagnation. Bad weather coupled with declining land area used for farming, which is a consequence of rapid industrialization, resulted in a 2.5 per cent decline in the output of food crops in 1994. Cotton production recovered, but still fell short of the strong demand of the textile industry.

For 1995, the question remains whether the Chinese economy will finally come to a "soft landing" in terms of reducing inflation without provoking an outright economic recession. There are some indicators supporting an optimistic forecast. The somewhat slower output growth in 1994 suggests policies were yielding results. Monthly inflation started to decline by the end of 1994. The Government's intention to keep a tight macroeconomic policy stance throughout 1995 was indicated in the annual meeting of the National People's Congress in March. A harsh monetary tightening and administrative clamp-down seems unlikely. In this scenario, the rate of inflation would be about 15 per cent for 1995 as a whole, with a growth rate of GDP of 10 per cent.

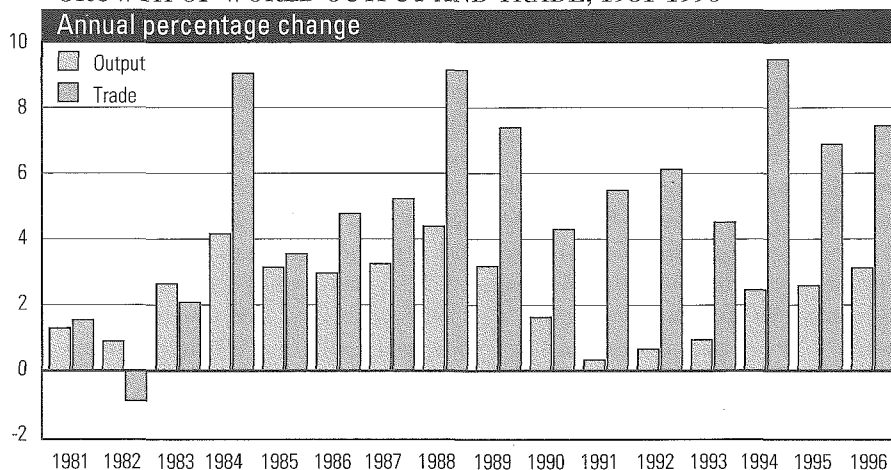
III THE INTERNATIONAL ECONOMY

While the rate of growth of output in a country is most directly the result of domestic factors, international linkages have reinforced the recent expansionary impulses in most countries, spreading demand internationally through the accelerating growth of world trade and transferring savings through financial transfers that bolster investment in receiving countries. The economic recovery has also strengthened international commodity prices, which are so important to many countries, including some of the poorest. However, international linkages, especially financial ones, can also be channels for negative influences and these, too, can have ripple effects, as the experience since Mexico's exchange-rate crisis in December 1994 has underlined.

THE BUOYANCY OF WORLD TRADE

World trade is in the midst of a period of rapid growth. Even during the recessionary years of the early 1990s, the growth of trade barely slowed down, in part owing to the burgeoning trade in "high-tech" electronic goods and components (see chap. XI). However, the recovery of the growth of world output and income have given a boost to trade growth in 1994, forecast to continue — albeit at a slower rate — in 1995 and 1996 (see figure III.1).

Figure III.1.
GROWTH OF WORLD OUTPUT AND TRADE, 1981-1996



Source: UN/DESIPA (1995 and 1996 are based on forecasts of Project LINK).

The growth in demand for traded goods also boosted the dollar prices of most commodities in 1994. In the case of petroleum prices, as the year began with prices at a low level, the average price of oil for 1994 as a whole was less than in 1993 even though prices rose during most of the year. Oil prices are expected to continue to firm in 1995. Demand for non-oil commodities is also expected to remain strong, although with declines beginning for some commodity groups. Thus, in terms of prices as well as volumes, international trade is currently providing encouraging export opportunities.

Sources of the growth of international trade

As the developed market economies absorb roughly 70 per cent of world imports, an analysis of the growth of world trade performance begins with the imports of the industrialized world. Two factors caused the volume of those imports to rise by the unusually high rate of 9 per cent in 1994 (see table A.19). First was the economic recovery in the industrialized countries and second was the price effect of the appreciation of the Japanese yen and, to a lesser degree, the German mark. Both factors are expected to continue to support the growth of demand for imports in 1995, although the volume of imports is expected to grow by under 8 per cent.

The volume of imports of the United States grew by almost 14 per cent in 1994, the third year of double-digit growth of import volumes. This reflected the high income elasticity of demand for imports in the United States. Price effects arising from exchange-rate changes have been quite small — the nominal effective exchange rate of the dollar fell only 1 per cent last year (see table A.9). Even though the dollar fell against the yen, the deutsche mark and the currencies that fluctuate with the mark in the European Monetary System, the exchange rates of the currencies of other major trading partners of the United States either did not change greatly or depreciated against the dollar, especially the Canadian dollar (and at the end of the year, the Mexican peso).

The volume of Japanese imports also grew by almost 14 per cent in 1994. In this case, the income effect of the nascent recovery was boosted by the rise in the exchange rate of the yen. Because so much of Japan's trade is with dollar-based trading countries, the nominal effective exchange rate of the yen rose 8 per cent in 1994 (see table A.9). The yen has now appreciated in every year since 1991, for a cumulative rise of 43 per cent in nominal effective terms and 33 per cent in real effective terms as of 1994. Despite the fact that the yen has strengthened further in 1995, imports are forecast to grow by almost 10 per cent (see table A.19).

Largely owing to the rising yen, Japan has not been able to share in the growth in world exports. The volume of exports of Japan grew only 2 per cent in 1994 and is forecast to fall by almost 4 per cent in 1995. Indeed, this is one of the reasons the Government has decided to prepare a new fiscal stimulus package and reduce interest rates in April 1995, as noted in chapter II.

In western Europe, meanwhile, the 1994 economic recovery helped turn around a 4 per cent decline in the volume of imports in 1993 and replace it with a growth rate of almost 7 per cent, which is forecast to be repeated in 1995. As the major sources of supply of western European countries are other western European countries, the new growth pattern of European exports largely reflects the growth of imports.

The increased import demand of western Europe was also a major export opportunity for central and eastern Europe. The dollar value of exports of these transition economies rose by a fifth, helping to finance more than a 12 per cent growth in the dollar value of imports, which included buoyant demand for investment goods. This trade performance was one of the factors behind the resumption of economic growth in the region (see chap. II). In this instance, the region benefited from its dependence on western Europe, which accounts for over 50 per cent of its trade.¹ In the absence of sufficient diversification in the years ahead, it will also suffer the down side of this dependence in the next cyclical slide of the western European countries.

Import and export growth was strong also in the developing countries, driven not only by continued dynamic trade in South and East Asia and China, but also by strong trade performance in Latin America and the Caribbean (see table A.19). However, some moderation of trade growth in developing countries is expected in 1995, owing mainly to a slower growth of exports from South and East Asia and China, and a drop in imports in Latin America and the Caribbean.

Export and import volumes increased by about 14 per cent in South and East Asia in 1994. Behind the robust growth in exports were the recovery in the developed economies and the continued rise in intraregional trade and exports to China. Depreciation of the dollar against the yen also improved price competitiveness of the exports of the many regional economies whose currencies are linked to the dollar. Increasing specialization of the first and second generation of the newly industrializing economies in the rapidly expanding electronics and telecommunications sectors boosted their export growth.

Import growth was buoyed by growing demand for imported capital goods and other inputs required by the rapid growth in exports. This was reinforced by strong investment growth in many economies. The increase in imports was widespread in the region. This has resulted in rising trade deficits in a number of economies and raised concerns about the need to curtail import growth.

The volume of exports of Latin America and the Caribbean rose 9 per cent, benefiting from the recovery of world markets and increased intraregional demand. The increase in commodity prices and continued diversification into manufactures were responsible for the strong increase in the value of exports. Imports, however, grew faster than exports in 1994, owing to economic growth, lower tariffs and the availability of finance.

A reversal is taking place in 1995, given the sudden adjustment of current account positions after capital inflows slowed down in the wake of the Mexican crisis. Export earnings will grow faster than expenditure on imports, responding to the devaluations that took place in various countries and the contraction or slower growth of internal demand in the major countries. Indeed, the volume of imports is likely to decline.

Africa is currently benefiting from an increased demand for its exports. Non-oil-exporting countries showed a rise in export earnings in 1994 helped by the rise of commodity export prices. In the franc zone, exports were generally responsive to the devaluation of the CFA franc in January 1994 (see table II.5), but imports contracted. Import volume expanded in the oil-importing countries in 1994 but declined in the oil-exporting countries, parallel to exports. South Africa's recovery fuelled a brisk increase in its imports in 1994.

¹ Central and eastern Europe, on the other hand, account for only about 5 per cent of western Europe's trade (for details on the composition and competitiveness of the trade of eastern Europe with western Europe, see Rumen Dobrinsky, "Trade restructuring in transition economies: an analysis based on trade with the European Union", DESIPA Working Paper Series, No. 8, United Nations, New York, 1994).

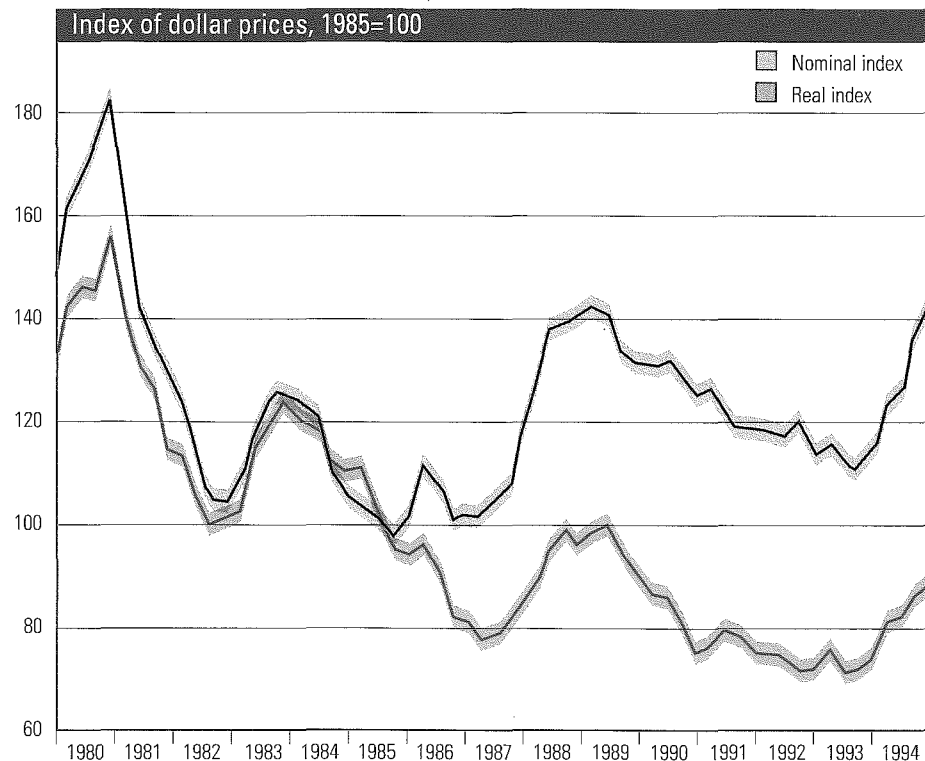
Africa's export unit value in dollars increased in 1994 for the first year since 1990, and terms of trade are set to improve in 1995 for the first time since 1990. Export revenues are expected to improve further in 1995 as oil prices are to increase as well. Current experience underscores the unchanged reliance of Africa on commodities, despite some diversification into non-traditional exports.

The rebound of non-fuel commodity prices

The turnaround of commodity prices that started towards the end of 1993 accelerated into a significant broad-based recovery in 1994, with a 17 per cent increase in the index of dollar export prices of non-fuel commodities (see table A.21). Measured in terms of the manufactured exports of developed countries, the increase was 16 per cent, owing to an increase of less than 1 per cent in the export price index of manufactured goods of developed market economies. The dollar-based index has now returned to the pre-recession peak; the real index, however, remains considerably below it (see figure III.2).

Figure III.2.

PRICES OF NON-FUEL COMMODITY EXPORTS OF DEVELOPING COUNTRIES, 1980-1994



Source: UNCTAD and UN/DESIPA.

Note: "Real" price is nominal price deflated by price index of manufactured exports of industrialized countries.

Average prices of all major commodity groups increased at double-digit rates for the year. The rise in food prices was led by a 34 per cent increase in the price of rice and a 20 per cent increase in the price of sugar. A 118 per cent increase in the price of coffee (as measured by the 1989 indicator price of the *International Coffee Agreement*) and a 23 per cent increase in cocoa prices propelled the rise of tropical beverages prices.

The favourable outcome for commodity exporters could be attributed to supply shortages on global markets, as well as to recovery-related increases in demand. Adverse weather conditions in major producing countries contributed to the reduction of output and exports of several agricultural commodities, such as rice, sugar, natural rubber and coffee. Also, international prices of some minerals and metals benefited from reduced exports from transition economies. Record exports of such commodities as aluminium, lead, nickel and zinc from those countries in recent years had contributed to the price depression in minerals and metals markets since 1989.

In addition, prices for aluminium and coffee were pushed higher by producer agreements to limit exports of those commodities. In the case of coffee in particular, an export retention scheme initiated in October 1993 tightened global supplies and raised prices significantly at the beginning of 1994. By mid-year, prices had more than doubled and escalated even further to their highest levels in eight years after two frosts and a drought destroyed 40 per cent of Brazil's 1994/95 crop. Aluminium prices rose 30 per cent for the year owing to a scheme among major producers to cut smelter output and exports.

The continued strong pace of absorption of raw materials in the United States, the fast-growing Asian economies, China and several countries in Latin America underscored the strength of the demand side of the recovery of prices. The subsequent resumption of industrial output in Japan and western Europe added further impetus to demand and price increases. Increased imports of food and other commodities in the transition economies likewise contributed to the strengthening of prices of several commodities that had been adversely affected by dislocations of the trading relationships of those countries in recent years.

The run-up in some commodity prices also appears to have been boosted by speculative purchases. That is, higher prices for futures and options contracts on commodities throughout much of the year contributed to the escalation of the prices of the underlying commodities. Indeed, trading of commodity instruments is reported to have reached record levels in value and volume on major commodity exchanges in 1994.

Demand for these instruments by institutional investors mainly reflected the perception that the prices of some commodities, especially minerals and metals, were undervalued, since the prices in real terms had dropped to historical lows in recent years. With the demand-driven recovery and expectations of further price increases during the recovery period, prospective earnings on these commodities were considered favourable, compared to returns on bonds, equities and other financial assets. Commodity-linked instruments additionally offered opportunities for portfolio diversification and hedges against inflation and interest rate increases as prices of these instruments were considered to be weakly, or sometimes negatively, correlated with prices of other financial assets and positively correlated with inflation.

International policy mechanisms aimed at commodity market stabilization were largely ineffectual in 1994. Only the International Natural Rubber Agreement currently operates with a buffer stock scheme for price stabilization. But its buffer stock was exhausted in October 1994 after rubber prices escalated in the second half of the year. A new international agreement was negotiated in early 1995 and is scheduled to enter into force in 1996. New agreements for coffee and cocoa were negotiated in 1993/94 but without the standard economic clauses for price stabilization. The prospects for new international agreements of producers and consumers appear remote. Initial successes of producer arrangements in boosting coffee and aluminium prices may lead to new producer efforts to emulate these models for other commodities. Consumer Governments, on the other hand, have little incentive to join collaborative schemes, since the long-run tendency seems to be for supplies to run ahead of demand and for prices to weaken.

The limited success of the agreements that are still in force adds further currency to the calls for more market-oriented strategies for coping with price volatility. Recent proposals by the World Bank, the International Monetary Fund, UNCTAD and other observers advocate more widespread use of hedging strategies by commodity-exporting countries to manage price risk of their commodity exports.²

Indications as of early 1995 point to more limited increases or declines in commodity prices for the remainder of the year, owing to the combined effects of slower growth of the economy of the United States, the contraction of import demand in Mexico and slower economic growth in other Latin American countries. However, the expansion in industrial output that is likely to occur in Japan, western Europe and the rapidly growing areas of Asia will help to support commodity prices. Higher interest rates and lower inflationary expectations in the United States have already caused a retreat from commodity instruments to traditional interest-earning assets in the early months of 1995. Prices of several of the underlying commodities consequently lost some of their 1994 gains. The supply response to higher prices — increased output, increased utilization of substitutes for primary commodity inputs, including more efficient recovery of scrap metals, and a disinclination of countries to restrict exports while prices remain high — were already evident in several markets. This trend is expected to lead to excess supplies and lower prices of many commodities during the year.

International petroleum market

In view of the relatively strong world economic recovery and a slowing down of the rate of decline in oil demand in the former Soviet Union, and if Iraq remains barred from exporting oil, world demand for petroleum will catch up with supply and appreciably firm oil prices in 1995. Under such circumstances, average oil prices are expected to rise in 1995 to a range of \$17 to \$18 a barrel,³ especially if the Organization of the Petroleum Exporting Countries (OPEC) maintains its current production ceiling.

However, warmer winter weather as well as the prospects of further non-OPEC production gains could exert downward pressure on prices, undermining OPEC's intention to restrain production. Over the medium term, the world oil

² See, for example, World Bank, *Global Economic Prospects and the Developing Countries, 1994* (Washington, D.C., April, 1994); Carmen Reinhart and Peter Wickham, "Commodity prices: cyclical weakness or secular decline?", *IMF Staff Papers*, vol. 41 (June 1994), pp. 175-213; "Contribution to the improvement of the functioning of commodity markets", report by the UNCTAD secretariat (TD/B/CN.1/10, 27 August 1993); and C.W. Morgan, A.J. Rayner and C.T. Ennew, "Price instability and commodity futures markets", *World Development*, vol. 22, No. 11 (November 1994), pp. 1729-1736.

³ The price indicator employed here is the average spot price of the OPEC basket of seven crude oils.

market could tighten moderately in response mainly to developments on the demand side, although the supply of oil is expected to be quite abundant at current prices (see chap. X). While oil prices may experience ups and downs, on average, they may be assumed to remain constant in real terms over the medium run.

In 1994, world oil demand strengthened, owing largely to the acceleration of economic growth in the developed market economies. Except in Africa, oil demand growth in the developing countries continued to be strong, particularly in China, East and South-East Asia. Over the past five years, oil consumption in Africa has been nearly stagnant, reflecting slow economic growth and, in some cases, shortages of supply (see table A.39).

Oil consumption in the developed market economies grew by nearly 1 million barrels per day (mbd) in 1994, despite improved energy efficiency, reflecting the faster economic growth in those countries. Strong oil demand in Japan, resulting from increased use of oil in power generation, offset weaker than expected growth of oil consumption in the United States and western Europe, owing to unusually warm weather in the fourth quarter of 1994. Growth in oil demand in the developed market economies was also stimulated by the overall decline of prices of petroleum products in the United States and Japan. In western Europe, however, average prices paid for oil products by consumers increased in spite of the significant decline of crude oil prices, owing to tax increases in a number of countries, notably Germany, Italy and the United Kingdom.

World crude oil production rose in 1994 in line with the growth in demand. Non-OPEC oil production increased more than that of OPEC for the first time since 1985, largely as a result of the sharp increases in Norway and the United Kingdom (see table A.40). Production in non-OPEC developing countries also increased significantly, most notably in Angola, Argentina, Ecuador, India, Oman, Viet Nam and Yemen, while it declined in Papua New Guinea and Tunisia. In China and Mexico, oil production edged up slightly. Production in the former Soviet Union fell by 11 per cent, bringing the cumulative decline to nearly 50 per cent since 1989, reflecting the continuing problems with maintaining the infrastructure and improving oil recovery methods.⁴ Production in the United States also continued to decline, owing to ageing oilfields; it reached the lowest level since 1954. Elsewhere, production increased moderately.

The upturn in non-OPEC supply is expected to continue for the next few years as production in the North Sea continues to rise and the large decline in the member countries of the Commonwealth of Independent States (CIS) subsides. Production growth in the United Kingdom, Norway and a number of developing countries will probably more than compensate for the decline in the United States and other rapidly depleting oil-producing areas. The lack of proper maintenance of oilfields suggests further decline in oil production in the CIS before it begins to rebound. In the United States, falling reserves and ageing oilfields may also lead to a further gradual drop in production. However, the decline in the United States may be offset once new production from offshore field development in the Gulf of Mexico comes on stream.

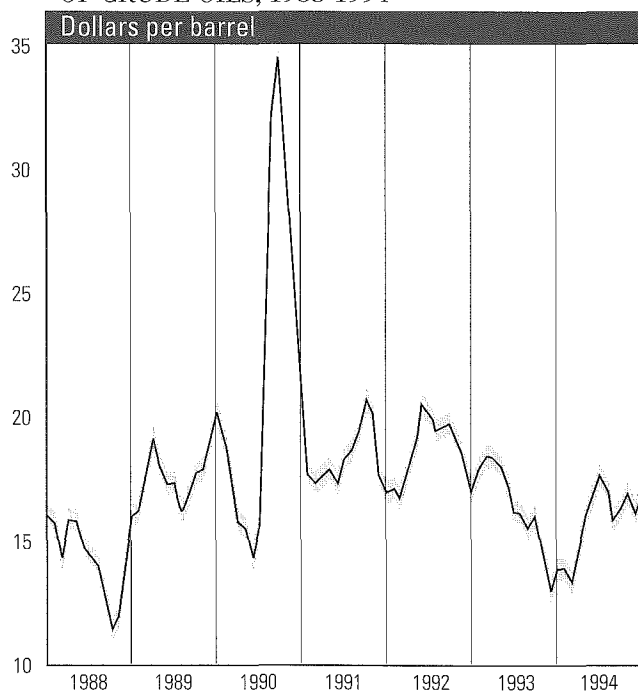
Oil price movements during 1994 reflected the relatively strong growth of oil demand, coupled with minor disruptions of supply brought about by the strike of oil workers in Nigeria and the civil war in Yemen and OPEC decisions

⁴ In spite of the steep decline of production in the Russian Federation, oil exports from the former Soviet Union increased from 2.2 mbd in 1993 to 2.4 mbd in 1994. This was possible because of the even sharper decline in domestic oil consumption, leaving more oil available for export.

about production levels. Oil prices began the year at unexpected lows (see figure III.3), owing to a sharp increase in oil production in the North Sea, combined with a large surplus of oil stocks. Oil prices strengthened somewhat in the second quarter of the year as a result of cold weather in the United States and the growing economic expansion in the industrialized countries. OPEC decided at its meeting in June 1994 to hold output constant and that helped undergird prices. Spot prices thus rose from \$13.6 a barrel in the first quarter of the year, to more than \$16 a barrel in the third and fourth quarters. OPEC's agreement in November 1994 to freeze production for one year has helped to maintain oil prices, which otherwise would have probably fallen owing to unseasonably mild weather in North America and Europe. That decision seemed to quell market doubts about OPEC's production resolve, which had softened prices in recent years.

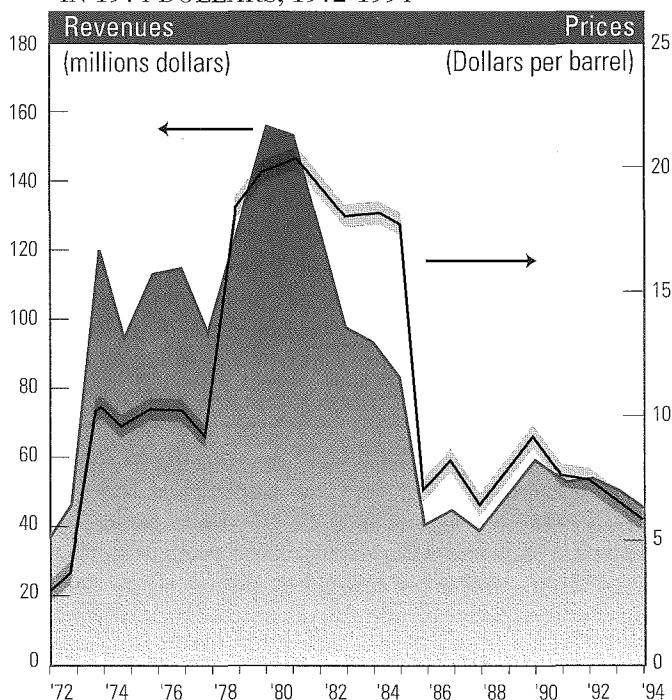
This notwithstanding, the 1994 average oil price of \$15.6 a barrel was the lowest for the OPEC basket since 1988 and the lowest since 1973 in terms of purchasing power over manufactured exports of the industrialized countries (see figure III.4). As a result, total OPEC oil revenues in 1994 were less than half the 1974 level in inflation-adjusted terms.

Figure III.3.
AVERAGE SPOT PRICE OF THE OPEC BASKET
OF CRUDE OILS, 1988-1994



Source: OPEC data.

Figure III.4.
OIL PRICES AND OPEC'S OIL EXPORT EARNINGS
IN 1974 DOLLARS, 1972-1994^a



Source: UN/DESIPA, based on OPEC, *Annual Statistical Bulletin* and United Nations, *Monthly Bulletin of Statistics*.

^a Nominal dollar value deflated by index of manufactured export prices of industrialized countries.

This is highly significant as several members of OPEC rely on oil export revenues for more than 90 per cent of their foreign-exchange earnings. OPEC oil revenues grew at a rapid pace in the 1970s, and then declined gradually before they fell in 1986 to nearly one fourth of their peak in 1980. Since then, they have recovered somewhat, but have fallen by nearly \$18 billion (or 14 per cent) over the past two years (see table A.42). At present, the countries of the European Community earn nearly twice as much by taxing oil as OPEC countries do by selling it.

The largest oil importer in the world is the United States, followed by Japan, Germany, France, Italy, the Republic of Korea and Spain. Together these seven countries imported nearly 24 mbd, and accounted for 70 per cent of total oil trade in 1994. In 1994, for the first time, oil imports of the United States exceeded 50 per cent of consumption, according to the American Petroleum Institute. Dependence on oil imports is much higher in other large oil-importing countries, amounting to nearly 100 per cent in France, Germany, Italy, Japan, the Republic of Korea and Spain.

Over the past two decades, nevertheless, the degree of dependence on imported oil has been reduced considerably in most of the developed market economies through changes in national productive industries, energy conservation policies, substitution of other forms of energy and availability of emergency oil stocks to deal with supply disruptions. At present, such stocks can last for as much as three months of import requirements. In particular, in the United States the strategic petroleum reserve, amounting to over 600 million barrels of oil, could cover over two months of oil imports.

INVESTMENT AND THE NET TRANSFER OF FINANCIAL RESOURCES

In 1990 some observers were concerned that the supply of world savings was inadequate and would act as a constraint on the growth of investment and world output over the medium run. Soon after, the industrialized economies slipped into recession and the weakness of expenditure — not saving — became the bigger concern. With the recovery of demand, the concern about the adequacy of world saving again arose.

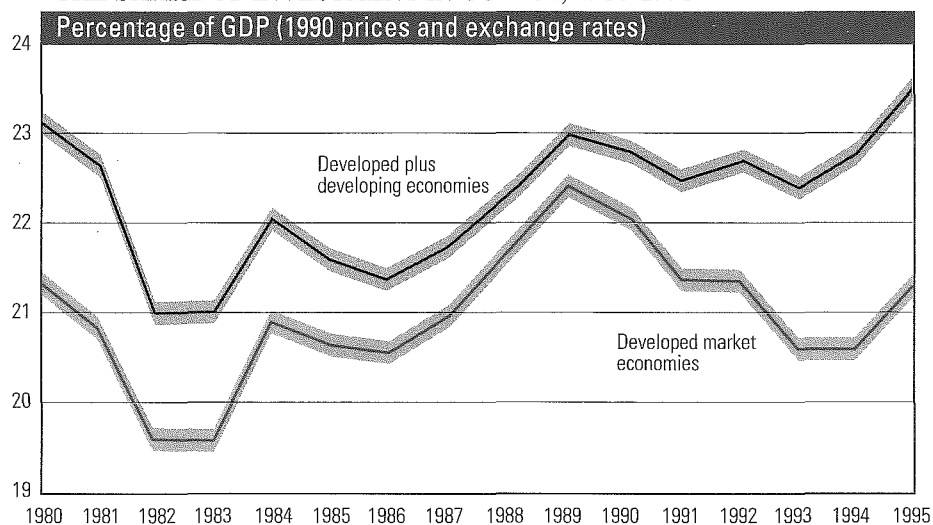
The savings to finance world investment

It is notoriously difficult to measure the aggregate saving of economies. Individual country data on saving are generally measured as the residual of income not used for current expenditure, including that by Governments, individuals and firms. However, expenditure on investment is estimated directly and if the global level of investment rises, it means that world saving has risen to “finance” it. Figure III.5 shows an estimate of aggregate investment in countries that cover well over 90 per cent of world output.⁵ By this measure, the share of “world” expenditure that was invested rose with the recovery from recession in the early 1980s; in the 1990s recession, unlike the 1980s case, the global investment share did not fall appreciably. Moreover, there is a substantial investment component in the current global expansion and so the total investment share is rising.⁶

⁵ The major exclusion in the figure is the transition economies, largely because the national accounts data of some of the countries seem to be highly inaccurate (see Introduction to statistical annex); also, data for the 1980s for these countries are not comparable to the currently estimated data.

⁶ A caveat is warranted here: the data are in constant prices and the prices of investment goods have been falling relative to the prices of other goods and services. Thus, the investment share measured in current prices, and thus world saving out of current income, might not be rising (data and forecasting difficulties preclude estimating current-value data for recent years). On the other hand, there are reasons to believe that price indices understate the rate of decline in the relative price of investment goods, mainly owing to quality improvements, and thus the increase in the share of investment in real terms may be understated.

Figure III.5.
THE SHARE OF INVESTMENT IN OUTPUT, 1980-1995



Source: UN/DESIPA

Table III.1.
NET TRANSFER OF FINANCIAL RESOURCES OF GROUPS
OF DEVELOPING COUNTRIES, 1984-1994^a

Billions of dollars	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b
Africa	3.2	-7.3	2.0	-3.2	3.6	0.3	-10.9	-6.9	-2.2	1.0	-0.9
of which:											
Sub-Saharan Africa ^c	2.8	3.1	6.0	6.0	7.6	5.8	8.0	8.6	10.5	9.5	7.3
Latin America and the Caribbean	-35.1	-30.3	-12.2	-18.3	-21.9	-27.5	-26.8	-7.9	11.2	17.8	19.6
West Asia	18.1	24.1	29.3	23.8	26.6	19.3	8.3	47.8	43.1	30.4	34.1
Other Asia	-4.1	4.1	-11.6	-30.0	-17.3	-10.8	-7.7	-3.4	-3.2	10.7	2.5
of which:											
China	-0.4	12.3	7.1	-0.5	3.6	4.7	-10.9	-12.0	-5.8	10.6	-3.4
Four exporters of manufactures ^d	-9.1	-12.1	-23.1	-30.3	-25.4	-21.5	-10.8	-6.0	-6.3	-10.1	-7.5
All developing countries	-22.9	-14.7	4.9	-30.8	-15.4	-22.1	-30.0	32.7	50.0	67.1	52.5
Memorandum items:											
Sample of 93 countries ^e	-29.2	-17.3	-4.5	-33.9	-32.2	-29.4	-27.1	-0.8	16.5	45.3	48.4
15 heavily indebted countries ^f	-40.8	-40.6	-22.3	-28.6	-31.3	-36.7	-32.7	-12.9	3.1	16.0	15.7

Source: UN/DESIPA, based on data of IMF, official national and other sources (for memorandum items, see statistical annex, table A.27).

^a Expenditure basis (negative of balance of payments on goods, services and private transfers, excluding investment income).

^b Preliminary estimate.

^c Excluding Nigeria and South Africa.

^d Hong Kong, Republic of Korea, Singapore and Taiwan Province of China.

^e 93 capital-importing countries, for which more data are available. For detailed analytical information, see table A.27.

^f Argentina, Bolivia, Brazil, Chile, Colombia, Côte d'Ivoire, Ecuador, Mexico, Morocco, Nigeria, Peru, the Philippines, Uruguay, Venezuela and former Yugoslavia.

The gap that opened up in the 1990s between the global investment rate and the investment rate in the industrialized countries reflected the dynamic economic situation in many developing countries, particularly in Asia and the Pacific. Virtually all of the investment in the latter countries was financed out of domestic saving. Indeed, although the net transfer of financial resources to Asia (excluding West Asia) turned positive in 1993 — indicating that foreign saving supplemented gross domestic saving in financing gross domestic investment — the amounts were very small relative to the size of the economies. In earlier years this region had even been a net supplier of resources to the rest of the world (see table III.1).

The concern about the adequacy of world saving was reawakened after long-term interest rates unexpectedly rose in early 1994. The idea was that the growing investment in the recovering economies might have begun to put pressure on capital markets. But the demand for “loanable funds” in capital markets is not the same as the need for additional saving to finance investment. Moreover, there were other factors to explain the relatively sharp rise in long-term interest rates. In particular, the tightening of monetary policy in the United States suddenly made profits evaporate for those who had made substantial purchases of bonds using funds borrowed on short-term bases.

In sum, there is nothing thus far to indicate that a shortage of global saving has emerged. Nor does such a shortage seem to lie on the horizon. Moreover, with Governments of most industrialized countries committed to fiscal deficit reduction (see chap. IV), the fear that private borrowers might be crowded out of the financial markets by public borrowers seems remote.

This is not to say that “shortages” of financing might not appear. Indeed, it happened in Mexico in the run up to the exchange-rate crisis in December 1994 and may be said to have happened in the United States as well. In the latter case, it can be said that the dollar’s exchange rate fell because the extra \$30 billion in net financial transfers to the United States in 1994 were not sufficient to cover the larger United States trade deficit (see table A.26). In fact, inadequate or excessive international financial movements were causing large-scale exchange rate realignments.

Unusual exchange-rate developments in 1994 and 1995

In 1994 and especially in early 1995, foreign-exchange markets went through one of the more turbulent periods since the inception of floating exchange rates in the early 1970s. In highly unusual fashion, currencies of a wide range of countries simultaneously experienced very significant changes in exchange rates. The dollar plunged to historic lows versus both the Japanese yen and deutsche mark, but appreciated in terms of its Canadian counterpart. At the same time, the British pound, French franc, Italian lira, Spanish peseta and Swedish krona all slumped to new lows against the German currency, while the latter hit a record low versus the yen. Furthermore, the dramatic decline in the Mexican peso has had negative ramifications for other currencies in Latin America.

The dollar’s unexpectedly sharp fall has been occurring amid healthy economic growth, low inflation, a declining budget deficit and rising interest rates, all of which would normally make for a stronger currency. The present fiscal

position of the United States, both in terms of the budget deficit and the outstanding stock of government debt as a percentage of GDP, is at least as favourable as that of Germany and Japan.

On the other hand, the United States has suffered a significant deterioration in its trade position in recent years largely because real domestic demand growth in the United States has far exceeded that in Germany and Japan. The divergence in relative growth rates has been compounded by the fact that, unlike Germany or Japan, the United States has a high income elasticity of demand for imports and a low national savings rate relative to domestic investment. Consequently, the United States tends to suffer a significant worsening in its balance of trade in goods and services — and hence an increase in its need for financial resources from abroad — each time its economy grows faster than its major trading partners.

On this occasion, moreover, demand for United States exports has been dampened by Mexico's recession, European currency movements and the persistent strength of the yen, which is capping recovery in Japan. The United States is thus left with a substantial trade deficit to finance. Moreover, the United States as a debtor country has begun to make substantial net foreign payments of investment income — \$42 billion in 1994 — double the level of two years previous (see table A.26). Thus a larger net capital flow is needed both to bring about the net financial transfer and to make net investment income payments.

In addition, the United States private sector has become a major supplier of funds to the rest of the world, especially in the form of direct investment and purchases of foreign securities. In 1993, the combined outflow on these accounts was \$178 billion; in 1994 it was \$119 billion. American institutional investors have been diversifying their portfolios internationally.⁷ This means that even though banking outflows have largely dried up, the United States needs a large capital inflow to cover this outflow and to bring about the net transfer to the United States economy.

At the same time, foreign, first of all Japanese, investors have become increasingly reluctant to buy American securities because of a falling dollar. The persistent depreciation of the dollar has caused Japanese investors to suffer huge cumulative foreign-exchange losses on dollar-based assets since the early 1980s. With the yen surging once again and with balance sheets weakened by further domestic losses on real estate and equities, the Japanese investors and firms have become even more cautious about long-term investing in foreign assets. Moreover, Japanese investors have even been pulling back some of their overseas holdings, thereby pushing the yen further up.

For several years in the 1980s, the long-term capital outflow from Japan was even greater than the large current-account surplus. This changed in 1991 when there was a long-term capital inflow to Japan, both portfolio investment and loans (see table A.26). Very large short-term capital outflows — in the event, about \$111 billion — thus had to occur in that year as the financial counterpart to the current-account surplus. Even though the net outflow of long-term capital resumed in 1992, it has been far smaller than the current-account surplus. Consequently, the gap has had to be met by the potentially more volatile, short-term outflows (although some of the outflow took the form of a reduction of Japanese short-term liabilities).

⁷ The Mexican crisis might have held up the outflow of portfolio capital but has by no means reversed this long-term trend.

In an attempt to avoid taking on additional dollar risk, Japan has turned in recent years to increased financing of many Asian borrowers through yen-denominated loans, which shifts the burden of dollar weakness to the foreign debtors. To cover those loans and stem currency losses, Asia's central banks are shifting more of their huge foreign-exchange reserves into yen. That could have been an additional source of the dollar's weakness against the yen.

As far as the deutsche mark is concerned, a turnaround in interest-rate expectations appears to have ignited a surge in the value of the mark. The expected size of interest-rate differentials in favour of dollars has been revised downward as it has become clear that interest rates outside the United States, especially in Germany, are not likely to go much lower. The Bundesbank's unexpected rate cut on 30 March 1995, which was aimed to dent the advance of the mark, has not changed this perception. At the same time, a new round of aggressive monetary tightening in the United States seems remote. Accordingly, that made the dollar less attractive and increased the allure of the mark.

Dollar declines against the mark always put a strain on European currencies, as funds moving out of the American currency tend to flow disproportionately into Germany rather than other parts of the continent. However, in early 1995, many European currencies simultaneously came under heavy selling pressure on concerns over high government debts and deficits as well as over uncertain political situations. Investors fled the currencies of France, Italy, Portugal, Sweden, the United Kingdom and, to a lesser extent, Belgium, Denmark and Norway. Much of that capital flight has also found its way into the mark. The end of the cold war has removed much of the risk once associated with German financial markets. Consequently, at a time of political and financial uncertainty, investors are heading not to the safety of the dollar, as they did in the past, but to the security of the mark. This puts additional upward pressure on the German currency not only against the weaker European currencies, but against the dollar as well.

In sum, a single root cause of the woes afflicting the dollar and other currencies can hardly be defined. Indeed, the economic fundamentals alone can explain neither the full extent of the moves nor the extreme volatility. It seems that changes in currency values originally driven by economic fundamentals have gathered exceptionally strong market momentum, which has taken exchange rates to extreme readings across a wide range of currencies. The foreign-exchange market appears to be moving to a new equilibrium, but there has been great and prolonged uncertainty regarding its level.

Financing the net transfers to developing countries

The developing countries taken together enjoyed a fourth straight year of large net financial transfers in 1994, although the transfer was almost \$15 billion less than in 1993 (see table III.1). Coupled with strong growth of export earnings, this facilitated the double-digit growth of import volumes noted above.

The level of official reserves rose by almost \$80 billion, bringing them above four months of import coverage (including interest payments). Some of the increase represented the larger dollar value of the stock of non-dollar reserves, owing to the depreciation of the dollar exchange rate against the yen

and other reserve currencies (see table A.27). But the increase of reserves at constant exchange rates was over \$50 billion.

Of course, not all countries shared in this experience. Mexico, in particular, saw its reserves fall from their peak of \$29 billion at the end of February 1994 to \$6 billion by the end of the year. Indeed, the fall in Latin America's reserves in 1994 shown in table A.28 was fully accounted for by the decline in those of Mexico; excluding Mexico, Latin America's reserves rose by \$8 billion (at constant exchange rates). The reserves of sub-Saharan Africa (excluding Nigeria and South Africa) also rose, both nominally and as a share of imports.

On the whole, the quality of the financial components of the flows to the developing countries improved in 1994. That is, for the sample of 93 capital-importing countries whose data are available in sufficient detail to construct reasonable estimates of financial flows, there was a smaller net inflow of short-term and speculative funds. Instead, net inflows of direct investment, medium and long-term credit from private sources (particularly bonds and syndicated loans), as well as official and private grants, were larger (see table A.27). The bulk of the improvement was enjoyed by Asia, although direct investment in Latin America rose as well. While there was little change in the overall net transfers of sub-Saharan Africa, Africa as a whole experienced a negative transfer, as more funds were used on interest and capital outflows than were received from abroad (see table A.27).

The net transfer to Africa on official credit was positive in 1994 and significantly positive to the sub-Saharan region, while Latin America experienced its eighth consecutive year of negative transfer on account of official credits (see table A.27). This will change in 1995, as in January, the International Monetary Fund (IMF) agreed to an 18-month Stand-by Arrangement for Mexico of almost \$18 billion, far more than the Fund's total lending commitments in 1994 (almost \$9 billion, of which almost \$7 billion were for developing countries).

More generally, developing countries were still repaying IMF loans on a net basis in 1994, although there were net disbursements of about \$1 billion of concessional loans through the Enhanced Structural Adjustment Facility (see table A.29).⁸ Net disbursements by the World Bank to developing and transition economy borrowers remained positive, but when interest payments on the order of \$8 billion are subtracted from the net capital flow, the resulting net transfer of the Bank was negative, as it has been throughout the decade.⁹

This notwithstanding, lending commitments at IMF and the World Bank Group rose in 1994 (see tables A.29 and A.34). Loans arranged by all the regional development banks fell in 1994, however, except at the European Bank for Reconstruction and Development, which was only in its fourth year of making loan commitments. The sharpest cut-backs were by the African Development Bank and the International Fund for Agricultural Development (table A.34).

This lending picture is reflected as well in the evolution of the foreign debt owed by the developing countries. While the stock of debt rose about 7 per cent, that owed to multilateral creditors rose only 4 per cent, virtually all of which was accounted for by concessional lending (see table A.36). In other words, while developing countries still account for a small share of borrowing activity on world capital markets (developing countries took approximately 10 per cent of medium and long-term internationally arranged credits in 1994, as

⁸ The Fund made larger net disbursements (over \$2 billion) to the transition economies in 1994, principally through the Systemic Transformation Facility (see table A.30). Commitment authority under that facility terminated, however, in April 1995.

⁹ The Bank has had "negative transfers" *vis-à-vis* its non-concessional borrowing facility since 1987; but positive transfers through the International Development Association, the Bank's soft-loan window, exceeded the negative transfers until 1991 (see World Bank, *World Debt Tables, 1994-95*, Washington, D.C., December 1994, p. 194). See also, Göran Ohlin, "The negative net transfers of the World Bank", in UNCTAD, *International Monetary and Financial Issues for the 1990s: Research Papers for the Group of Twenty-Four*, vol. V (United Nations publication, Sales No. E.95.II.D.3), pp. 1-13.

can be seen in table A.31), they have increasingly been able to tap these markets. Thus, the value of bonds and medium-term bank loans owed by developing countries rose by over \$50 billion in 1994.

More precisely, several Asian and Latin American borrowers have been able to tap the market for substantial sums. Or rather, until the Mexican crisis, the market had been quite willing to absorb considerable numbers of financing arrangements for selected developing countries, known popularly as “emerging markets”. This notwithstanding, the financial market became reluctant to extend credits in 1994 to some borrowers even before the December events in Mexico; in particular, Mexico began issuing its “*tesobonos*” in part because of negative market sentiment about traditional forms of borrowing.

The *tesobonos* were relatively short-term domestic securities of the Mexican Government that were denominated in pesos, but paid a return tied to the dollar so that the holders of the securities would not bear the risk of exchange-rate loss. Because the peso fell some 40 per cent against the dollar by early 1995, it became quite costly for Mexico to honour the commitments; but in the end the holders of *tesobonos* were protected from loss. Nevertheless, the market became wary of lending to many developing countries in the wake of the crisis and first quarter lending statistics for 1995 are expected to show a sharp drop-off in lending activity. On the other hand, as the underlying situation in many developing countries remains encouraging, borrowers are expected to return in significant numbers, if perhaps in a more discriminating manner.

Africa has, however, been excluded from most of this borrowing activity. Resources were provided instead largely through official channels. One reason is that the debt-carrying capacity of Africa remains highly strained. One sign is that while principal and interest arrears of Latin America were reduced in 1994 and in Asia were less than 2 per cent of gross debt, in Africa arrears rose once again in 1994, both in absolute terms and as a share of total debt, almost reaching 18 per cent of the total debt outstanding. The ratio of external debt to GNP of Africa is more than twice that of the other developing-country regions; that of the sub-Saharan region (excluding Nigeria and South Africa) is almost twice the ratio for Africa as a whole (see table A.37).

As much of Africa's debt is on concessional terms, however, the debt-servicing ratios are not as extreme as the above statistics might suggest; but they are still beyond what many African countries can pay. Indeed, in 1994 sub-Saharan countries accounted for 9 out of the 13 debt-restructuring agreements in the Paris Club, which is the multilateral forum in which bilateral official credits are usually treated (see table A.38). Increasingly, the international community is also facing the need to consider breaking with past practice and seek new ways to alleviate the burden of several of these countries — and possibly other low-income countries — in servicing the debt they owe to the multilateral institutions. Such debt has long been considered ineligible for restructuring (see chap. VII).

Ultimately, Africa needs to be able to draw more heavily on private external finance, as some other parts of the developing world have already begun to do. In many cases, however, that new access was a long time in coming. It required pursuit of sound policies and achieving a measure of success in rebuilding a head of steam under the economic growth engine. But it also required development and maintenance of the confidence of the market in a world of highly

imperfect information in which — as was seen in Latin America following the Mexican crisis — the market can follow herd instincts. In this regard, the international community has turned its attention most recently to mechanisms that might, *inter alia*, reassure the financial markets about the soundness of specific national situations and head off growing difficulties before they reach crisis proportions.

The Interim Committee of IMF has developed a two-pronged strategy to meet the new concerns. The first prong is enhanced IMF “surveillance” of the economic policies of member countries. Fund consultations with Governments about macroeconomic policy would become more frequent and IMF discussions and reports more candid. Moreover, the Fund would seek more timely and reliable data from countries, and while respecting confidentiality, possibly seek wider audiences for its views of country policy needs.

But recognizing that “good” policies are not full protection against payments crises, the second prong of the Fund’s new strategy is to strengthen the resources of the Fund for lending to member countries. These would be provided through normal channels (in this case, the Eleventh General Review of Quotas, which is already under way) and an updated and enhanced General Arrangements to Borrow, which could provide quick, short-term currency swaps to more countries than are currently eligible. The Managing Director of IMF has also proposed a general allocation of special drawing rights (SDRs), which could bolster the liquidity of developing countries in particular, although the requisite support for adopting a new SDR allocation does not seem currently within reach. Nevertheless, support seems to be building for extending the Enhanced Structural Adjustment Facility and introducing a mechanism, as the Government of the United Kingdom proposed last year, to make it self-sustaining through an income-earning fund that could be established with proceeds from the sale of some of IMF’s gold holdings (see chap. VII).

In the end, however, it is the actual policies of Governments and broader aspects of the investment climate that will determine the attraction of individual country borrowers to various types of international capital; the role of international oversight or dialogue is only supplemental. Even unsustainable policies have successfully attracted some forms of capital by creating large profit opportunities from speculative activities. This can provide the resources for a large net transfer that finances an import surge. For a time, the domestic economic situation can even appear stronger than it is (e.g., in terms of inflation reduction and falling real interest rates). But these inflows also increase the vulnerability to a collapse of the unsustainable policy, capital flight and a sharp adjustment.

As always, the need is to design a policy that fosters adjustment while it stimulates investment and growth and that is able to respond in a timely way to changes in the environment that are unforeseeable but inevitable. As discussed in chapter V, developing countries have come a long way in thinking about precisely these issues.

PART TWO

A
PERSPECTIVE
ON
POLICIES

IV LIMITATIONS OF MACRO-POLICY IN INDUSTRIALIZED COUNTRIES

Overcoming economic recession and countering high rates of inflation have been major goals for short-term policy-making in the developed market economies since the end of the Second World War. Rates of success in the policy arena may have been mixed, but the tools of policy were seen as quite potent. Today, the view is more nuanced. Macroeconomic policy is still widely considered necessary, and a potent means, to avoid reaching the extreme points of business cycles. However, the capacity to fine-tune in the short run through macroeconomic management per se is thought to be small.

Rather, government maintenance of “credibility” in the eyes of domestic and international economic actors has emerged as an explicit characteristic of macroeconomic management. Achieving a stable and predictable macroeconomic environment seems to have become the one permanent policy goal. Thus, while policy makers will act against recession and inflation shocks — and intervene to maintain the exchange rate within a stated band in some cases — these are seen as temporary departures from the long-run goal of achieving and maintaining price stability using strict monetary control and sustainable budget policies.

WHAT FISCAL POLICY CAN AND CANNOT DO

Fiscal policy — the use of changes in total government expenditure and taxation to influence aggregate demand and output — has been very much on the defensive in recent years. Few would deny, however, that government has a crucial role in promoting economic growth over the long run through an appropriate set of expenditures and taxes. The direct and indirect influences of government are still seen as especially significant in terms of capital formation — both physical and human — not to mention the giving of a special impulse to the advance of science and technology, as through the support of basic research and the training of researchers.

Rather, what is doubted is the ability of fiscal policy to bring an economy close to its “production possibilities frontier” and hold it there indefinitely without starting off an inflationary cycle. Most see the more pragmatic assignment for fiscal policy to be, instead, a reducing of the amplitude of cyclical fluctuations around the growth path of potential output; but even here, discretionary actions are given a very limited role.¹ That is to say, rather than discretionary actions, the primary set of fiscal tools that serve to dampen the business cycle are thought to be the “automatic stabilizers”, which are features of

¹ There are two main strands in the critical literature: one argues against the efficacy of enlarging the government budget deficit to stimulate economic growth (see John J. Seater, “Ricardian equivalence”, *Journal of Economic Literature*, vol. XXI, No. 1 (March 1993), pp. 142-190); and the other that the effects from fiscal stimuli are temporary, uncertain and extremely difficult to coordinate (see Vito Tanzi, “International coordination of fiscal policies: current and future issues”, in *Fiscal Policy, Economic Adjustment and Financial Markets*, Mario Monti, ed. (Washington, D.C., International Monetary Fund, and Milan, Centro di Economia Monetaria e Finanziaria, 1989), pp. 7-37; but see also the comment on the article by Rudiger Dornbusch in the same volume, pp. 38-45).

government budgets that automatically tend to counter deepening slack or excessive expenditure in the private sector. Examples include unemployment insurance, income supplements and related entitlements that grow, automatically and temporarily, during slack economic periods. A progressive income tax serves a comparable function, as it takes a smaller bite out of falling incomes than out of rising ones, making disposable personal income less sensitive than gross personal income to fluctuations in aggregate demand.

When allowed to perform symmetrically against the peaks and troughs of economic cycles in the developed market economies, automatic stabilizers are potent. Simulations by the Organisation for Economic Cooperation and Development (OECD), for example, suggest that automatic stabilizers on average reduce cyclical fluctuations in output by almost 40 per cent.² Difficulties can develop, however, when Governments temper the effect of the demand-reducing side of the stabilizers through discretionary policies, as they have been doing since the early 1970s.³

In other words, the ability of Governments to implement activist fiscal policies successfully on a consistent basis is no longer thought to be obvious. Fiscal expansion can help stimulate recovery of an economy in recession by offsetting a temporary deficiency in demand; but the fiscal impulse must arrive in a timely way, be given in appropriate doses and be reversed as soon as clear signs of an upswing begin to appear. The problem is that the lag between the point when the need for the fiscal stimulus is recognized and that when expenditures are disbursed or taxes reduced can be quite long. Indeed, the point of recognition may occur well after the need first arose.

Owing to delays in recognition, decision and implementation, as well as inevitable errors in forecasting economic activity, fiscal stimuli have often come too late, lasted too long and thereby contributed to the overheating of economies during the boom phase of the business cycle;⁴ and without automatic "sunset clauses" in the legislation enabling the fiscal impulse, new legislation is required to raise taxes or cut back expenditures. Certainly, the politics of forming anti-recessionary coalitions in parliaments are much simpler than those of forming demand-reducing ones: the difference is one of deciding between "whose ox to gore" and how many new oxen to distribute.

The above considerations do not mean that a discretionary fiscal response to an economic shock is always ruled out. However, the need for a discretionary stimulus has to be clear. This might be the case, for example, when a large degree of cyclical slack is exacerbated by adverse structural developments. A recent example of such a situation was in Japan. From March 1992 through February 1994, amid a sharp slow-down in economic growth, huge excess capacity owing to previous overinvestment and mounting concerns over the health of the banking system after the collapse of the financial "bubble", the Japanese Government introduced five successive fiscal packages which together committed about ¥30 trillion.⁵ The fiscal stimulus supported the economy through the most critical phases of the recession. Moreover, there were no further initiatives after February 1994, near the end of the trough of the recession, although the Government decided to postpone ending a temporary tax break for two years.⁶

More generally, the decision about whether to apply a discretionary fiscal stimulus, such as a tax cut, is complicated by the fact that undifferentiated additional spending — wherein, say, additional consumption is viewed as

² W. Leibfritz, D. Roseveare and P. van den Noord, "Fiscal policy, government debt and economic performance", Working Paper, No. 144 (Paris, Economic Department, OECD, 1994), p. 13.

³ See, for instance, N. Roubini and J. Sachs, "Political and economic determinants of budget deficits in the industrial democracies", *European Economic Review*, vol. 33 (May 1989), pp. 903-933.

⁴ For the case of the United States, see Christina D. Romer and David H. Romer, "What ends recessions?", National Bureau of Economic Research, Working Paper, No. 4765 (June 1994).

⁵ For details, see *World Economic and Social Survey, 1994* (United Nations publication, Sales No. E.94.II.C.1 and corrigendum), subsection entitled "Limited results of recovery efforts in Japan".

⁶ In addition, in October 1994 the Government announced a 10-year investment programme for the period 1995-2004 to replace the programme for the period 1991-2000, which had been almost one-third smaller. This, of course, preceded the devastation caused by the massive earthquake in Kobe in early 1995, which will require substantial additional expenditures for reconstruction.

being equally effective as additional investment — is not always the appropriate response to a slackening of aggregate economic activity: It depends on the reasons for the downturn. Thus, it has been increasingly argued that fiscal policy is the appropriate policy response only to temporary demand shocks, whereas the “permanent” shocks require changes in economic structures and factor price adjustment.⁷ For instance, a significant increase in government expenditures in most OECD countries after the first oil shock in 1973 could not prevent unemployment from rising while inflation accelerated.

In practice, it is difficult to make a distinction between temporary and permanent shocks and the probability of errors in identifying the source of the underlying shock is high. In particular, a demand decline owing to changes in trend or potential growth rates could be mistakenly identified as an aggregate demand shortfall, setting in motion offsetting fiscal policies. It seems that in the 1970s and the early 1980s this is what happened in many countries, with the slow-down in the growth of productivity. As a result, necessary adjustments were delayed, while persistent fiscal impulses that aimed to avoid output losses produced very modest output gains, and the increments to government debt mounted.

Fiscal policy is nevertheless still believed to have a definite role in demand management, in general through automatic stabilizers and on occasion through discretionary actions; but policy makers do seem increasingly reluctant to apply fiscal stimuli for counter-cyclic purposes.

Indeed, with financial market analysts looking over their shoulder, policy makers have voiced increasingly loud concern to the effect that Governments can neither “afford” fiscal stimulus nor even allow an unrestricted working of automatic stabilizers during slack periods. In actual fact, during the 1975 recession, a fiscal stimulus preceded the recovery in all major OECD countries. However, during the early 1980s and even more so in the early 1990s, automatic stabilizers in a large number of countries were offset, at least partly, by discretionary policy tightening.⁸ Furthermore, during the next cyclic downturn, many Governments might see themselves as being forced to suppress automatic stabilizers unless fiscal consolidation measures taken in the recovery phase are deemed to have been successful.

This loss of fiscal flexibility is largely associated with the rapid rise in government debt in the 1980s and 1990s. For the developed market economies as a whole, the ratio of gross public debt to gross domestic product (GDP) was estimated by OECD as about 70 per cent in 1994, against 41 per cent in 1980,⁹ but is 70 per cent of GDP a “dangerous” level for public debt? Or 100 per cent? And how would we know?

How much public debt is too much?

There is no standard rule of thumb for a sustainable level of public debt, or even for what to include in the measure of debt.¹⁰ Government debt is usually defined as the gross financial liabilities of the central, state, provincial and local Governments, plus certain official agencies, generally including the pension funds and social security operations. It typically does not include, however, unfunded government pension obligations.

Certainly, some amounts of government debt are desirable, even necessary. As a generally risk-free asset, government bonds have traditionally provided a

⁷ See, for instance, G.M. Caporale, “Fiscal solvency in Europe: budget deficits and government debt under European Monetary Union”, *National Institute Economic Review* (May 1992), pp. 69-77.

⁸ For example, in the current cycle restrictive fiscal policy measures in the recessionary phase were introduced in Austria, Belgium, Canada, Finland, Germany, Italy, the Netherlands, New Zealand, Portugal and Spain.

⁹ OECD *Economic Outlook*, No. 56 (December 1994), p. A36.

¹⁰ For a discussion of various sustainability measures, see O. Blanchard and others, “The sustainability of fiscal policy: new answers to an old question”, *OECD Economic Studies*, No. 15 (autumn 1990), pp. 7-36.

major vehicle for saving by households. Not only does this operate at the personal level, but government-run pension and social security schemes generally place surplus revenues in government bonds as they build up their resources for use in later years. Shorter-run government debt instruments are also desirable vehicles for risk-free, short-term placements of excess funds. In addition, as the most widely utilized and highly liquid financial asset, government securities are the preferred instruments for the "open market operations" of central banks, wherein those banks add money to the economy by buying bonds or siphon money out of the economy by selling bonds.

Not only are government securities important financial assets for every market economy, but Governments should and do finance long-run public investment by borrowing. For example, there is no reason taxpayers in a community should pay in one year for the full cost of a sewerage system that will benefit them and their descendants for fifty years. Also, Governments should and do borrow on a short-term basis to pay for current expenditures in anticipation of tax revenues that are paid mainly in quarterly instalments.

Thus, some levels of government debt are absolutely necessary and for most of the post-war era, policy makers in most industrialized countries were not especially concerned about the total size of the public debt. Indeed, in three of the seven major industrialized economies, the ratio of public debt to GDP fell for a significant part of the post-war period. In Canada and the United States of America, the debt ratio fell during the 1960s and 1970s and in the United Kingdom of Great Britain and Northern Ireland it fell through the 1980s (see figure IV.1). Much of the early debt in all three countries had been built up during the Second World War.

Nevertheless, by the mid-1990s, for almost every developed market economy (Ireland being one exception), the debt ratio had been growing for several years; but had those debt ratios become too high? The European Union adopted a maximum debt-to-GDP ratio of 60 per cent as one of its guidelines in determining when member countries would qualify to move to the last stage of the transition to the Economic and Monetary Union; but that ratio seems to have had no rationale except that it was near the average in the European Union at the time the Maastricht Treaty on European Union was agreed.¹¹ In addition, during the recent recession, Japan was pushed by its fellow members of the Group of Seven to pursue an expansionary fiscal policy while there were widespread concerns over the United States fiscal deficit. At that time, the Japanese public debt ratio was on the order of 70 per cent, while the United States ratio was about 60 per cent.

However, the government can also hold financial assets and thus net debt ratios are also calculated, as shown in the figure, to indicate the net financial exposure of the government sector. If the government as a whole has a large gross debt, but also large financial holdings, then if borrowing costs rise when interest rates rise, so, too, do interest earnings on the government's loans and other assets. Indeed, the comparison made above of the United States and Japan in terms of gross debt ratios becomes quite different if the comparison is made in terms of net debt ratios. The difference primarily results from the very large net asset position of Japan's social security system, owing in particular to the relatively small but rapidly growing share of elderly people in Japan.

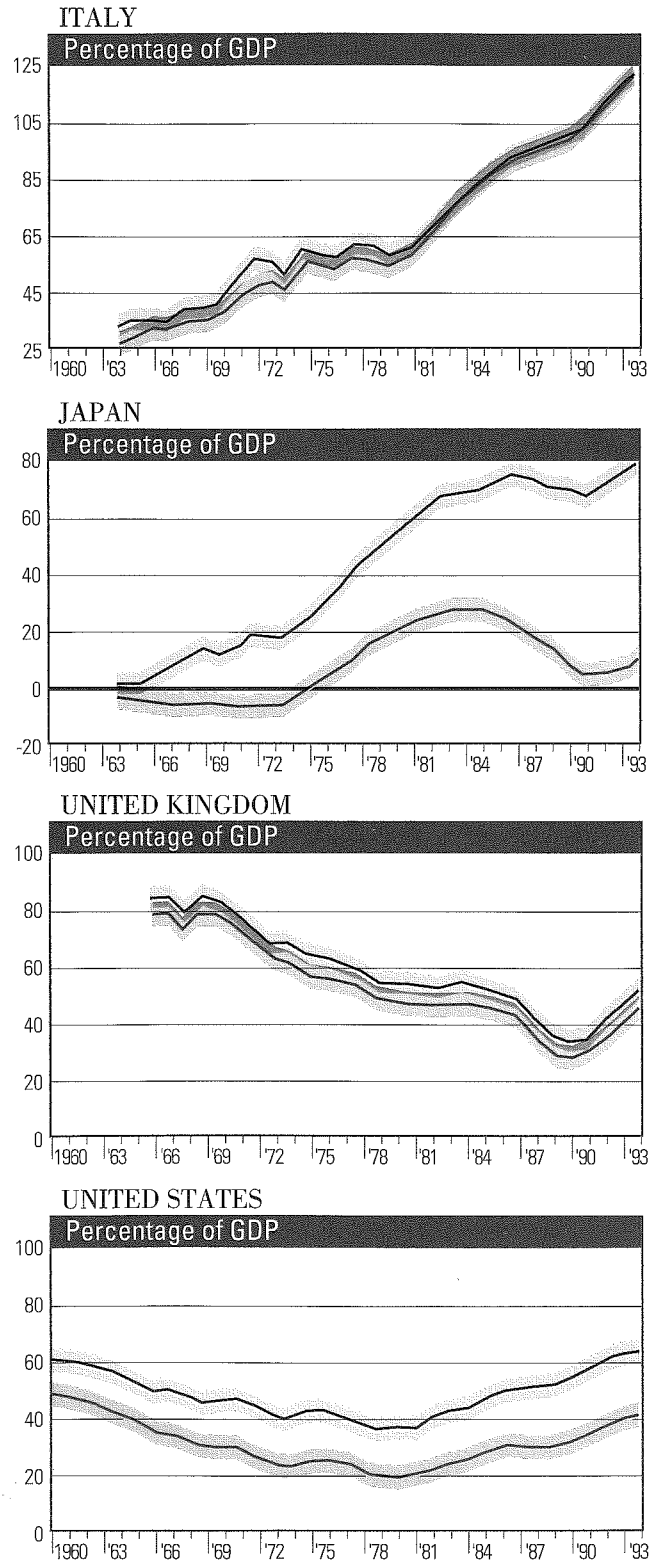
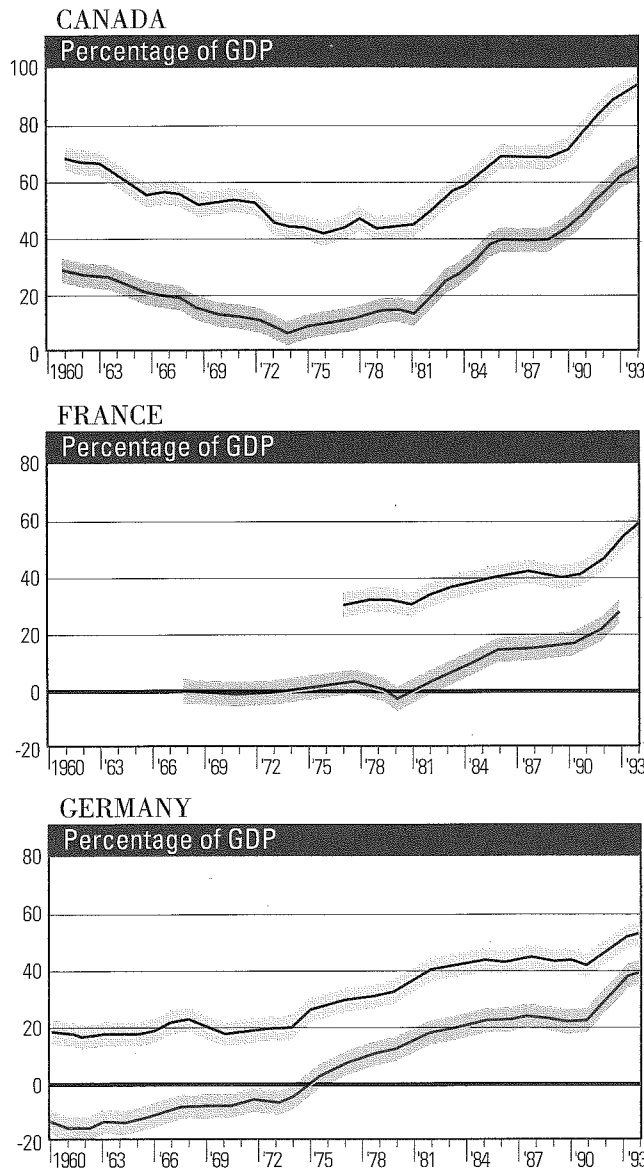
¹¹ See C. R. Bean, "Economic and monetary union in Europe", *Journal of Economic Perspectives*, vol. 6, No. 4 (autumn 1992), p. 48.

Figure IV.1.
GOVERNMENT DEBT OF THE SEVEN MAJOR
INDUSTRIALIZED COUNTRIES, 1960-1994

Source: UN/DESIPA, based on data of OECD.

Note: For Germany, for 1960-1990 data are
for western Germany and thereafter for
all of Germany.

■ Gross debt ■ Net debt



If in some countries, such as Japan and the United States, the difference between net and gross government debt has been growing, in others, such as France and Germany, the difference has been narrowing. In still other countries, notably Italy, the Government holds relatively few financial assets.

Such concerns notwithstanding, as long as the government's debt is mostly denominated in domestic currency, the traditional thinking has been that there is little need to think about "bankruptcy". If a government liquidity crisis were to arise, the monetary authority would be able to extend emergency loans and the government — or at least the central government — would almost always have the taxing and budgetary authority to avoid insolvency. However, for state, provincial or local levels of government, not to mention specialized official agencies, all of which have restricted abilities to tax, bankruptcy has sometimes been the result of poor public management and unforeseen financial shocks. The debt of the central government in industrialized countries, however, is traditionally the "risk-free" asset *par excellence*.

Except, of course, that there is a "real" risk of loss when inflation accelerates and the real value of the government's debt-servicing payments falls, penalizing holders of government bonds (unless the debt is indexed or pays a variable interest rate). This is precisely what nervous bondholders would seek to avoid and indeed it is not uncommon for government to be the propagator of the rise in inflation, usually when it finances the deficit through money creation, that is, by obtaining central bank credit to cover its fiscal deficit. The bank pays for the bonds with money that is not in circulation and then faces two choices. If it withdraws an equal amount of money from elsewhere in the economy, it squeezes the private sector to finance the government deficit. If it allows the total money supply to rise, the monetary value of expenditures rises and so may inflation.

Monetizing the deficit and imposing an inflation tax have long been a way through which Governments avoid making difficult tax and expenditure decisions, and this scheme that goes back to the early sovereigns who debased their currencies by clipping metal from their coins to mint additional ones. The time-tested solution has been to separate the government from its monetary authority. In any event, this all has to do with how the government finances its deficit, not with the stock of debt *per se*.

Budgetary policy under minimal guidelines on debt

If it is thus difficult to determine how high a debt level must be to be excessive, it is nevertheless clear that a permanently rising debt-to-GDP ratio will ultimately reach an unsustainable level. A cautious approach would thus be to not risk the attainment of an unsustainable level by acting to prevent any unnecessary rise in this ratio. Hence, a sustainable set of budget policies is now widely interpreted to be one through which the government debt-to-GDP ratio is stable or declining. This does not always require budgetary balance, only a small enough deficit to ensure that the stock of outstanding debt grows at least no faster than nominal GDP. Also, there may be temporary jumps in the ratio owing to cyclic variations in output. The requirement, in other words, is to stabilize or reduce the debt-to-GDP ratio over the business cycle. Since the early 1980s, however, only Ireland, Norway and the United Kingdom have passed this "sustainability test".

Analysis of fiscal policy within the context of the government debt problem is facilitated by decomposing changes in the debt-to-GDP ratio into certain components that can be combined in the following equation:

$$\dot{d} = p + (i-g)d$$

where d is the ratio of government debt to nominal GDP, \dot{d} is the change of d in a year, p is the ratio of the primary government deficit to GDP (in other words, the government budget balance excluding interest payments), i is the average nominal rate of interest on government debt and g is the rate of growth of nominal GDP.¹²

The first component of changes in the debt-to-GDP ratio in the equation is the primary deficit and, indeed, the discretionary expenditures and taxes that have to be adjusted to prevent the debt ratio from rising are those embodied in the p term. In practice, government revenues and expenditures can be adjusted only within certain politically and economically determined margins. These margins may differ from country to country, but they certainly exist. Therefore, one limit on the debt-to-GDP ratio, in terms of how large it should be allowed to grow, is the point beyond which the adjustment in p needed for its stabilization would become incompatible with the margins for manoeuvre on revenues and expenditures, that is, the point where stabilization would require more severe budgetary policies than could be envisaged.

A second component of the growth of the debt-to-GDP ratio is the relationship between the average interest rate on government debt and the growth of nominal GDP. The larger is $i-g$, the faster the debt will grow relative to the economy's overall ability to support it (assuming an unchanged p). By the same token, if the growth rate of nominal GDP exceeds the interest rate, the debt-to-GDP ratio falls. When inflation is high, nominal GDP may indeed grow at a rate that exceeds the interest rate.

These relationships are useful for understanding what happened in several industrialized countries in the 1980s. For instance, in the United Kingdom much of the reduction in the debt ratio seen in figure IV.1 was the result of rising prices. Italy and Ireland had the largest cumulated deficits among western European countries. As a result, their debt-to-GDP ratios increased, but by less than they would have in the absence of the effects of inflation. Conversely, compared to Ireland and Italy, cumulated deficits led to disproportionately large hikes in the debt-to-GDP ratios in Belgium and the Netherlands. The commitment to a strong link with the deutsche mark forced those countries to keep inflation rather low.¹³ In the 1990s, the option to inflate away the debt stocks has ceased to exist for most developed market economies. Certainly, financial markets react quickly if they come to fear that inflation might erode the value of government debt and, in essence, require Governments to pay higher interest rates as a result.

When debt levels are high and inflation is low, the government budget constraint becomes very tight. For instance, for a country with a debt ratio of 100 per cent and an interest rate at least as high as the growth of nominal GDP, a 1 percentage point increase in the interest rate on the debt adds 1 per cent of GDP to the interest burden. To keep the debt-to-GDP ratio constant, budget cuts of 1 per cent of GDP would be needed.

¹² The equation can be derived from the fact that the increase in debt is the overall budget deficit and that deficit can be separated into the primary deficit and the interest payment (which itself can be expressed as the debt level times the average interest rate).

¹³ G. M. Caporale, loc. cit., pp. 72-73.

Indeed, not only have debt ratios risen and inflation rates fallen over the past two decades or so, but average interest rates on government debt have risen as well, owing not only to monetary policies that aimed to curtail inflation and thereby raised interest rates generally, but also to financial-sector deregulation, including important changes in the nature of government securities markets.

As for the latter, there has been a clear trend towards a stronger role of markets in government debt management.¹⁴ Indeed, the number of developed countries that still require banks and other financial institutions to hold specified amounts of government securities and set liquidity ratio requirements in terms of government securities has declined sharply. Hence, privileged access by the government to domestic sources of finance has been progressively abolished. In most developed market economies this trend has been reinforced dramatically by the abolition of controls on international financial flows. The removal of both domestic and foreign exchange controls has significantly reduced Governments' ability to maintain the private sector's demand for public bonds at artificially low interest rates. At the same time, the central banks' role as an underwriter of last resort of new government issues has been reduced markedly. For instance, in Italy, central bank holdings of government debt declined from 40 per cent in 1976 to 13 per cent in 1989.¹⁵

These reforms have helped improve the attractiveness of domestic markets for government securities for institutional investors at home and abroad. Thus, institutional holdings of government debt are increasing in most countries. Besides, there has been strong growth in the volume of cross-border transactions in government paper. For instance, foreign holdings of German public debt rose from 9 per cent in 1980 to 26 per cent in 1992, while in France, non-resident ownership of government debt rose from less than 1 per cent in 1986 to almost 43 per cent in 1992.¹⁶ Foreign holdings of government debt also rose sharply in Australia, Canada, Italy, Sweden and the United Kingdom. Consequently, government securities markets have grown increasingly integrated across countries.

Indeed, the distinction between "owing the debt to ourselves" and owing it to foreign creditors is less significant than it once was, as all private-sector purchasers of government securities have so many more options than they once had. At the same time, the opening of a larger pool of resources (both domestically and internationally) for government debt financing has brought with it an increasing surveillance by global capital markets. This surveillance is being implemented in a rather straightforward manner: the more favourable the market's evaluation of current and future fiscal policies, the lower will be the country's borrowing costs and, consequently, the higher will be the government's ability to maintain a reasonable degree of fiscal manoeuvrability.

The 1994 surge in government bond yields across the industrialized countries may serve as a good illustration of this general observation. In 1994, long-term bond yields in industrialized countries rose sharply on a large revision of expectations about economic performance as well as the future path of interest rates and exchange rates. However, the size of the interest rate increase varied greatly across countries. Indeed, the increases from February 1994 until the end of the year ranged from 1.2 to 4.5 percentage points.

Hence, along with a uniform change in market perceptions, there was a reassessment by investors of individual country risks. The largest increases in interest rates took place in Australia, Canada, Greece, Finland, Italy, Spain

¹⁴ For a more complete discussion of recent developments in government securities markets, see IMF, *International Capital Markets: Developments, Prospects, and Policy Issues* (staff team led by Morris Goldstein and David Folkerts-Landau), *World Economic and Financial Surveys* (Washington, D.C., IMF, September 1994); and G. Bröker, *Les Titres Publics et la Gestion de la Dette dans les Années 90* (Paris, OECD, 1993).

¹⁵ A. Missale and O. J. Blanchard, "The debt burden and debt maturity", *American Economic Review*, vol. 84, No. 1 (March 1994), p. 310.

¹⁶ *International Capital Markets*...., p. 40.

and Sweden, countries with large fiscal deficits and debts. For instance, the difference in yields (or spread) between Italian 10-year government bonds and comparable German *bunds* more than doubled in 1994, to about 4.5 percentage points, and by the end of 1994, Swedish 10-year bonds yielded 3.5 percentage points over *bunds*, twice as much as at the beginning of the year.

The global rise in interest rates has pushed up debt-service costs and has increased anxieties about the sustainability of the budget policies of these countries. The nervousness in financial markets stems from the fear that, as in the past, some countries may try to reduce the burden of their debts by inflating the problem away; so, to protect themselves against this risk, investors require higher interest rates.

If the size of the risk premium and the debt situation are thus interrelated (higher risk premium leads to larger debt-service payments), there can emerge a vicious circle: With a large amount of debt outstanding, upward movements in interest rates translate into further increases in debt-service costs and in the deficit and debt; and this widening of the deficit causes investors to once again assess the risk premiums and the interest rates they demand. The result is still higher rates, another deterioration of the deficit and debt positions, and new risk reassessment.

There is some reason to believe, however, that financial markets do not fully follow this logic. For instance, to stabilize the debt-to-GDP ratios, France and the United Kingdom would need to make larger budget adjustments in relation to GDP than Canada. Yet the risk premium embodied in Canadian bonds is higher.¹⁷ More generally, the market's inflation fears may be overblown, as the budgetary problems of most countries do not seem to be so pronounced that there is no alternative but for the central banks to monetize the debt. Indeed, to a degree investors are ignoring or heavily discounting the global monetary policy shift towards price stability.

At the same time, markets seem to be rewarding countries with an established track record of non-monetization of government debt. According to several studies, real long-term interest rates in European Union core countries (except Germany) have been systematically lower than might have been expected given their relatively large debt ratios.¹⁸ In this regard, the most striking example is Belgium. Despite a debt-to-GDP ratio of more than 140 per cent, by the end of 1994 the 10-year government bond spread between Belgium and Germany was approximately 3.5 percentage points lower than that between Italy and Germany.

Monetary policy could attain price stability quite apart from fiscal policy. However, without fiscal prudence the resulting mix of policies could be very far from optimal because interest rates would be much higher than otherwise. In fact, the Italian and Swedish central banks began to raise interest rates in August 1994. Those moves did not result from typical cyclic pressures. Instead, they have been largely associated with market reaction to high government deficits and debts.

Indeed, many developed countries have announced targets for fiscal consolidation. In the medium term these targets aim to reduce, or at least stabilize, the debt-to-GDP ratios. Of course, in practice, the speed at which government revenues and expenditures can be adjusted over time is limited. It may therefore take some years to move the primary balance towards a sufficient surplus for stabilization of the debt-to-GDP ratio. However, if the consolidation gains momentum, it is more

¹⁷ See W. Dudley, "Budget blues: Belgium, Canada, Italy and Sweden", in *The International Economics Analyst* (New York, Goldman Sachs, September 1994).

¹⁸ See, for instance, M. B. Canzoneri and B. T. Diba, "Fiscal deficits, financial integration and a central bank for Europe", *Journal of the Japanese and International Economies*, vol. 5, No. 4 (1991), pp. 381-403; and W. Leibfritz, D. Roseveare and P. van den Noord, "Fiscal policy, government debt and economic performance", Working Paper, No. 144 (Paris, Economics Department, OECD, 1994).

likely than not that a vicious circle will be replaced by a virtuous one, when falling interest rates lead to reduced debt-service costs, smaller budget imbalances, further declines in the risk premiums and hence to smaller adjustment costs.

WHAT MONETARY POLICY CAN AND CANNOT DO

If discretionary fiscal policy is currently seen to have a rather limited role in promoting economic growth even in recessionary times, as argued above, there is still the option of monetary policy, except that Governments also seem to view monetary policy as under major limitations.

Indeed, in recent years a consensus has emerged that a monetary policy aimed at price stability would be the general orientation that could contribute most significantly to achieving maximal, sustainable employment and economic growth. Emphasis on price stability rests importantly on general acceptance of the evidence that there is no medium- or long-term trade-off between inflation and unemployment to be exploited. Thus, although monetary easing effectively ends recessions, it will, if it persists too long, also put an economy on an unsustainably rapid growth path.

A common theoretical understanding of the underlying mechanism is that an expansion of money incomes raises spending and thus real output even when spending rises so much that the rate of inflation goes up as well. People are said not to notice the inflation at first; hence it is sometimes called "surprise" inflation. However, such a surprise cannot last long as, over time, the public realizes that the real value of money and other assets is falling. People feel less well off and thus they cut back their expenditure, eventually returning the economy to the status quo *ante* in "real" terms. In other words, over the longer run, an excessively stimulative monetary policy will result in higher inflation, with the economy still returning to the initial long-run growth path.

Moreover, the ability of monetary policy to produce even short-term inflation surprises has been reduced as the sensitivity to signs of future inflation trends has been spreading widely in the industrialized economies. Securities markets, in particular, are extremely sensitive to inflation risks; and owing to the growing importance of securities financing, those markets are gaining more power to effectively neutralize, via higher interest rates, any policy-easing that is considered to be inflationary.¹⁹ The markets can be wrong about inflation, however, and push up market interest rates when the underlying real economy is quite weak. Policy makers are then caught in the dilemma of further loosening monetary policy while trying to convince the market that its inflation fears are overblown.

Traditionally, the major financial intermediaries have been fractional-reserve banks and thrifts, whose assets and liabilities are, except in bankruptcy, redeemable at par. The assets and liabilities are not directly traded on secondary markets and hence are not "marked to market". In other words, the "prices" of loans and deposits on the banks' books are always at par, notwithstanding interest rate changes. When central banks loosen the monetary reins by supplying more reserves to the banks, the banks seek to expand their loans. In a bank-dominated financial sector this would increase the availability and lower the cost of loanable funds.

¹⁹ With fully liberalized foreign-exchange trading, heightened inflation concerns may also prompt substantial financial outflows and an exchange rate depreciation. If the monetary authorities seek to prevent the exchange rate from falling below a floor level through sales of foreign-exchange reserves, this, too, would tend to counter the policy of monetary easing. As is well known, however, the monetary authorities could "sterilize" their intervention by adding to domestic bank reserves. The point that is new is that they cannot sterilize the financial markets.

When financial markets are important sources of funds, however, the story can be different. If the market interprets the monetary easing as inflationary, the prices of bonds and notes fall and the yield on credit from the market does not, or not as much as the cost of bank credit. If the market's share of total finance were small, this would not matter; but traditional par-value banking is gradually being eclipsed by the so-called share or "mutual fund" banking which deals only in securitized assets. Such market intermediation has grown especially rapidly in the United States, but the United States is only the most extreme example of a general trend in developed countries.²⁰ Indeed, since the early 1980s, even in Germany and Japan, there has been a steady decline in the proportion of corporate and household financial assets held in the form of bank deposits. For example, in Germany bank deposits as a proportion of corporate financial assets declined from 58 per cent in 1980 to 44 per cent in 1990 and, in Japan, from 79 to 47 per cent. In the United States, this proportion held relatively steady during the 1980s at about 20 per cent after a steep fall in the 1970s. The share of bank loans in corporate liabilities has also declined in these countries.²¹

Of course, it would be an exaggeration to state that central banks are powerless. At the same time, it is apparent that over the past two decades the centrality of the central banks has been eroded in many countries, as medium- to long-term interest rates — the most important rates for private spending decisions — have become less responsive to changes in short-term bank-dominated interest rates. Indeed, several studies have demonstrated that in the 1980s and early 1990s, in comparison with the 1960s and the 1970s, there was a smaller response of the long-bond rate as well as of real output to the short-term rate in Canada, France, Sweden, Switzerland, the United Kingdom and the United States — countries that had liberalized their financial systems to a relatively greater extent.²² Conversely, the response was broadly similar in the second period in Germany and Japan, where financial liberalization had proceeded much more slowly.

At the same time, in most developed countries the influence of foreign financial players and markets in determining domestic interest rates has been growing. This poses an additional constraint on monetary policy, especially in countries that seek to fix their exchange rates and are forced thereby to use monetary policy to maintain the exchange rate.

On the other hand, it is also worth noting that financial liberalization and internationalization, by providing more alternative sources of funds, might have begun to act as an "automatic stabilizer" and contributed to some smoothing of the business cycle, as expenditures are becoming less directly constrained by transitory changes in local credit availability.²³ Thus, not only has the leverage of monetary policy been declining, but also the need to fine-tune monetary conditions may have been reduced.

Given the spreading perception of greater limitations of monetary policy in short-term, macroeconomic management, it is not surprising that achieving and then maintaining price stability are seen today as a major or even a predominant policy goal by central banks. Indeed, important modifications in legislation in many countries have also been part and parcel of the changing view that has given more authority and independence to central banks and directed them to focus mainly on the objective of price stability.²⁴

²⁰ For a discussion of changing patterns of financing in developed countries, see, for instance, F. X. Browne, "Corporate finance: stylized facts and tentative explanations", *Applied Economics*, vol. 26, No. 5 (May 1994), pp. 485-509.

²¹ For a detailed description of structural changes in financial markets, see Morris Goldstein and others, *International Capital Markets: Developments, Prospects, and Policy Issues*, World Economic and Financial Surveys (Washington, D.C., IMF, September 1992), pp. 2-9.

²² See, for example, P. Bennett, "The influence of financial changes on interest rates and monetary policy: a review of recent evidence", *Federal Reserve Bank of New York Quarterly Review*, vol. 15, No. 2 (summer 1990), pp. 8-30; F. X. Browne and J. P. C. Fell, "Inflation — dormant, dying or dead?", Central Bank of Ireland, Technical Paper, No. 6/RT/94 (October 1994); B. Hirtle and J. Kelleher, "Financial market evolution and the interest sensitivity of output", *Federal Reserve Bank of New York Quarterly Review*, vol. 15, No. 2 (summer 1990), pp. 56-70; and G. A. Kahn, "The changing interest sensitivity of the US economy", *Federal Reserve Bank of Kansas City Economic Review* (November 1989), pp. 13-34.

²³ Several recent studies have found clear evidence of declining liquidity constraints facing households in all the major industrialized countries, save Germany (see A. Blundell-Wignall, F. X. Browne and S. Cavaglia, "Financial liberalization and consumption behaviour", OECD, Department of Economics and Statistics Working Paper, No. 81 (March 1991); F. X. Browne and J. P. C. Fell, "Inflation — dormant, dying or dead?", Central Bank of Ireland, Technical Paper, No. 6/RT/94 (October 1994); and T. Jappelli and M. Pagano, "Consumption and capital market imperfections: an international comparison", *American Economic Review*, vol. 79 (December 1989), pp. 1,088-1,105).

²⁴ For a review of recent experience with central bank independence, see A. Cukierman, "Central bank independence and monetary control", *The Economic Journal*, vol. 104, No. 427 (November 1994), pp. 1,437-1,448; and K. Dowd and S. Baker, "The New Zealand monetary policy experiment — a preliminary assessment", *The World Economy*, vol. 17, No. 6 (November 1994), pp. 855-867.

Making monetary policy with a longer horizon

The narrowing of objectives pursued by central banks has not, however, relieved monetary authorities from coping with the increasing difficulty of monetary management. Because the link between central bank actions and overall financial conditions is much weaker than it once was, the relationship between central bank actions and inflation is more uncertain and subject to long and variable lags. Hence, to maintain price stability, central banks now seek to alter policy long before inflation changes become clearly visible in economic statistics. Accordingly, policy makers look for early-warning indicators that can shed at least some light on when, how much and how fast short-term interest rates should be adjusted to prevent future inflation from taking off, or on when to relax policy to shorten a downturn in activity.

The search for inflation-precursor indicators is a relatively recent phenomenon. Over the past three decades, attention focused instead on changes in various measures of the money stock and monetary base, supplemented by various credit indicators. The strategy then for reaching price stability was to set appropriate growth targets for those money-supply measures and implement them through more-or-less-routine open-market operations. This tactic has now largely been abandoned.

That approach to monetary policy was based on the notion that past relationships in the economy would continue to hold in the future and that some money supply "rule" for policy makers to follow would lead to greater price stability than the discretionary manipulation of short-term interest rates. Although the effectiveness of this approach was always disputed and never followed blindly, by the 1980s changing financial markets had disrupted the historical relationships between familiar financial aggregates on the one hand, and income and prices on the other. In addition, a new stable relationship was not expected to re-emerge any time soon.²⁵ All in all, it became much more widely accepted that no monetary rule, however complex and sophisticated, would be adequate to steer the economy, as it would always be insufficiently responsive to changing economic structures. Monetary policy was inevitably a matter of judgement.

Faced with these deficiencies in monetary targeting, central banks have compromised. If they continue to set monetary targets at all,²⁶ they define these targets in terms of rather wide ranges. Moreover, on occasion they allow these ranges to be violated when the targets are likely to be achieved only at the expense of inferior economic outcomes. For example, in Germany, of the 20 targets set between 1975 and 1994, only 10 were achieved; and there have never been attempts to compensate for deviation in one year by making corresponding changes in a target for the next year.²⁷

Thus, the central banks have been forced to pay less attention to intermediate indicators and more to anticipating movements in inflation itself. Accordingly, formal and informal medium-term inflation targets have now been set in many developed economies. Finland, France, Italy and New Zealand aim at a rate of 2 per cent or less, while target inflation bands are 1-4 per cent in the United Kingdom and 1-3 per cent in Canada and Sweden. In Germany, together with its monetary target, the Bundesbank has for many years also announced a target inflation rate of 2 per cent per year. In Europe, Maastricht Treaty con-

²⁵ For an extensive discussion of the implications of changes in financial market structure for the design of monetary policy, see B. M. Friedman, "The role of judgement and discretion in the conduct of monetary policy: consequences of changing financial markets", National Bureau of Economic Research, Working Paper, No. 4599 (December 1993).

²⁶ For instance, in the United States, the Federal Reserve is still required by law to set monetary targets.

²⁷ Peter Bofinger, "Real target behind Bundesbank ritual", *Financial Times* (22 December 1994).

vergence criteria for prospective members of the Economic and Monetary Union include inflation not exceeding by more than 1.5 percentage points the average rate of the three best-performing member countries. The United States has not established any implicit or explicit targets thus far. Nevertheless, the United States Federal Reserve believes in “the maintenance of inflation sufficiently low that it need not be a factor in business and consumer decision-making”,²⁸ which could be taken as an informal target. In its conduct of monetary policy, the United States as well as Japan now relies on a broad range of indicators, with less weight being given to monetary aggregates.²⁹

There is thus a greater premium being placed today on correctly assessing what the future state of an economy would be under alternative assumptions about policy-controlled interest rates. In this regard, monetary policy has been increasingly tied to the perception of the likely performance of the real economy, with a much broader range of both financial aggregates and non-financial variables being taken into account. In other words, the focus is more on expenditure and production and less on monetarist models.

The risk of future upward inflation movements is seen to come, at least in part, from the pressure of output on productive capacity. Thus, in theory, policy makers should seek to expand demand until the output gap — the difference between actual and potential output — is closed and then keep demand growing at the same rate as potential production. In this view, monetary policy should aim at promoting as much growth of output and employment as can be achieved without imposing destabilizing inflationary pressures on productive resources.

In practice, there are many uncertainties governing how to translate that goal into operational measures of GDP and employment. It is well understood that aggregate measures of economic potential are quite uncertain and could be used only as rough starting-points in monetary policy-making. Moreover, over the past decade, the uncertainties about these measures have increased as the units of capacity have become more difficult to identify, owing to an increase in the share of output that reflects ideas and services rather than physical substances. Central banks cannot rely heavily on any one estimate of either the “natural rate of unemployment” or “potential” GDP growth. As for measuring the actual state of the economy, traditional aggregate data on unemployment, sales, national income, prices or money supply are themselves available after the fact and do not warn early enough about, say, the development or easing of bottlenecks.

Thus, increasing attention has been paid in recent years to monitoring individual financial, product and labour markets themselves. This has been done to search for evidence of tightness that might indicate whether inflationary pressures (or excess slack) are building. Consequently, various surveys and reports, many containing anecdotal information, are gaining greater attention, including those on firm behaviour, supply-demand conditions in particular sectors, lead-times on deliveries of new orders, materials and commodity prices, investment intentions, shortages of skilled labour and so on.

Financial flows are also considered useful sources of information on future price developments. Thus, the Chairman of the Federal Reserve Board proposed that real interest rates might be an indicator.³⁰ The implied level of real interest rates — inferred from current nominal interest rates and estimates of inflation expectations — could be compared with what might be considered

²⁸ Statement by Alan Greenspan, Chairman, Board of Governors of the Federal Reserve System, before the Committee on the Budget, United States House of Representatives, 22 June 1994 (*Federal Reserve Bulletin* (August 1994), p. 718).

²⁹ For a more complete discussion of direct inflation targeting versus intermediate monetary targeting, see C. A. E. Goodhart, “What should central banks do? What should be their macroeconomic objectives and operations?”, *The Economic Journal*, vol. 104, No. 427 (November 1994), pp. 1,424-1,436.

³⁰ See “Monetary policy report to the Congress”, *Federal Reserve Bulletin* (September 1993), pp. 827-895.

normal as a cycle average, with due allowance for cyclic and structural changes.

The "yield curve" — usually showing rising rates of interest on government securities of increasing maturity — is another indicator receiving increased attention. An abnormally steep yield curve might indicate that market participants anticipated that short-term rates would have to rise to avoid inflationary imbalances; and conversely, an unusually flat slope might signal the need for monetary easing to reduce slack and avoid recession. As a final example, central banks have also begun collecting and processing information from derivatives markets to gauge market sentiment as to future price developments.

Economists do not expect to find that any individual indicator or any composite index that combines many indicators will give reliable advance warning of inflation. Thus, it is quite difficult, if not impossible, to reach a definitive judgement *ex ante* on whether a prospective change in policy is ahead of price changes or has missed a turning-point in inflation. Consequently, when formal or informal inflation targets are adopted, monetary authorities may be induced to lean consistently, whenever there is an area of uncertainty, on the side of tighter policy. The risk is that in their tireless pursuit of price stability, the central bankers may miss the signs of disinflation and provoke a sustained contraction of demand.

Indeed, the current expansionary phase of the cycle has been the first to witness pre-emptive strikes against inflation in the sense that monetary policy has begun tightening without clear evidence of rising inflation. There is also much discussion, especially in the financial community, about whether these actions have been too weak and too slow or too strong and too early. This new approach is being tried in Australia, Canada (although other factors have also pushed towards tightening there), Japan, New Zealand, the United Kingdom and the United States; and in Germany, the Bundesbank stopped easing monetary conditions in 1994, when monetary growth was still relatively weak and inflation falling.

It remains to be seen whether this time monetary authorities will be able to combine a strong and long-lasting recovery with price stability. Meanwhile, the level of long-term interest rates suggests that the markets are expecting inflation to rise, that is to say, they do not believe that national monetary authorities will act quickly enough to stem inflation because there will be political pressures to deliver higher output growth. Hence, despite the recent shifts in monetary policy, the overall credibility of central banks is still not everywhere beyond dispute. In attempts to maintain and enhance their credibility, however, central banks should not overreact, as not every shift in market sentiment has a sound rationale.

This is important domestically and globally, since changing monetary conditions in major industrialized countries have international effects, particularly on developing countries, as they impact both on international costs of borrowing and on key currency exchange rates. As is described in the next chapter, international monetary conditions are only some of the myriad factors impinging on policy makers in the more financially open economies that must be managed in a flexible and quick-footed manner in a world that no longer leaves much room for policy error.

V CUSTOMIZING ECONOMIC POLICIES IN THE DEVELOPING COUNTRIES

The shift in economic policy that took place during the 1980s has continued into the 1990s and has reached virtually all developing countries. As is well known, the general trend of policy reform has been towards liberalization of regulations and reduction of the direct role of the state in economic production, towards broadening the spheres in which market mechanisms are relied upon instead of administrative controls, and towards encouraging more integration into the international economy — both to promote competitiveness and to tap more successfully into world markets of goods, finance and technology. Instances are as varied as the opening of trade in foodgrains and agricultural inputs to the private sector in Bangladesh, the privatization of pension schemes in Chile, and the permission recently given by the Government to establish foreign banks in the Philippines.

The balance-of-payments constraints that afflicted so many developing countries in the wake of the debt crisis of the early 1980s were, to a large extent, at the origin of the reform process. That is, policy reform became ineluctable in the 1980s in numerous countries with stabilization and adjustment problems. Over the years, however, “adjustment” came to cover such a wide range of issues and policies that, in the present stage, the analysis of the success or lack of success of stabilization and adjustment programmes has in fact become a discussion about the determinants of growth and development.¹

There is virtual unanimity about the need for sustainable macroeconomic balance as a condition for economic growth. This does not mean, however, that consensus exists about the path to follow in each case in order to reach that goal and even less about ways of improving long-term economic prospects. The so-called Washington consensus — always more of a consensus among policy advisers than policy makers — no longer holds, even among advisers, as soon as policy recommendations have to go beyond such generalities as macroeconomic prudence and liberalization.² In the typical instance, policy debate — though not necessarily public debate — takes place regarding the magnitude and the speed of adjustment, the sequence of reforms, and cost-sharing within the society and between the reforming country and its partners, not to mention the choice and effectiveness of policy instruments. In all, macroeconomic policy-making in developing countries — as elsewhere — is a difficult art.

¹ See the report of the Secretary-General entitled “Economic stabilization programmes in developing countries” (A/48/380), which analyses how the focus of economic policy over the last 10 years has gradually changed to being on “how to go from adjustment to growth”.

² Even the creator of the catch-phrase recognized that it is strictly a misnomer and suggested substituting “convergence” for “consensus” (see *Latin American Adjustment: How Much Has Happened?*, John Williamson, ed. (Washington, D.C., Institute for International Economics, 1990), pp. 1-2).

PATH DEPENDENCE OF POLICY

It is now widely recognized that policy cannot be made from a single instruction booklet.³ Both the appropriate choice of instruments and the sequencing of policies depend upon initial conditions and each step taken conditions what is to be the next appropriate step. One can speak, in other words, of a “path-dependence” for policy options.⁴

For instance, it would be difficult to reduce the budget deficit and liberalize trade at the same time in a country where import taxes contribute a large share of government revenues. Thus, for some African countries, the price of trade liberalization was at least a temporary worsening of the budget deficit. For Costa Rica, which faced such a question at a certain stage of its adjustment programme, this meant fiscal reform before trade liberalization. In addition, for countries coming out of periods of severe civil strife, trade taxes can be the easiest to administer. Thus, in the period of peace-building operations, there might be no other option than relying on customs duties for government revenues.

Certain measures that could contribute to poverty alleviation can also be caught in such a sequencing dilemma. During the implementation of the first stages of the latest Brazilian stabilization programme, for instance, the team in charge of formulation and implementation of the policy declared that a rise in the minimum wage had to wait for the overhauling of the social security system, whose financial conditions were such that it could go bankrupt in case of a large increase of the minimum wage, to which pensions were linked. Also in China, India and the Philippines, as analysed below, a trade-off between stabilization and reduction in unemployment was present.

In general, concerns with poverty alleviation cannot be dealt with in isolation and have to be part and parcel of the reform package. Governments — and even financial markets — might be asking how large a current account deficit is unsustainable; but political risk analysts are asking whether the degree of inequity in sharing the social cost of adjustment might also be unsustainable. In short, there are social and political dimensions of path dependence that those developing a strategy for economic stabilization need to take into account.

THE ABILITY TO MAKE TIMELY CORRECTIONS

Successful adjustment depends, *inter alia*, on government commitment to an appropriate set of policies for a period of time sufficient to create confidence in the rules concerning investment and production. Thus, political sustainability is an essential ingredient of policy reform. Persistence in an overall direction and adoption of a long-run perspective, for example, seem to be among the ingredients of the recipe for east Asian success.

However, given the general direction, success will also depend on daily management and prompt corrections of policy in accordance with the responses they have provoked. In particular, owing to intensified integration of local economies into world markets, the international factors that might affect national performance have become more significant. The high degree of uncertainty at the international level makes macroeconomic management a complex game, where inappropriate policy changes (for example, “stop-go” policy-making) can undermine an adjustment strategy, as can adhering to a policy beyond

³ An early warning in the same spirit was offered by Albert Hirschman who commented in 1984 on the “visiting economist syndrome”, that is, “the habit of issuing peremptory advice and prescription by calling on universally valid economic principles and remedies — be they old or brand new — after a strictly minimal acquaintance with the ‘patient’” (Albert O. Hirschman, *Rival Views of Market Society and Other Recent Essays*, (Cambridge, Massachusetts, Harvard University Press, 1992), p. 11).

⁴ The central idea of “path-dependence” in economic life is that “the path whereby the present has been reached influences the nature of the present, meaning that sunk costs do matter. More sharply, small and even idiosyncratic decisions made in the past have persistent effects which market forces do not automatically wipe out” (E. L. Jones, “Economic adaptability in the long term”, in *The Flexible Economy: Causes and Consequences of the Adaptability of National Economies*, Tony Killick, ed. (London, Routledge and Overseas Development Institute, 1995), p. 86).

its actual usefulness. In other words, correctly timed corrections can be as important as the general direction of policy.

Another dimension to the issue of timing policy changes pertains to the inherent inconsistencies in some policies, through which the attainment of a policy goal on one front (price stabilization, for instance, through use of a fixed exchange rate as a “nominal anchor”) can give rise to imbalance on another front (unsustainable current account deficit, for instance). The art of the policy maker is to recognize when the danger from the policy inconsistency begins to overwhelm the benefit from the policy itself, for example, when devaluing a pegged currency no longer constitutes confidence-building, but rather an acknowledgement of confidence already lost.⁵

The timing of decisions can be crucial. The liberalization of the capital account and, in particular, the opening of financial markets in developing countries to external flows seem to have reduced the margin for error. With capital free to enter and leave a country, much depends on maintaining the confidence of wealth-holders and portfolio managers, many of whom seek earnings from advantageously moving their funds in anticipation of changes in security prices and exchange rates. These changes depend in part on anticipating policy changes.

Mexico at the end of 1994 was an extreme example as regards difficulties in the timing and the preparation of its devaluation; but there are several countries that have faced and will face similarly difficult choices. The Mexican case also illustrates another aspect of policy dynamics. After the Mexican devaluation, the magnitude of what was deemed to be a sustainable current account deficit in Latin American countries in general shrank and various countries had to take steps to reduce payments deficits.

THE BALANCE-OF-PAYMENTS CONSTRAINT AND EXCHANGE RATES

The international environment to which each country is adjusting is an inevitable factor conditioning domestic policy reform. No one disputes that the success rate of policy reform is higher and social hardship lower when the external environment is favourable. However, different elements determine if the environment is favourable for different countries. Mexico's fate in 1994 was certainly not helped by the rise of interest rates in the United States of America during that year and the subsequent slow-down of private capital flows to Mexico; but this of course did not affect economies in which the current account deficit had been financed essentially by official credit.

In the same vein, not all developing countries suffer a deterioration of terms of trade from a fall in commodity prices. While terms of trade deteriorated in African countries in recent years, they remained unchanged or improved in the successful exporters of manufactures of east Asia. Moreover, Latin American exports benefited marginally, if at all, from the appreciation of the Japanese yen that helped manufacturing exports of several Asian countries.

Sometimes a single factor can have both negative and positive effects. The marked financial inflows to some countries in the first years of the 1990s carried the advantage of greater expenditure (higher “absorption”) in those countries that had become newly popular with international investors; but they also caused the appreciation of the domestic currency,⁶ which had a negative

⁵ For a discussion in this context of the Mexican situation before the crisis erupted, see Rudiger Dornbusch and Alejandro Werner (with comments by Stanley Fischer and Guillermo Calvo), “Mexico: stabilization, reform and no growth,” *Brookings Papers on Economic Activity*, No. 1 (1994), pp. 253-315.

⁶ When the exchange rate floats, it is free to appreciate via a fall in the nominal price of foreign currency. When it is fixed, however, the appreciation mechanism is indirect, that is, the central bank absorbs the excess foreign currency inflow, issuing local currency at the pegged exchange rate; but this raises the domestic money supply and nominal spending, raising prices generally in the economy, but not for foreign exchange owing to the peg. Given that the purchasing power of a unit of domestic currency is thus less, the “real” price of foreign currency will have fallen. A “managed float” has characteristics of both systems.

impact on exports and import substitutes and usually resulted in the appearance or widening of a trade deficit. In other words, the shift to a positive net transfer of financial resources in the recipient countries, while reducing the balance-of-payments constraint, created new challenges for policy makers.

Appreciation of the currency was very much a Latin American occurrence, but it could be detected in 1994 also in Asia (for example, in India and the Philippines and to a certain extent in China, as analysed below). Even in Africa, where market forces and policies had been favouring depreciation rather than appreciation of currencies, one finds various cases of appreciation in 1994 owing to higher supplies of foreign currency (arising from exports, workers' remittances, private capital inflow and official aid).

A major change in the external environment with which many developing countries are trying to cope in 1995 is reduced access to external finance, in particular flows through stock exchanges and bond markets. All in all, a slowdown in capital inflows that had begun in 1994 accelerated in early 1995, especially in Latin America. Though Latin America has had the worst retraction, the stock exchanges of almost all emerging markets suffered declines starting on 19 December 1994, when the Mexican peso crisis began. Moreover, the spreads among interest rates on bond issues have also increased.

One of the implications of this development, as may be inferred from the regional and country discussions below, is that many more countries are facing actual or potential balance-of-payments difficulties. In each case, domestic or external imbalances intensified and then certain events triggered a reassessment of the country on the part of financial investors and others who operate in foreign exchange markets.

What is particularly striking is that the policy packages that were chosen to deal with the balance-of-payments difficulties generally reflected the new outward orientation and liberalization of exchange controls on capital movements. Devaluations of exchange rates and increases in interest rates were more likely to be used than the direct capital controls that had prevailed in earlier decades.

Still, some countries, such as Brazil in early 1995, had recourse to increases in import duties to counter the deterioration in the balance of payments. This points up the danger to trade liberalization that "hot money" flows can pose. Indeed, not only the worldwide integration of markets but also the intensified regional integration of recent years can be challenged by the payments adjustment process. In the Southern Cone Common Market (MERCOSUR), in particular, there is some concern that any adverse fallout on Argentina from the Mexican crisis will rapidly spread to Argentina's main regional trade partner, Brazil; and thus the internal debate on the direction of both exchange rate policy and trade policy heightened in these countries in the aftermath of the Mexican devaluation.

The volatility of some categories of capital flows also raises questions about the wisdom of eliminating all capital controls at this stage of development. Certainly, liberalization of capital controls by the developed market economies came at a later stage of their economic development (and in Europe only very recently); however, the extent of world financial integration may have made the gain-saying of the policy choices almost moot. In any event, the benefits of complete liberalization are now being weighed against the difficulty in coping with the

resulting instability. Thus, although a large number of developing countries liberalized their capital account, several of them kept or reintroduced regulations to restrain or slow the more volatile types of flow. Chile is one example of a country that reintroduced some controls in its capital account with beneficial effect.

FROM ADJUSTMENT TO GROWTH

The issue of what can be considered a sustainable current account deficit thus returned to centre stage in 1995. Furthermore, in a large number of countries, fiscal deficit reduction was also still an overriding policy concern, since past policies had achieved varying degrees of success (for example in Brazil, India, Viet Nam, Turkey and most west Asian countries, as analysed below). Yet in most developing regions, these perennial questions were also having to share attention with a more fundamental one: how to move from adjustment to growth. Indeed, even in many countries where the goal of stabilization had largely been achieved, the economic growth pay-off was still being awaited.

A few countries achieved high growth rates along with macroeconomic balance (see some of the examples in south and east Asia below), while others walked a tightrope between trying at the same time to control inflation and maintain high growth (these are exemplified by China and Viet Nam), or were able to bring down inflation sharply while avoiding recession (see the discussion of Brazil). However, in many countries a very long period of adjustment had gone by before growth returned. In Mexico, after seven years of adjustment, growth returned in 1989-1990, but it was modest and soon slowed down. A new bout of adjustment is again bringing growth to a halt in 1995. In too large a number of developing countries, stabilization and adjustment have yet to translate into growth (see the analysis of Africa below).

No agreed formula exists on how to obtain an acceleration of growth in individual countries. The diversity of starting-points and circumstances in developing countries still calls for national development strategies that define for each country its particular and most adequate way of insertion into the world economy. The fear of provoking a rapid rise in unemployment and general hardship has led in various countries to a cautious approach to privatization, lifting of certain labour regulations, elimination of subsidies, and other cuts in social expenditures (as in China, India, the Philippines, Viet Nam). Obstacles to a rise in domestic saving and investment and increases in productivity and competitiveness also differ from country to country.

Countries respond differently to adverse shocks, and not all are equally able to take advantage of favourable opportunities. Faced in the first half of the 1980s with a high debt burden, it took the Republic of Korea much less time than most Latin American debtors to reduce its debt-gross national product (GNP) and debt-service-to-exports ratios. Indeed, the ability to rapidly accommodate adjustment and structural change and the speedy adaptation to both shocks and favourable trends when they present themselves have been suggested as constituting a competitive advantage of the east Asian developing economies.⁷

In the overview of regional and country experiences that follows, a few of the main policy changes and results are examined. The focus is on those experiences that illustrate in the most telling way a specific policy dilemma and the way it is being addressed.

⁷ See, in particular, *The Flexible Economy: Causes and Consequences of the Adaptability of National Economies*, Tony Killick, ed. (London, Routledge and Overseas Development Institute, 1995).

ADJUSTMENT IS (ONLY) A NECESSARY CONDITION FOR AFRICA

In Africa, adjustment has been the main focus of policy reform since the early 1980s. Yet the most striking fact about the economy of Africa is that economic growth remains grossly inadequate even some 15 years later, and per capita incomes in Africa have fallen almost steadily. Moreover, policy-making in Africa has frankly zigzagged over those 15 years; but in the end significant progress has been made in many countries, belying the rationale in some circles for “Afro-pessimism”. In most cases, however, economic growth rates have not yet responded in such a manner as suggests that they are beginning to cut significantly into the continent’s poverty.

This is not to deny that some countries, such as Mauritius, Morocco, and Tunisia, have made notable progress in macroeconomic and structural reforms and have seen significant improvements in living standards. Other countries that have made major adjustments include Egypt, Ethiopia, Ghana, Kenya, the United Republic of Tanzania, Uganda, Zambia and Zimbabwe, which have liberalized trade, prices, investment regimes and foreign exchange markets. In addition, such countries as Kenya, the Libyan Arab Jamahiriya, Madagascar, Malawi, Mauritius, Tunisia and Zimbabwe moved towards market-determined exchange rate systems, particularly in 1994 and early 1995. Moreover, Algeria, Angola and the Sudan, while still embroiled in civil strife, embarked once again in 1994 on major economic reform programmes after a period of virtual paralysis and policy reversals. Finally, recognizing the unsustainability of the Communauté financière africaine (CFA) franc parity, the 14 African franc-zone countries and France devalued the CFA franc in January 1994, thereby simplifying what had been an extremely complex adjustment problem.⁸

Implementation of structural reforms, in particular in the public sector, has often been slow for technical and sociopolitical reasons and liberalization efforts have at times been derailed by external shocks and political instability. None the less, many countries have made substantial progress in their structural adjustment programmes and some encouraging early signs of results from structural adjustment can be detected in certain countries — for example, in Kenya, Uganda, and Zimbabwe — as in the growth of non-traditional and manufacturing exports. The starting-point for such exports, however, is very small in nearly all sub-Saharan countries and has so far had a limited impact on economic growth and living standards for the majority of the population.

Progress in improving macroeconomic stability has — with some notable exceptions, including Nigeria and Zaire — been made in several countries. Egypt, Ethiopia, Kenya, Uganda and Zambia, in particular, achieved a considerable measure of price stability during 1994. The recent commitment to stabilization is well illustrated by the case of Zambia. It reduced its budget deficit through an approach called “cash budgeting”, in which no expenditures were approved without matching revenues (except for debt payments), and through improved tax collection by the newly established Zambian Revenue Authority. Monetary policy was also quite tight, resulting in the offer of treasury bills at interest rates up to 178 per cent. As a result, the inflation rate was reduced from annual rates of 190 per cent in 1992 and 1993 to about 35 per cent in 1994.

⁸ See *World Economic and Social Survey, 1994* (United Nations publication, Sales No. E.94.II.C.1 and corrigendum), box II.3.

Trade, finance and exchange rates

While overvalued exchange rates that were primed for a fall have been the common experience in Africa, a new phenomenon emerged during 1994 characterized by the fact that mainly market forces pushed exchange rates upward in certain countries. Exchange rates appreciated in real terms in Egypt, Kenya, Uganda, Zambia (it had already begun in 1993) and Zimbabwe, owing to higher foreign exchange inflows from greater export earnings (and workers' remittances in the case of Egypt) and larger inflows of aid and private finance, the latter attracted by recent foreign exchange and investment liberalization and high, recently decontrolled interest rates.

With lower inflation rates in all these countries, nominal interest rates could be lowered. In Kenya, rates fell by 16.5 percentage points over four months in mid-1994 and in Zambia by 50 percentage points between July 1993 and July 1994. Nevertheless, capital inflows to these countries continued to be strong.

In some countries, the reduction in interest rates lagged behind the improvement in inflation, with real interest rates remaining quite high, notably in Zambia and Zimbabwe where they reached double digits. This has discouraged investment and expenditures on final goods and intermediate inputs, and led to bankruptcies and higher debt-servicing costs for Governments. In Zimbabwe, moreover, the high interest rates meant larger losses for parastatal enterprises which forced government subsidies to rise to cover the losses. Here was a case, in other words, of fiscal policy difficulties arising from the interest rate liberalization policy.⁹

As of early 1995, exchange rates had not retreated much from their higher levels, except in Kenya and Zambia. In Kenya, the shilling fell at the end of October 1994 — but this only cancelled part of the earlier appreciation — after the Government liberalized prices in the petroleum sector, the only area remaining under price controls. This caused a large demand for dollars by oil companies wishing to build up oil stocks. In Zambia, the exchange rate fell sharply in February 1995, when it was realized that a poor harvest owing to drought conditions had raised food import needs and thus substantially changed the balance-of-payments outlook. Funds then quickly moved out of the kwacha.

Egypt, the only one of the five countries with an exchange-rate regime that operated as a managed float, was called upon to devalue its appreciated currency in 1994, and it resisted. The Government argued that maintaining the currency peg was necessary to sustain capital inflows and that a devaluation would do little more than make imports more expensive. It would have little impact on aggregate export earnings, in which petroleum figures significantly. Instead, interest rates were reduced to discourage capital inflows and bring the exchange rate down more gradually and the Government has reduced certain fees and other charges paid by exporters, as well as accorded them preferential interest rates and bank commissions on export financing.

The Egyptian debate on devaluation is a familiar one in Africa, where it is often argued that exports are not very sensitive to the exchange rate, unless it is excessively overvalued. One reason is that the price elasticities of demand and supply for Africa's traditional exports are rather small and the share of non-traditional exports with higher income and price elasticities is still quite low. Put

⁹ On other sequencing issues, see Norbert Funke, "Timing and sequencing of reforms: competing views and the role of credibility", *Kyklos*, vol. 46, No. 3 (1993), pp. 337-362; and Heather D. Gibson and Euclid Tsakalotos, "The scope and limits of financial liberalisation in developing countries: a critical survey", *Journal of Development Studies*, vol. 30, No. 3 (April 1994), pp. 578-628. Both articles argue that domestic financial liberalization should precede the liberalization of the external accounts as large capital flows might otherwise result. Indeed, some of the countries discussed probably liberalized their external accounts too early.

- ¹⁰ Evidence for the relatively small impact of devaluation in raising manufactured exports was found for Morocco and Tunisia in the period 1983-1991, in a study carried out by the World Bank (see World Bank, *Kingdom of Morocco - Republic of Tunisia Export Growth: Determinants and Prospects*, Report No. 12947-MNA (Washington, D.C., World Bank, October 1994), p. 18). On the determinants of exports and the effect of a devaluation, see also Riccardo Faini, "The output and inflationary impact of devaluation in developing countries: Theory and empirical evidence from five African low-income countries", in *From Adjustment to Development in Africa: Conflict, Controversy, Convergence, Consensus?*, Giovanni Andrea Cornia and Gerald K. Helleiner, eds. (New York, St. Martin's Press, 1994), pp. 334-352; Riccardo Faini, "Export supply, capacity and relative prices", *Journal of Development Economics*, vol. 45, No. 2 (October 1994), pp. 81-100; and Abla M. Abdel-Latif, "The nonprice determinants of export success or failure: The Egyptian ready-made garment industry", *World Development*, vol. 21, No. 10 (October 1993), pp. 1,677-1,684.
- ¹¹ The increase in growth, it bears emphasizing, refers to the mean — the Gambia and Burkina Faso actually suffered a deterioration in growth rates between these two periods. Military coups in the Gambia and Nigeria and ensuing tensions and instability after the period of inquiry have reduced the rate of economic growth (see *Adjustment in Africa: Reforms, Results, and the Road Ahead* (Washington, D.C., World Bank, 1994), p. 138).
- ¹² Angus Maddison, *Dynamic Forces in Capitalist Development: A Long-Run Comparative View* (Oxford, Oxford University Press, 1991).
- ¹³ Gerry Helleiner, "From adjustment to development in sub-Saharan Africa", *UNCTAD Review 1994*, pp. 143-154; Ngyuru H.I. Lipumba, "Africa beyond adjustment", *Policy Essay*, No. 15 (Washington, D.C., Overseas Development Council, 1994); and *Challenges of African Development*, Report of the International Symposium held at UNU Headquarters Building, Tokyo, Japan, 1 October 1993 (Tokyo, United Nations University, 1994), pp. 111 and 233.
- ¹⁴ World Bank, *Adjustment in Africa: Reforms, Results and the Road Ahead* (Washington, D.C., World Bank, 1994) p. 16.
- ¹⁵ Ibrahim A. Elbadawi, Dhaneshwar Ghura and Gilbert Uwujaren, "World Bank adjustment lending and economic performance in sub-Saharan Africa in the 1980s: A comparison with other low-income countries", *Working Papers*, WPS 1000 (Washington, D.C., World Bank, Country Economics Department, October 1992); Paul Mosley and John Weeks, "Has recovery begun? Africa's adjustment in the 1980s revisited", *World Development*, vol. 21, No. 10 (October 1993), pp. 1,583-1,606; Susan Schadler and others, "Economic adjustments in low-income countries: Experience under the Enhanced Structural Adjustment Facility", Occasional Paper, No. 106 (Washington, D.C., International Monetary Fund, September 1993); World Bank, *Adjustment Lending and Mobilization of Private and Public Resources for Growth*, Policy and Research Series, No. 22 (Washington, D.C., World Bank, 1992); and World Bank, *Adjustment in Africa: Reforms, Results and the Road Ahead* (Washington, D.C., World Bank, 1994), pp. 153-156.
- ¹⁶ When budgets are cut, public investment declines more frequently than other components. See Mark Gallagher, "Government spending in Africa: A retrospective of the 1980s", *Journal of African Economies*, vol. 3, No. 1 (April 1994), pp. 62-92.
- ¹⁷ Ibrahim A. Elbadawi, Dhaneshwar Ghura and Gilbert Uwujaren, "World Bank adjustment lending and economic performance in sub-Saharan Africa in the 1980s: A comparison with other low-income countries", *Working Papers*, WPS 1000 (Washington, D.C., World Bank,

somewhat differently, capacities to export non-traditional goods have to be built up over time. In addition, because the demand for imports has been quite constrained, increases in export revenues resulting from a devaluation are said to lead to higher imports, despite the fact that devaluation would make them more expensive, thereby leaving only a small net effect on the trade balance. On the other hand, devaluation can be an important instrument for counteracting the effects of a terms-of-trade decline on profitability and fiscal revenues.¹⁰

Focus on development

With few exceptions, as noted above, even the countries that made significant progress in policy reform have yet to see a sustained and substantial rise in the growth of real output, let alone real income. This is the inescapable conclusion even of the World Bank, which has been in the forefront of the effort to promote policy reform in Africa and mobilize resources for reform programmes.

In the latest in its series of reports on African adjustment, the Bank identified six sub-Saharan countries that had showed a large improvement in macroeconomic policies (Ghana, the United Republic of Tanzania, the Gambia, Burkina Faso, Nigeria, and Zimbabwe) and enjoyed a mean increase in the growth of gross domestic product (GDP) per capita of two percentage points between 1981-1986 and 1987-1991.¹¹ The mean growth in per capita GDP of the six "large-improvement" countries in the latter period was, however, only 1.1 per cent per year. With this growth rate, it will take 63 years to double GDP per capita. That is about the time it took the United Kingdom of Great Britain and Northern Ireland in the nineteenth century.¹² The comparable period was considerably shorter for several other countries: it took Chile a dozen years, Mauritius a little more than a decade and China even less.

Disappointment in the economic growth rate of the adjusting countries in Africa is understandable, but it should not be surprising. In any event, it has become clearer over time that adjustment only creates necessary — not sufficient — conditions for development and that an output response need not be automatic, or might take much longer than originally thought or hoped.¹³ This raises the question not so much whether adjustment has failed countries or countries have failed to adjust,¹⁴ as whether growth can be improved during the adjustment period. A few answers that have been suggested in recent studies, which by no means exhaust the subject, may be noted.

One disturbing conclusion from nearly all adjustment evaluations is that during adjustment, investment ratios often decline or respond very slowly to an improved environment.¹⁵ Factors explaining this include policy uncertainty, higher import costs resulting from devaluations and high interest rates, as well as the structural lack of access to finance; but the decline of public investment has frequently been even larger than that of private investment¹⁶ and can in part explain the decline in private investment, because public investment in developing countries more often than not "crowds in" (is complementary to) private investment.¹⁷

Public investment also has a significant direct effect on growth. In many parts of Africa, for example, production is curtailed by poor transport. Hence, even when budget deficits need to be reduced, greater efforts need to be made to increase public investment in infrastructure, such as rural roads, but also

small irrigation systems, telecommunications and water and electricity systems, and direct it towards smallholders and small enterprises.¹⁸

Emphasis on smallholders and small- and medium-sized enterprises as regards public investment, training and creation of institutions has been justified not only on the basis of the small average size of African firms and farms, but also for its ability to create employment. In some countries, for example, Zambia and Zimbabwe, poverty and unemployment have increased since they embarked on adjustment, though drought is to blame as well. Governments have been increasingly concerned about unemployment, in particular among youth, and much interest has been directed towards the potential of small enterprises for absorbing labour.

Indeed, in a sample of five African countries, enterprises smaller than 50 employees absorbed on average 43 per cent of the increase in the labour force during the 1980s, with the figure varying between 92 per cent in a very small economy such as Swaziland to 25 per cent in Kenya, which has a more advanced manufacturing sector and a larger market.¹⁹

The sequencing and expected time-frame of structural adjustment in Africa have also been questioned. Import restrictions can be relaxed relatively quickly, as it involves only changing tariff and quantitative policy restrictions; but if this is done before there is an adequate tax base, government revenue suffers, and if the export response requires substantial time for investment and gestation (for example, for tree crops), the trade balance worsens. Then adjustment may be compromised and success is held hostage to the capacity to arrange adequate finance — inevitably international public finance — so as to carry the economy through the adjustment period.

In fact, import liberalization coupled with larger availability of foreign exchange have increased capacity utilization in the industrial sector of a number of countries, as more raw materials and spare parts became available. However, liberalization of imports of consumer goods has had a negative impact in several countries, frequently affecting in particular the subsectors where expansion should be expected, namely the labour-intensive, technologically simple processing of primary commodities that have strong backward linkages.

Zimbabwe provides a case in point. It lowered trade barriers on textiles, reducing tariffs from 65 to 15 per cent in a period of five years, and it lowered a subsidy on cotton lint. In addition, this highly protected industry had successfully exported, including to South Africa under a preferential trade agreement. That expired at the end of 1992, whereupon South Africa imposed a 90 per cent tariff; also a 9 per cent Zimbabwe export subsidy was abolished in January 1994. The industry then suffered tremendously as a result of the combined effect of the trade liberalization, a drought in 1992 and high interest rates. The net result was a significant reduction in the number of textile and clothing firms and the release of many thousands of textile workers.

Similarly, South Africa is to liberalize its imports of textiles and clothing. The agreement reached with the General Agreement on Tariffs and Trade (GATT) in 1994 allows for a reduction of tariffs on clothing from 100 to 45 per cent over 12 years. Tariffs on textiles would also be cut by about half in 12 years and export subsidies are to be phased out by the end of 1997. First steps in trade liberalization were taken in 1994. However, the South African Board on Tariffs and Trade recommended lower final tariffs on clothing and textiles

Country Economics Department, October 1992); Michael T. Hadjimichael and others, "Sub-Saharan Africa: Growth, savings, and investment, 1986-93", *Occasional Paper*, No. 118 (Washington, D.C., IMF, January 1995); Riccardo Faini, "Public and private investment in Africa: Crowding out or crowding in?", in *Adjustment and Development: The Experience of the ACP*, Patrick and Sylviane Guillaumont, eds. (Paris, Economica, 1994), pp. 271-283; and Lance Taylor, *Varieties of Stabilization Experience: Towards Sensible Macroeconomics in the Third World* (Oxford, Clarendon Press, 1988).

- ¹⁸ Paul Mosley and John Weeks, "Has recovery begun? Africa's adjustment in the 1980s revisited", *World Development*, vol. 21, No. 10 (October 1993) pp. 1,583-1,606; Michael T. Hadjimichael and others, "Sub-Saharan Africa: Growth, savings, and investment, 1986-93", *Occasional Paper*, No. 118 (Washington, D.C., IMF, January 1995); and Oussou Kouassy and Bouabre Bohoun, "Fiscal adjustment and growth in Côte d'Ivoire", *World Development*, vol. 22, No. 8 (August 1994), pp. 1,119-1,128. Other researchers found a positive effect of public investment on growth in a sample of developing countries during the 1980s, but not during the 1970s. (They did not, however, investigate whether public investment had had a positive effect on private investment.) See Michael A. Nelson and Ram D. Singh, "The deficit-growth connection: Some recent evidence from developing countries", *Economic Development and Cultural Change*, vol. 43, No. 1 (October 1994), pp. 167-191.
- ¹⁹ Donald C. Mead, "The contribution of small enterprises to employment growth in southern and eastern Africa", *World Development*, vol. 22, No. 12 (December 1994), pp. 1,881-1,894.

and phasing out over 10 years instead of 12. This proposal was accepted by the affected trade union in exchange for 4.5 billion rand in Government aid to fund training and new investment; but the fact that the Clothing Federation wants to move even faster and eliminate tariffs on fibres and yarns altogether in just a few years risks causing high unemployment in the textile sector.

An alternative approach advocated by several policy analysts argues for a more gradual scheduling of trade liberalization to allow more time for the enhancement of technological and entrepreneurial capabilities to export. The building of these capacities can be aided by measures such as educating and training the labour force, and the development of institutions that do research, control standards and quality, and provide finance, export promotion, marketing, and extension services. During the transitional phase — of temporary and selective protection — finance for these measures might in certain cases come from the earmarking of tariff revenues.²⁰

Of course, there is a very discouraging precedent for this approach, namely the “temporary” Multifibre Arrangement to assist the adjustment of the textile industry in the industrialized countries which has lasted more than 30 years. While the textile industry in those countries indeed modernized behind the protective barriers, the barriers are only now beginning to be dismantled under the Uruguay Round of multilateral trade negotiations agreement (see chapter VI on trade policy below). What thus seems most important in the instances in which the preceding policy advice is adopted is that government pressure be unremitting for evidence of enterprise adjustment behind the protective barrier and that strict limits be set to the period of protection.

“ROCKY ROAD” TO STABILIZATION IN LATIN AMERICA AND THE CARIBBEAN

Most countries in Latin America and the Caribbean still appear prone to inflation in the sense that price pressures seem to easily reignite actual inflation.²¹ Price stabilization thus remains a primary objective of macroeconomic policies in most of the countries. The typical anti-inflation strategy has come to include fiscal austerity, tight monetary policy and trade liberalization.

In a broad-brush way, policy-making approaches among different countries in the region can be seen to have converged in the 1990s. Fiscal policy in most countries sought to reduce public deficits. Progress in tax reform, lower subsidies built into prices charged by public enterprises, renewed efforts to control tax evasion and income from privatizations have all increased revenues. On the other hand, rationalization of the civil service has proved to be one of the hardest goals to achieve, while expenditures remained low, especially for investment, and this has left a deteriorated infrastructure.

Another factor helping to slow down domestic price increases has been the increasing emphasis on bilateral and regional agreements to eliminate tariffs among trading partners, as well as overall trade liberalization. In 1995, the members both of MERCOSUR and of the Andean Pact started new customs unions with common external tariffs on all products, albeit with a list of temporary exceptions covering 15 per cent of all product categories. In addition, the strengthening of intraregional trade should create pressures to coordinate economic policies, helping to consolidate progress towards reform.

²⁰ *Africa's Recovery in the 1990s: From Stagnation and Adjustment to Human Development*, Giovanni Andrea Cornia, Rolph van der Hoeven and Thandika Mkandawire, eds. (New York, St. Martin's Press, 1992); Sanjaya Lall, “Industrial policy: The role of government in promoting industrial and technological development”, UNCTAD Review (1994), pp. 65-89; Howard Pack, “Productivity and industrial development in sub-Saharan Africa”, *World Development*, vol. 21, No. 1 (January 1993), pp. 1-16; Howard Stein, “Deindustrialization, adjustment, the World Bank and the IMF in Africa”, *World Development*, vol. 20, No. 1 (January 1992), pp. 83-95; and World Bank, *Kingdom of Morocco - Republic of Tunisia Export Growth: Determinants and Prospects*, Report No. 12947-MNA (Washington, D.C., World Bank, October 1994).

²¹ See *The Rocky Road to Reform: Adjustment, Income Distribution, and Growth in the Developing World*, Lance Taylor, ed. (Cambridge, Massachusetts, MIT Press, and Tokyo, United Nations University Press, 1992).

In addition, after a decade of more flexible regimes, the exchange rate is again being used as an anti-inflationary tool by several Governments, that is to say, a fixed rate or a crawling peg with a low, known, steady rate of depreciation serves as a nominal anchor.²² In 1994, many countries, including Argentina, Brazil, Chile, Ecuador, Peru and of course Mexico used this approach. The dramatic adjustment experiences of three of these countries over the past 18 months have been indicative of the kinds of forces at play throughout the region.

What happened in Mexico?

Since 1988, Mexico has followed a strategy for macroeconomic stabilization and adjustment that possesses certain traditional features, such as the progressive tightening of its fiscal and monetary stance, and certain less common features, most notably the series of *pactos*. These are agreements in which representatives of the Government, employers, labour and farmers agree to coordinate and limit price and wage increases over specified periods so as to reduce inflationary expectations and remove the inherent wage-price spirals that in the past sent inflationary pressures in Mexico into high rates of actual inflation. In addition, the exchange rate served as a nominal anchor by being fixed to the dollar, or more precisely by being allowed to fluctuate within a band whose upper limit was fixed and whose lower limit fell by a constant amount per day (thus, a crawling peg).²³

Until December 1994, the policy seemed to work. Inflation fell from 159 per cent in 1987 to only 7 per cent in 1994. The consolidated public-sector deficit, which had been 12.5 per cent of GDP in 1988, turned into a surplus by 1992.²⁴ Import barriers were reduced and in 1994 the agreement establishing the North American Free Trade Area went into effect, helping to promote non-traditional exports (mainly manufactures), as well as imports.

In addition, the foreign debt crisis was resolved and Mexico returned to international capital markets. Inflows of funds both to purchase short-term government paper — paying very high rates of interest even after taking account of inflation — and to invest in Mexico's stock market burgeoned, along with direct investment, boosting official foreign exchange reserves in the process, even though the current account deficit widened substantially.

These successes came, however, at the cost of an increasingly overvalued real exchange rate; and although the sharp decline of GDP in the earlier 1980s was replaced by economic growth, it averaged only 3 per cent a year and still left GDP per capita in 1994 below the peak level in 1981. Moreover, despite the progress in stabilization and the large-scale financial inflows beginning in 1990, capital formation responded only weakly. Gross domestic investment only rose from 20 per cent of GDP in 1988 to 22 per cent in 1993. Even more troublesome — and perhaps an indicator that the economic recovery was not on track for a sustained expansion — gross domestic saving fell from 22 per cent of GDP in 1988 to only 16 per cent in 1993, a level that did not compare at all well with what was happening, for example, in the dynamic economies of Asia (see table A.11).

The commitment to trade liberalization, coupled with rising incomes after the long decline in the 1980s and the steady appreciation of the real peso

²² For additional details, see Sebastian Edwards, "Exchange rates, inflation and disinflation: Latin American experiences", National Bureau of Economic Research Working Paper, No. 4320 (April 1993); and Miguel A. Kiguel and Nissan Liviatan, *Exchange-rate-based stabilization in Argentina and Chile: A Fresh Look*, World Bank Policy Research Working Paper, No. 1318 (July 1994).

²³ On the disappointing adjustment experiences of the 1980s that led up to the 1988 programme, see *World Economic Survey, 1989* (United Nations publication, Sales No. E.89.II.C.1 and Corr.1), chap. VIII, section entitled "Mexico: complexities of adjustment to negative transfers".

²⁴ Based on data of the Economic Commission for Latin America and the Caribbean (ECLAC), *Preliminary Overview of the Latin American and Caribbean Economy, 1994* (Santiago, December 1994).

exchange rate, led to increases in imports that far outpaced the growth of exports. Perhaps the fact that the mushrooming current account deficit was more than covered by net capital inflows through 1993 distracted attention from another fact, namely that the current account deficit had grown to the unsustainably high level of about 7 per cent of GDP.

Capital inflows, however, had already started to slow during 1994 in the face of troubling political events in the country (an armed uprising in the State of Chiapas, the assassination first of the leading candidate for President and then of a high official of the party in office). These events did not seem, however, to shake investor confidence in the Mexican economy, although it may have weakened it some. Certainly, a slowing of flows to Mexico could be related more simply to the rising interest rates in the United States, which made United States securities increasingly attractive as alternatives to placements in "emerging markets" such as Mexico.

Meanwhile, the political cycle had brought about a relaxation of fiscal policy, and it was not adjusted as the capital inflows began to slow. As economic activity responded to the stimuli, imports began to rise rapidly; the current account deficit reached \$28 billion for the year, almost 8 per cent of GDP. Now, however, financial inflows were not covering the entire deficit and reserves had to be drawn upon if the exchange-rate policy was to be maintained, which had come to be seen as the *sine qua non* of the Government's economic strategy. Swap lines with Canada and the United States were readied to help Mexico defend the peso.

In the summer months, although financial market professionals grew suspicious about the sustainability of Mexico's policies, investor confidence seemed to hold. The Organisation for Economic Cooperation and Development (OECD), which Mexico had recently joined, began to include Mexico in its semi-annual forecasting exercise; and in the outlook published in December, it shared the Government's optimism for the coming year, forecasting that GDP would grow by 4 per cent in 1995 and 1996, that inflation would fall further and that the current account deficit would continue to widen each year as a share of GDP.²⁵ The will to believe was great.

However, between 1 November and 20 December, the day of the devaluation, foreign reserves fell from \$17 billion to \$6.5 billion. At that point, the authorities had little choice but to devalue the peso, which they did by 13 per cent (officially they lowered the bottom of the permitted fluctuation band); but as the Government had not announced an economic adjustment package that could make the new exchange rate sustainable, investors' confidence in the peso collapsed. A rapid and powerful flight from the peso then forced the Government to let it float freely. The announcement of a stabilization package on 3 January did not stem the tide and by the end of that month the dollar value of the peso had dropped 40 per cent from its pre-devaluation level and reserves had fallen to \$3.5 billion.

The critical deterioration of the Mexican situation at the end of January led to the unprecedented \$53 billion international rescue plan. This consisted of a \$20 billion share from the Exchange Stabilization Fund of the United States; an extraordinary \$18 billion stand-by credit by the International Monetary Fund (IMF) (the largest and fastest agreement on a loan in the history of the Fund); a \$10 billion short-term lending facility from the Bank for International

²⁵ See *OECD Outlook*, No. 56 (December 1994), pp. 102-103.

Settlements; a \$3 billion loan from a consortium of international commercial banks (which did not materialize in the end); and \$1 billion in short-term currency swaps from both Canada and a group of four South American countries.

The emergency package aimed to provide sufficient liquidity to Mexico so that holders of Mexican assets — especially maturing short-term government securities called *tesobonos* — would not abandon the peso. Indeed, the package seemed to cover the most immediate concern of investors which was that as the *tesobonos* matured, there would be sufficient foreign exchange to convert those peso funds into dollars if investors demanded it. Moreover, as *tesobonos* were linked to the dollar, the more the peso depreciated, the greater the peso payment required of the Government, and so successfully bolstering investor confidence in general and the exchange rate of the peso in particular would have significant budgetary implications.

Nevertheless, the economy was set back onto a difficult adjustment path, with the level of economic activity falling in response to emergency cuts in government expenditure and tighter monetary policy. The latter led to a higher domestic debt-servicing burden and — coupled with the higher cost of imports — financial distress in the business sector. Moreover, with the prospect of a virtual elimination of net capital inflows during 1995, total expenditure in the economy has had to be cut sharply. With output expected to fall as well, the total drop in absorption may be as much as 10 per cent of GDP. Thus, the cost of adjusting to the new situation will be higher unemployment and lower consumption and investment, plus reduced real wages and real income for most of the population, effected through a substantial jump in inflation.

Within the context of considerable poverty, deteriorating income distribution and the uncertainty associated with a transition to a more democratic political system, there is a risk that the new austerity programme could fuel increasing social and political unrest. On the other hand, the new set of relative prices following the devaluation — indeed, as of early 1995 the peso was probably undervalued in trade-related terms — should encourage the movement of labour and capital from the non-traded sector to a more competitive tradables sector. Given the reasons for long-run confidence in the Mexican economy and the opportunities in an expanding world economy as forecast for 1995 and 1996, an export-led recovery might begin as soon as next year. Chile had such a turn around after its drastic adjustment in 1982.²⁶

Ripple effect on the Argentine strategy

At the beginning of the decade, Argentina adopted the most extreme form of fixed-peg system and until the Mexican crisis the policy seemed to be working smoothly. Argentina's 1991 Convertibility Law fixed the exchange-rate parity against the dollar and provided that it could only be changed with the approval of the Congress. As under a monetary system called a "currency board", the Law also provided that the monetary base had to be backed by foreign reserves. This prevents the central bank from discretionary issuance of money, such as for financing a budget deficit, and ensures a firm limit to the growth of the money supply. As long as confidence exists in the capacity and commitment of the Government to maintain the policy, it serves to contain inflation. Indeed, Argentine inflation had fallen to the single-digit level by 1993.

²⁶ After a 14 per cent contraction of GDP in 1982, Chile maintained a competitive peso for the rest of the 1980s that provided one of the incentives for the export boom that drove 12 years of uninterrupted expansion. Today, Chile's economy is among the healthiest in the region. Macroeconomic balance, supportive Government policies and historically high investment ratios underwritten by high levels of domestic savings favour continued rapid growth.

The Argentine system also requires, however, that the growth of domestic money and bank credit in the economy hinge on the balance of payments. As long as external financial flows surged to Argentina as to other Latin American countries, it meant that money and credit expanded as needed by the growing economy. Indeed, local money was not fully essential to that growth, as Argentine residents are permitted to hold dollar accounts at local banks and the dollar circulates alongside the peso; but the Mexican crisis caused international portfolio managers to rethink holding funds in Argentina, and this presented a major challenge to the system.

It could be argued that portfolio managers should have been more discriminating. Although the Argentine peso was substantially overvalued, Argentina's external financial situation was less vulnerable than that of Mexico. While the current account deficit was almost 4 per cent of GDP, exports were growing steadily as imports were slowing, owing to slowing growth of domestic consumption. Also, in Argentina, as was not the case in Mexico with its high dependence on short-term capital inflows, a more substantial share of the country's financing was in the form of direct investment. Finally, in contrast with Mexico's loss of \$20 billion of reserves in 1994, Argentina's foreign exchange reserves fell less than \$1 billion. This notwithstanding, in January 1995, one month into the Mexican crisis, Argentina's reserves fell an additional \$1.4 billion, shrinking the domestic monetary base and creating a major liquidity problem in the financial sector. For the first 3 months of 1995, Argentine reserves fell a total of about \$3 billion.

In view of the financial turmoil, Argentina's central bank announced measures that increased the "dollarization" of the system. These included the conversion into dollars of all peso-denominated deposits at the central bank (20 per cent of the monetary base or over \$3 billion as of mid-January 1995). In addition, the central bank eliminated the spread it had applied to the sale of dollars for pesos (0.002 pesos per dollar), reducing transactions costs of purchasing dollars. Dollar-denominated domestic deposits at local banks had already grown to over half of the total. The idea was that a full dollarization would remove the risk of a speculatively driven devaluation.

Even so, the Argentine banking system itself seemed at risk, whatever the currency in use. Bank deposits had fallen an estimated \$6 billion or 14 per cent in the first three months of 1995 and there was concern about the liquidity of the system and restoring the confidence of depositors. The Government thus sought to rebuild confidence through first one and then a second package of fiscal adjustments, as well as by seeking an external financial assistance package to rebuild liquidity being drained by the capital outflows under the currency-board mechanism. Moreover, in addition to strengthening public finances, the Government planned a restructuring of the financial system, including the privatization of provincial banks.

The financial package — comprising loans from IMF, the World Bank, the Inter-American Development Bank and a bond issue to be subscribed to by the corporate sector — entailed commitments of \$6.5 billion, which would help sustain economic activity. However, the two sets of fiscal measures aimed to turn an anticipated \$4.6 billion government deficit in 1995 into a \$2 billion surplus. This would aggravate the contractionary impact of the exogenous turn around in private capital flows. Policy measures having the effect of further

undermining economic growth in 1995 were thus a necessary cost in the present context of maintaining the viability of the currency-board type of exchange-rate system.

Brazil's innovative attack on inflation

Brazil's consumer price index had risen at an average annual rate of 1,213 per cent over the five years from 1988 to 1992 and by almost 2,500 per cent in 1993.²⁷ Clearly, inflation had become resistant to policy measures to control it, although the political constraints on policy design had also hampered policy. Yet under the latest effort, the "Real Plan", the inflation of consumer prices fell from 49 per cent in June 1994 to 8 per cent in July 1994, and continued to decline, reaching 1.6 per cent in January 1995. This was achieved without recession (GDP grew almost 6 per cent in 1994 and economic growth continues strong in 1995) and without price controls. Last, but not least, the Plan had high rates of public approval, catapulting the finance minister who had launched it to the country's presidency.

The programme had three stages, as announced in December 1993 by Fernando Henrique Cardoso, Minister of Finance.²⁸ The first stage included various measures to reduce the budget deficit. The second was the introduction of a unit of account for economic and financial calculations that would be stable in real terms (with its nominal value changing every day according to the daily rate of inflation). The third stage was the conversion of this unit of account into the new currency of the country, at a semi-fixed par rate with the dollar.

The first stage entailed balancing the "operational" federal budget, sometimes called the inflation-corrected budget.²⁹ It required a set of constitutional reforms in the fiscal area to guarantee a more permanent budgetary equilibrium. Although Congress failed to vote on the proposed fiscal reform in 1994, it allowed the Government to make deep budget cuts in 1994 and 1995 through a constitutional amendment establishing the Social Emergency Fund. The Fund was to receive 20 per cent of revenues that had previously been earmarked for particular expenditures, with the Government now empowered to decide how — or whether — to spend the funds.

The economic team that formulated the Real Plan had identified the disequilibria of the public-sector accounts as the fundamental cause of Brazil's chronic inflation.³⁰ Federal budgets were being approved by the Congress with large deficits, but since taxes were indexed to the price level, inflation helped to raise tax revenues. The Government also captured resources through the standard "inflation tax", through which people who hold money lose purchasing power that the Government appropriates by printing and spending money. Moreover, as expenditures were budgeted in nominal terms, inflation compressed authorized spending in real terms. *Ex post*, inflation closed what was, *ex ante*, a budget deficit and thus the Brazilian Government became dependent on inflation to balance its accounts. The purpose of the first stage of the Real Plan, accordingly, was to eliminate such dependence.³¹

In the diagnosis of Mr. Cardoso's economic team, however, inflation in Brazil could not be fought with fiscal targets alone. Even if the operational budget was in balance, inflation would keep the nominal budget deficit at a high level and thus the "broad money supply" would continue to expand, feed-

²⁷ December to December inflation, as per ECLAC, *Preliminary Overview of the Latin American and Caribbean Economy, 1994* (Santiago, September 1994), table A.5.

²⁸ See "Plano FHC", *Revista de Economia Política*/54, 14(2), April/June 1994: 114-31.

²⁹ The idea is that since government debt is denominated in an inflating currency, the "real" repayment obligation of the government falls over time. The value of the benefit in a year is the inflation rate times the stock of debt, and since the interest payment is the interest rate for a year times the stock of debt, the operational budget is defined as the budget in current prices, except that the "real" interest payment on debt is used instead of the nominal one.

³⁰ Some adjustment of the public sector accounts had started even before the announcement of the Real Plan, and had included cuts in the 1993 budget, renegotiation of the debts of local States and municipalities with the federal Government, clearing up of the accounts of the Central Bank with the Treasury, and renegotiation of the Government's debt with foreign banks.

³¹ On the theoretical underpinnings of this stage of the programme, see E. Bacha, "O fisco e a inflação: uma interpretação do caso brasileiro", *Revista de Economia Política*/53, 14(1), January/March 1994: 5-17.

³² The broad money supply referred to here includes the value of the domestic public debt which, being rolled over daily, became a near-perfect substitute for money in Brazil.

³³ The original proposal to fight chronic inflation through a monetary reform preceded by full indexation is spelled out in P. Arida and A. Lara-Resende, "Inertial inflation and monetary reform", in *Inflation and Indexation: Argentina, Brazil and Israel*, J. Williamson, ed. (Washington, D.C., Institute for International Economics, 1985). For a chronology of the evolution of this idea, see L. C. Bresser-Pereira, "A economia e a política do Plano Real", *Revista de Economia Política*/56, 14(4), October/December 1994: 129-49.

ing back into additional inflation.³² Moreover, in an economy in which indexation was generalized, inflation acceleration would be inevitable. According to this diagnosis, elimination of the nominal budget deficit required attacking inflation at the monetary level.

The second stage, therefore, was to prepare a monetary reform. The general course of the monetary reform programme had already been long debated by the members of the economic team, and involved a two-stage procedure of substitution of the old inflated currency with a new stable one, first as a unit of value and then as a means of payment.³³ Thus, on 1 March 1994, the Government introduced a new unit of account, the Unit of Real Value (URV), set roughly at a par with the dollar. The value of the URV would change daily, according to the day's inflation, in order to maintain a stable real value. With few exceptions, all contracts in the economy could be redenominated in this new unit of account. Except for wages, housing rents, schooling bills, and public-sector prices and tariffs, the terms of these conversions could be freely agreed among the contracting parties, provided that indexation clauses of less than one year were abolished (direct dollar denomination of contracts remained forbidden as before).

Taking into account that according to the previous wage law, wages were to be adjusted every four months, it was determined that at the inception of the URV on 1 March 1994, all wages would be converted at their average real values in the previous four-month period. The political passage of this measure in due time required that similar procedures be imposed for the conversion of housing rents and school bills.

The main purpose of the second stage of the plan was to align the times at which the most important prices in the economy changed, because the existence of overlapping indexed contracts with varying lags meant that at any moment in time there was a significant dispersion of prices in the economy, with some prices having recently been readjusted and others lagging far behind. Under such circumstances, a sudden end to the inflationary process would catch some prices at their peak real values, and others at their trough. Such price misalignments would inevitably impose additional inflationary pressures on the economy, as previously existing indexation clauses would continue to force up the prices that were lagging behind. This lagged indexation mechanism accounted for the so-called inertial component of Brazilian inflation, as distinct from the structural part that was associated with the ex ante operational budget deficit.

Making the URV into a universal indexer, as a preparation for replacing the currency, was the most novel and controversial part of the plan. The underlying idea was that once the URV became the universal unit of account, prices would be quoted in units of URV and the way would be prepared to transform the URV itself into a new money, the non-indexed real. The inertial self-feeding component of inflation in Brazil, the "inflationary memory", would be abolished.

At the same time, the more perfect the indexation of prices in the economy, the more susceptible it became to a hyper-inflation spiral, because any new inflationary impulse would be transmitted almost instantaneously to all prices in the system. In the end, through a combination of precautionary measures, compromises imposed by the political process³⁴ and some luck with the social experiment, inflation acceleration in the URV period was not extreme, except

³⁴ For the interactions between economic policy and Brazilian politics, see B. Lamounier and E. Bacha, "Democracy and economic reform in Brazil", in *A Precarious Balance*, vol. 2, *Democracy and Economic Reforms in Latin America* (San Francisco, Institute for Contemporary Studies, 1994), pp. 143-186.

in the last few days preceding the introduction of the real, as economic agents adopted “precautionary” price increases.

Finally, after a four-month period of contract conversions, on 1 July 1994, the Government started issuing the URV, now renamed the real, as the new currency of the country. The external value of the real was set at no less than one dollar.³⁵ In conformity with the initial programme statement and the pledge to make policy transparent — that is, to “do everything as announced, announcing everything that would be done” — a 30-day advance notice was given of the monetary conversion date. The Government also set a conversion rate of one real to 2,750 *cruzeiros reais* (this was the value of one URV in *cruzeiros reais* on 30 June 1994) as the rate for the replacement of the money stock and more generally for the redenomination into reals of contracts and prices not yet converted from *cruzeiros reais* into URVs.

This essentially completed the three-stage monetary reform that constituted the Real Plan. With the substitution of the real for the *cruzeiro reais* as the legal tender of the country, all contracts that had been previously set in URV units but payable in *cruzeiro reais* now became payable in URV units as well, that is, in reals. The switch to the real was probably the largest currency replacement ever. Over 50 million bank accounts were converted to the new currency from midnight 30 June. During a period of two weeks, within which the old currency notes were being swapped for reals, both currencies were legal tender. The population went through this period carrying pocket calculators everywhere for their daily shopping in two currencies.

The economy under the real

Implementation of the final stage of the Real Plan, of course, was not exactly according to the theoretical model. Some “inflationary memory” was carried over into the real and some indexation, in particular of wages, had to remain; but the decline of inflation was dramatic, not only because the Real Plan gave the economy a break with the old inflation, but also because new inflationary pressures could be contained.

In other words, from the introduction of the real to the end of 1994, two developments helped to contain inflation: appreciation of the real owing to large net capital inflows and a trade liberalization that encouraged a rapid increase in imports. The large balance-of-payments surpluses that had occurred since 1992 gave the Government foreign reserves on a cash basis of \$40 billion at the moment of the monetary conversion. The merchandise trade balance had a surplus that was running at about \$1 billion per month; but the sudden end of high inflation fostered a surge in the demand for consumer goods,³⁶ which combined with lowered real import prices (owing to appreciation and import liberalization) to gradually erode the trade surplus.

The explosion in consumption had been fostered by the abrupt reduction in the inflation tax which had affected all holders of money, but especially the poorest who had been less able to preserve the value of their money through indexed financial operations. In addition, consumer credit, which was minimal in the period of high inflation, nearly doubled between June and October 1994. Finally, the level of total employment by the end of 1994 was nearly 5 per cent higher than at the end of 1993, reflecting the expansion of economic activity.

³⁵ The Central Bank was committed to selling dollars whenever the market price of the dollar began to rise above one real, but it was not obliged to buy dollars when the market price of the dollar stood at less than one real.

³⁶ As measured from retail trade data, consumption rose 20 per cent in August and remained high thereafter.

The Government reacted to the initial rise in private demand and its potential inflationary push by tightening credit and further liberalizing imports. With large private inflows of capital continuing, the country could have afforded a current account deficit as a trade-off for the consolidation of the stabilization programme. It was anticipated that the pegged exchange rate would become overvalued, as elsewhere, but the original timing for dealing with the overvalued currency might have been the first anniversary of the real on 1 July 1995. However, the crisis in Mexico changed that.

By year end, the trade surplus had thus been transformed into a trade deficit exactly when external conditions were becoming less favourable in the wake of the Mexican crisis. Brazil's foreign reserves started declining. Corrections to the original course became unavoidable. Besides credit tightening to cool down the expansion in consumption, the Government opted for devaluation. The Real Plan had fixed the nominal parity with the dollar, but in its managed float the Central Bank had been maintaining an exchange rate of 85 cents to the dollar (and an informal band said to be 83-86 cents). In March 1995, the Government officially set the band at 86-90 cents until May 2 and 86-98 thereafter. This in fact set off an attack on the real, and after the Central Bank spent several billions of dollars of reserves defending it, a new band of 88-93 was set, which the Government expects to keep. The Government also temporarily reinstated certain import duties that had been reduced in the last two years. In March, import duties for a list of 109 consumer goods, mainly cars and appliances, more than doubled to 70 per cent.

These measures to deal with the balance of payments and reduce dependence on foreign capital inflows had a cost: inflation has begun to rise. Although the general price increase was still below 2 per cent in March 1995, consumer prices rose closer to 3 per cent, and inflation was again accelerating according to all indexes. Thus, it became even more crucial for the Government to engage in difficult negotiations with Congress and society to approve the more permanent measures of fiscal adjustment and all the other reforms necessary to contain inflationary pressure, involving the relations between central and state Governments, the issue of the financial fragility of state banks, the financing of social security and the framework for privatizations. The battle therefore continues.

WINDS OF CHANGE ACROSS ASIA

In the popular mind, developing Asia has the world's greatest contrasts. It includes developing countries with some of the lowest and highest GNPs per capita in the world, the country with the largest population in the world and some of the smallest islands. It has varying strategies for development and differing trend rates of growth of output, including the highest. However, across the region over the past few years, Governments have been newly confronting macroeconomic adjustment imperatives and applying essentially the same broad approach seen elsewhere in the developing world, albeit customized to meet local conditions. The discussion below aims to highlight significant regional and country instances of this common process.

West Asia: adjusting to low oil prices

The main goal of economic reform in west Asia has become adjustment to the fact that the era of record high oil prices has ended and that policies undertaken under the assumption that such high prices would persist are no longer sustainable. Not only have prices of crude petroleum fallen to levels far below those of the mid-1970s in terms of international purchasing power, but the prospect is that adequate supplies of crude oil over the medium term will prevent prices from rising significantly above their current levels in real terms.³⁷

The adjustment requirement applies not only to oil-exporting countries, where lower oil prices brought large budget deficits and balance-of-payments difficulties, but also to the other countries in the region, which have had to adapt to changed conditions in neighbouring oil-exporters, and certain of which, such as Jordan and Lebanon, have advanced in their stabilization and adjustment programmes and resumed economic growth; nevertheless, the present discussion will focus on the oil exporters, most of whom are still being confronted with the initial contractionary phases of economic reform, mainly in the form of austerity programmes, including in the Islamic Republic of Iran, Saudi Arabia and Yemen.

More generally, a broad consensus has emerged in most countries of the region on the need to diversify their economies, rely less on oil and adopt market-oriented economic reforms. The oil price dive of 1993 only made the necessity of a reform process more inescapable.

Focus on the budget

Given the large economic role of the public sector during the years of the oil boom, attention has focused on rethinking that role and on curtailing government expenditures in particular. Since government expenditure can be highly import-intensive, especially for investment goods and military equipment, budgetary cut-backs also assist the necessary adjustment of the balance of payments.

The problem is that in spite of their enormous oil wealth, most of the oil-exporting countries of the region have been confronting persistent budget deficits, intractable high expenditures, and a decline in investment. In other words, the development strategy during the oil boom masked fundamental problems that contributed to the present disappointing economic performance. Lack of an appropriate tax structure, large subsidies for public services and some productive sectors, government control of production often leading to inefficiencies, and a system of governance that lacked transparency and accountability became unsustainable as soon as the oil boom ended.

The fall in oil prices in the second half of the 1980s greatly reduced government revenues. Though the fall in revenues was cushioned by drawing down savings, this was a short-term expedient and after some time lower revenues resulted in budget cut-backs. Then, the consequences of the Gulf war and the high costs incurred by Saudi Arabia and others exacerbated the financial difficulties of the region.³⁸

That a major component of government expenditure in some of the countries has been for military preparedness has had consequences for the adjustment process. Indeed, the opportunity cost of the continued military build-up in several countries has been the needed investment in long-term economic develop-

³⁷ See the discussion of oil price developments in chapter I and the analysis of future crude oil supplies in chapter X.

³⁸ The adverse impact of lower oil revenues was also felt in the oil-importing countries as workers' remittances and aid flows from the oil-exporting countries were sharply scaled down.

ment. The consequences of the Gulf war continue to be a source of regional and international friction, but significant progress in the Middle East peace process may create a wide scope for regional integration and cooperation, which could yield significant economic benefits.

Meanwhile, the pressure for budgetary correction is unremitting. While adoption of economic reforms that involve the introduction of taxation and removal of subsidies remains a major challenge to the countries of the Gulf Cooperation Council, a number of them have undertaken measures aimed at privatization and a reorganization of public spending. These include cuts in service payments and government transfers, measures to reduce imports and rescheduling projects.

Saudi Arabia, in particular, cut its budget spending by 19 per cent in 1994 and announced a 6 per cent spending cut for 1995, in addition to a number of other fiscal measures, among them, an increase in the prices of petroleum products, water, electricity and telephone charges. While these changes represent a drastic shift in policy, they do not yet alter significantly the subsidy system, as some of these increases apply only to large customers and not to the population at large.

Saudi Arabia also announced in 1994 its intention to privatize a large number of key government institutions in sectors such as electricity, telephone, water, oil refining and petrochemicals and the national airline. Given the high liquidity in the local market as well as the large financial resources of the private sector abroad, such plans are likely to encourage private investment and entice capital inflows. They are also likely to encourage foreign investors to enter into new joint venture projects with Saudi Arabian investors. Notwithstanding these drastic changes, Saudi Arabia, like most other Gulf States, still restricts foreign ownership in any project to a maximum of 49 per cent.

In addition, Oman has recently implemented new corporate and personal taxes, has started privatization and has allowed foreign investors to own up to 65 per cent of the shares in projects in the country. In the United Arab Emirates, while the Government has ruled out the introduction of taxes and still subsidizes a wide range of items, it has been pursuing policies based on free-market principles and has aimed at diversifying the economy and encouraging free trade. The Government introduced, however, in 1994 a wide range of higher tariffs and fees, including a raising of the cost of entry visas, vehicle registrations and driving-licences.

The Syrian Arab Republic is pursuing policies towards gradual deregulation and the opening up of its economy to the private sector. In the Islamic Republic of Iran, cuts in subsidies and enforcement of tax regulations, combined with efforts to reduce imports, have succeeded in reducing the budget deficit and led to a current account surplus in 1994.

Economic "adjustment" in Iraq is *sui generis*, since the economy is required to operate under United Nations sanctions in effect since 1990, owing to unresolved political difficulties with the international community. With the United Nations embargo on all imports (except for essential humanitarian needs) and all exports, including oil exports (except to Jordan), with major destruction resulting from the war and with unresolved political situations continuing in parts of the country, the economic situation is distorted in a unique manner. The economic role of the Government remains large, even if it is carried out

under budgetary pressure. It operates a rationing system for basic consumer goods (although it has necessarily been scaled back by steps, including in 1994) and petroleum products are sold at artificially low prices. Not all household needs can be met within such channels, however, and very high prices are common outside the system.

In addition, although the official exchange rate has been 0.31 dinars per dollar, the black-market rate has been on the order of 550 dinars per dollar. The market mainly serves as a vehicle for expatriate Iraqis to send funds to family members and for others to take resources out of the country, despite United Nations-imposed limitations and prohibitions on financed transactions regarding Iraq. In late 1994, in what amounted to a large devaluation, the Government allowed a number of authorized foreign exchange dealers to buy foreign currency at about the black-market rate. This has helped the Central Bank tap a significant new source of dollars, although a differential is again opening up between the exchange rate offered by the black market and that available from authorized dealers.

Stabilization in India, the Philippines and Viet Nam

The late 1980s and the beginning of the 1990s saw the increasing adoption of stabilization and adjustment policies by south and east Asian economies. India, the Philippines and Viet Nam are three notable, if very different, examples. Stabilization policies in each of these countries followed familiar patterns, except that they were also part and parcel of deeper structural changes in policy that grew out of the unique economic history of each country.

India has followed a development strategy since its independence in 1947 that has left it largely closed and centrally guided, albeit mainly through a market economy with a large state sector and considerable controls on the operation of the private sector. Although there have been various movements to liberalize and deepen India's integration into the world economy over the decades, the degree of change set in motion in the wake of the severe balance-of-payments crisis of 1991 is potentially the most significant.

Liberalization was instituted in several areas in India quite rapidly in three to four years, while fundamental reforms have been much more gradual.³⁹ Taxes have been substantially streamlined and lowered to improve incentives for private production and consumption. To promote private domestic and foreign investment, the system of licensing of private investment was largely eliminated and many areas of transport and infrastructure previously reserved for the public sector have been gradually opened to private and foreign investment. Restrictions on foreign direct investment were also significantly eased. Large reductions of tariffs and elimination of quantitative restrictions on imports of intermediate and capital goods were introduced to lower the cost of domestic production. The financial market has been opened to foreign investment and the currency was made fully convertible in the current account by late 1994. The banking and insurance sectors have also been gradually reformed and the commercial loan rate was decontrolled in late 1994.

The Philippines is reaping the cumulative results of halting reforms begun in the 1980s and intensified after the fall of the Government in a peaceful uprising of the urban population in January 1986.⁴⁰ Reforms under the succes-

³⁹ For a critique of reforms and adjustment in the initial years, see K. Basu, "Structural reform in India, 1991-1993: experience and agenda", in *Economic and Political Weekly* (27 November 1993), pp. 2,599-2,605.

⁴⁰ On the economic collapse under the old regime and the beginning of the new, see *World Economic Survey, 1989* (United Nations publication, Sales No. E.89.II.C.1 and Corr.1), chap. VIII, section entitled "Adjustment in the Philippines: the cost of political crisis".

sor regime included broadening of the tax base, restructuring of banking institutions, liberalization of imports of intermediate goods and freeing of agricultural prices and marketing. Continued reform has included liberalization of trade, foreign exchange transactions and foreign direct investment, de-monopolization of industrial sectors, opening of infrastructure sectors to private investment and privatization of public enterprises. These measures have further improved domestic markets and revived foreign investment and trade.

Viet Nam has been reforming its system radically since 1989, and structural changes have been rapid, transforming a centrally planned economy into an outward-oriented, market-based system. Important measures included the legalization of private ownership, the streamlining of public enterprises, the de-collectivization of agricultural production, price and exchange-rate decontrol and trade and foreign investment liberalization. As a result, the production and ownership structures of the economy have changed significantly: there is a much larger service sector and a significantly larger share of production is in private hands.⁴¹ In addition, the economy is more open, for example, with exports and imports contributing a substantially larger share of output and incipient rapid growth in labour-intensive export manufacturing.

In all three countries, the implementation of the new policies was facilitated by favourable political conditions. The programme in India was put in place by a newly elected Government and in the Philippines the smooth transition to a newly elected Government significantly improved political stability. In Viet Nam, an existing Government chose a total reorientation of economic development strategy after an earlier series of failures in economic policy.

Rigour and flexibility in stabilization policies

Firm implementation of stabilization policies could be found in all three countries. At first, standard stabilization measures — a large currency devaluation and foreign exchange liberalization, a sharp rise in interest rates and the shrinking of the central government budget deficit — were put in place. These policies yielded significant reductions in inflation in a very short period of time; but they also aggravated existing infrastructure bottlenecks and other problems, such as unemployment and the low levels of social expenditures. Despite significant progress, substantial imbalances still remained in domestic budgets or external accounts or both.

Stabilization measures in India in 1991 were put in place in response to an imminent balance-of-payments crisis and almost depleted foreign reserves. The measures, supplemented by temporary emergency import restrictions, promptly resulted in substantial improvement in the external balance and foreign reserves. The trend was sustained by robust export growth and modest import growth and the current account was almost restored to balance. In addition, with a surge of portfolio investment inflow in response to improved economic stability and economic prospects, foreign reserve levels soared to almost eight months of imports by 1994.

India's budget deficit was reduced by cut-backs in subsidies, public investment and social expenditures. It declined from almost 10 per cent of GDP in 1991 to 7 per cent, remaining high because of interest payments on a large debt and pressures to maintain some price subsidies and the large public sector. Inflation declined steadily from a peak of 17 per cent in 1991 to 7-

⁴¹ See Ann Orr and Vu Quang Viet, "Economic reform and the development of the private sector in Viet Nam", DESIPA Working Paper Series, No. 2 (New York, United Nations, 1994).

8 per cent in 1993, but has since headed upward again into double digits. The resurgence was the consequence of the acceleration of money supply growth owing to monetization of large capital inflows and the increase in government-controlled prices.

The new stabilization policy in the Philippines involved both a sharp reduction of the fiscal deficit and monetary tightening. In addition, the debt owed to foreign commercial banks was successfully restructured in 1992, reducing the burden of debt servicing on the budget; but austere fiscal policies delayed much-needed infrastructure investment, while tight monetary policy caused private investment to stagnate. Moreover, the Government held the legal minimum wage unchanged through 1993 which, in turn, had a steadying influence on wage rates in the formal sector. Inflation fell significantly from 14 per cent in 1991 to 7.5 per cent in 1993, and has since remained at that low level.

Even with prudent management of the exchange rate, the current account deficit of the Philippines has remained large and persistent (almost 6 per cent of GDP in 1993; over 5 per cent in 1994). Upward pressure on the exchange rate created by high interest rates and inflow of capital have contributed to the deficit. A large share of the capital inflow was in the form of portfolio investment, giving rise to concerns about sustainability of the current account deficit.

In Viet Nam, austere stabilization measures included drastic credit restriction and sharp interest rate hikes. As a result, real interest rates turned strongly positive in 1989 for the first time in many years. The fiscal deficit was reduced sharply from over 11 per cent in 1989 to under 4 per cent by 1992, under a combination of expenditure reductions and revenue increases, the former mainly from cut-backs in capital investment. In addition, there has been a shift in deficit financing from central bank monetization to debt securities purchased by Vietnamese individuals. Inflation plummeted from 170 per cent annually in 1988 to approximately 30 per cent in 1989, and to a low of 5.5 per cent by 1993.

After initial stabilization measures, continued vigilance and flexibility in macroeconomic management have been necessary in all three countries to maintain results. Policy response to fluctuations in macroeconomic balances have been prompt. For example, Viet Nam drastically reduced credit to the state sector in 1992 in order to control accelerating money supply growth. In the Philippines, monetary tightening measures were promptly taken when increased public investment in 1993 increased money supply growth significantly and undermined the exchange rate.

At the same time, the surging inflow of capital resulting from the opening of the economy to world trade and financial markets has complicated macroeconomic policies in India and the Philippines. Each country has had to coordinate and adjust policies simultaneously on various fronts. In India, for example, where the currency is under a managed float, growth of the money supply accelerated owing to the same processes noted earlier in other regions that experienced large capital inflows, aggravating inflationary pressures. Out of a reluctance to allow inflation to deteriorate further, the exchange rate also appreciated in nominal terms in 1994. Owing to the effect of the inflation and the nominal appreciation, the currency appreciated significantly in real terms, with an adverse effect on export growth. In the Philippines, there was a similar effect on the exchange rate, resulting in a dampening effect on export growth.

With a sharp slow-down in capital inflows since the end of 1994, noted earlier

in the discussion of Latin America and the Caribbean, the upward pressure on the exchange rate of India was eased. For the Philippines, the result has been a sharp drop in the exchange rate in February 1995, reflecting the concerns of financial markets over the country's large current account deficit. Consequently, macroeconomic policy in the Philippines has had to change focus: interest rates were raised to stem depreciation, even at the risk of slowing down economic growth. India and Viet Nam have also tightened monetary policy in 1995, not because of a run on the currency, but in order to restrain rising inflation.

Prospects for sustained reform

There was a significant pick-up in economic growth in India and the Philippines by 1994 and in Viet Nam from early in the adjustment period. Moreover, even though output did not grow for two years in the Philippines, in none of the three countries did it actually decline during the adjustment period, as has been the common experience elsewhere. In India the growth of GDP slipped to 2 per cent and in Viet Nam to under 4 per cent, but all three countries are expected to see GDP grow in 1995 by at least 6 per cent (and Viet Nam by considerably more). This, of course, makes the changes required by adjustment easier to absorb.

Nevertheless, there were significant tensions. For example, the high incidence of poverty, unemployment and underemployment was aggravated by stabilization and reform and has not improved significantly since. There had been little growth in industrial employment in the Philippines in the 1980s and manufacturing employment growth in India had also been slow, providing few job opportunities for the growing labour force, and leaving high levels of underemployment in the agricultural and service sectors. In Viet Nam as well, underemployment was serious in agriculture and industry, exacerbated by large-scale military demobilization and the consolidation of state enterprises.⁴²

These conditions have made it more difficult to implement further reforms that would have a direct negative impact on employment, consumer prices or social expenditures. As a result, progress in privatization and/or restructuring of state enterprises has been very slow in the three countries. In India, price subsidies and restriction on private enterprise lay-offs and closures and protection of markets for small enterprises have remained largely unchanged. Continued reform and structural adjustment will need to address poverty reduction through employment growth and increased investment in human resources and social services. This notwithstanding, both the Philippines and Viet Nam have made some progress in generating labour-intensive employment through growth in manufactured exports and foreign direct investment.

The experience thus far in all three countries points to the importance, on the one hand, of regaining and maintaining macroeconomic stability, and on the other, of creating employment and alleviating poverty, while intensifying reform. In India, both legal and financial systems continue to be developed to support a more decentralized economy. More fundamental and politically controversial reforms remain to be instituted: the elimination of price subsidies, restrictions on private enterprise downsizing and a ban on the import of consumer goods, along with a re-examination of the special rules applying to small enterprises and the reform and privatization of public enterprises. These measures impinge directly on the role of public ownership, consumer goods prices,

⁴² See World Bank, *Viet Nam: Transition to the Market* (Washington, D.C., World Bank, 1993), pp. 66-67.

employment and the traditional practice of protection of small consumer goods enterprises. Their implementation is dependent on broad-based political support for the Government.

In the Philippines, reform of land tenure remains an important area of change to be implemented, as do privatization of state enterprises and continued development of the financial sector. Development of labour-intensive exports through domestic and foreign investment is ongoing. Viet Nam as well continues to promote the growth of labour-intensive exports by reducing disincentives in the trading system. It is beginning to institute measures to reduce the regional concentration of growth by promoting agricultural and manufacturing investment outside the major urban areas. The development of infrastructure for a market-oriented economy — that is, a supporting legal system, a financial system that can efficiently mobilize and allocate funds for investment and then improving of conditions for competition in domestic markets — is a priority. In addition, the still dominant public industrial sector needs to be reformed and privatized while development of the small private manufacturing sector is dependent on improved access to credit.

The struggle against inflation in China

Although China, like Viet Nam, has been undergoing a process of deep transformation from a centrally planned to a market-based economy, it began its transition much earlier and is farther along in many respects. The effort to rein in inflation, after several years of policy trial and error, succeeded in the early 1990s, albeit at the cost of a sharp slow-down in the growth of output.⁴³ However, output growth quickly climbed back to double-digit levels and inflation has since begun to accelerate to high levels once again (see tables A.3 and A.13).

In its current adjustment effort, China is creating new institutions and tools of macroeconomic policy at the same time as it seeks to so apply them as to dampen the growth of aggregate spending. However, there are constraints: The Government sees itself facing a particularly difficult one which limits its freedom of action, namely the political and social imperative to avoid mass urban unemployment, which is what would ensue from highly contractionary policies or the sudden withdrawal of financial support from the large, loss-making state enterprises.

In any event, positive results of new policy measures adopted since 1993 were expected to begin to appear in 1994 and 1995. So far, however, the package of reforms, including increases in interest rates and even outright administrative orders to control credit ceilings and to ban certain non-productive investment projects, have all had limited success at curtailing fixed investment expansion and inflation. As of 1994, macroeconomic imbalances continued to intensify and were most sharply reflected in the 24 per cent rate of inflation, which constituted the highest level in the history of the republic.

Ironically, the high rate of inflation in 1994 was partly policy-induced. Salaries of civil servants were increased. Procurement prices for agricultural products were raised in order to stimulate the production of grain and some agricultural raw materials such as cotton. Subsequently, the official retail prices of staples such as flour and rice sold to urban residents were raised. Adverse weather conditions — floods in several southern provinces in June

⁴³ On the inflation experience in China from the late 1970s to the late 1980s, see *World Economic Survey, 1990* (United Nations publication, Sales No. E.90.II.C.1 and Corr.1 and 2 (English only) and Corr.1 (French & Spanish only), chap. VI, subsection entitled "Reform, stabilization and inflationary pressures in China".

1994 and drought in the north — also contributed to higher prices of food, which played a leading role in the acceleration of inflation during 1994. Combined with increases in the price of agricultural inputs, the rate of inflation in rural areas was higher than the national average in some months, reversing the past pattern of relatively higher urban inflation.

The factors mentioned — hikes in civil servants' wages and in some administered prices, and bad weather — are transitory in nature. However, other causes of inflation are structural and reflect the problems China faces at the current stage of its economic reform programme. For instance, investment demand persistently grows beyond the availability of capital goods. Also, the increasing integration of China into the world economy complicates macroeconomic management, as the inflow of foreign capital has made controlling the growth of the domestic money supply more difficult.⁴⁴

More generally, the tools for macroeconomic management have remained rather rudimentary and thus the Chinese Government has sought to create more appropriate mechanisms. In the financial sector, in particular, the existing banking system was restructured to enable the People's Bank of China to function as a western-style central bank. "Policy banks" were set up in 1994 to carry out lending in support of government industrial policies while state-owned specialized banks were turned into commercial banks. This notwithstanding, financial-sector reform is seen to be an ongoing process in China.

In addition, the exchange-rate system was simplified during 1994. First, in the external sector, the "double-track" foreign exchange rate regime was unified to the market rate on 1 January 1994.⁴⁵ This effected a 33 per cent devaluation of the official exchange rate, at which about 20 per cent of transactions were conducted just before the rate unification.⁴⁶ By simplifying the exchange-rate system, the Government essentially gave up the practice of subsidizing some imports by taxing a portion of the earnings of exporters, thus eliminating one form of price distortion. During the course of the year, China also liberalized trade by reducing some tariffs and abolishing some licences and quotas.

Meanwhile, a new tax system centred around a value-added tax was introduced as part of a fiscal reform effort. The new tax system was intended, *inter alia*, to put more revenues into the hands of the central Government, the growth in whose revenues had not paralleled the pace of economic growth in the country, as decentralization has shifted considerable power to local levels of government. The Government also continued to carry out the "corporatization" of state-owned enterprises. A new Company Law went into effect in July 1994, which establishes a unified legal basis for the incorporation and operation of companies. On a limited experimental basis, 100 state-owned enterprises were chosen to be converted into joint-stock companies, or if necessary to be forced into bankruptcy.

These, however, are only tentative steps towards rebuilding the microeconomic foundations of the system. The state sector, which accounts for over half of China's GDP, still operates under the "soft budget constraint", which means, in effect, that microeconomic agents in this sector can largely ignore interest rates, tax policy and prices in their decision-making. This poses a more serious problem for China's ability to achieve sustainable economic growth without recurring high rates of inflation. It also undermines the effectiveness of the new macroeconomic policy tools that Government reform measures intend to put into place.

The need to undertake fundamental reforms in the state enterprise sector is

⁴⁴ For example, China received about \$35 billion in foreign capital in 1994. Foreign reserves shot up from \$21 billion at the end of 1993 to almost \$52 billion by the end of 1994. This dramatic increase in foreign reserves undoubtedly made the task of restraining the growth of the money supply much more difficult, and this, as discussed previously, had also been the case in several other countries in the developing world.

⁴⁵ Under the "double-track" system, one exchange rate was the official rate at which foreign tourists and investors were required to convert their currencies. Chinese enterprises engaging in foreign trade were also required to exchange a fixed percentage of their foreign currency earnings at this rate. Purchases of foreign currency at this rate, which was highly overvalued, was subject to Government approval. The other "track" was a rate of exchange that reflected market conditions, as determined in officially sanctioned "swap centres" where companies (and later individuals) sold their retained foreign exchange earnings or bought foreign currencies to meet import needs that were not covered by their official allocations of foreign exchange (see W. Tseng and others, "Economic reform in China — a new phase", IMF Occasional Paper, No. 114 (November 1994)).

⁴⁶ Actually, large foreign capital inflows, combined with domestic tightening, resulted in an appreciation of about 5 per cent in nominal terms during 1994.

becoming ever more urgent as reforms in other areas have been implemented. The latest estimate is that about one third of all state-owned enterprises (SOEs) experienced losses in 1994 and the total amount of losses was over 25 per cent higher in 1994 than in 1993. Loss-making SOEs thus constitute a heavy burden on the finances of the central Government, whose deficit is at least partly responsible for generating inflationary pressures in the economy. SOE borrowing from the banking sector, which would have been cut off if banks had truly acted on profitability principles, represents a direct misallocation of financial resources.

Therefore, on grounds of economic efficiency and macroeconomic control, it appears that some state enterprises should be shut down. On the other hand, shutting down loss-making enterprises and streamlining the labour force of others would create mass urban unemployment, which has very high social and political costs, especially in a period of high inflation. Moreover, writing off the debts of these companies, which they are not always servicing, would bankrupt many state banks. These considerations constitute a political obstacle to enterprise reform.

So far, this policy dilemma has not been satisfactorily resolved. Instead, the Government follows a stop-go strategy regarding enterprise reform. Consequently, there have been very few cases of bankruptcy of state enterprises, and the banking system extends credits to loss-generating SOEs despite the governmental pronouncement that they would become commercial banks once "policy banks" had been established. One result is that the broad measure of the money supply (M_2) increased by over 34 per cent in 1994, as opposed to the government target of 24 per cent.

In sum, as long as state enterprises are not reformed so as to heed market forces, and as long as they can receive government subsidies in one form or another, they will not change their behaviour. There will be a lack of microeconomic incentives to respond to monetary or fiscal measures. Unless changes take place in the enterprise sector, state banks will not be able to resolve their problem of bad loans and begin to behave like commercial banks in market economies. Ultimately macroeconomic management will remain ineffective.

This is the case for China. It is equally the case for the European transition economies, which are indeed now focusing policy analyses on precisely this problem, as discussed in chapter VI of this *Survey*.

VI THE NEW POLICY FOCUS ON ENTERPRISES IN TRANSITION ECONOMIES

When the transition from centrally planned to market economies began in eastern Europe and central Asia, it was expected that the adjustment period would require a temporary dip in aggregate economic activity, as the operations of state-owned enterprises changed to reflect new market orientations. It was not expected that the cumulative decline would range from nearly 20 per cent to almost 50 per cent before economic activity began to recover, and then at a relatively slow pace (see table A.3).

As an early part of the transition strategy, Governments freed most prices, releasing long-suppressed inflationary pressures which were then exacerbated by the soaring of budgetary deficits and inflationary credit creation. Macroeconomic stabilization quickly became a major focus of transition policy, however, with varying degrees of success, often due to political pressure for credits and subsidies for the enterprise sector coupled, in some cases, with uncontrollable growth of credit in the form of inter-enterprise arrears. Meanwhile, the supply response that was to be a central result of transition occurred much more slowly than had been anticipated. The macroeconomic performance of the transition economies became the prisoner of microeconomic disappointments. The attention of policy makers in the transition economies was inevitably drawn to the question of enterprise behaviour.

However different the speed and depth of economic reform, one key problem was common to all the countries in transition. In none of them, even in the countries most advanced in their journey to a full-fledged market economy, have economic agents conformed to the model that the policy makers had in mind as their goal when they launched the reforms. The early reformers (as in Hungary) were understandably the first to experience this disappointment, but at that time the behaviour of economic agents could at least in part be explained by the fact that they had to operate in an environment that in essence retained the features of the command economy.

The process of economic transformation changed this environment, in some countries more than in others, but profoundly in each case. Yet, for the transition to succeed it has to take root at the microeconomic level. The general expectation was that enterprises, once permitted to do business as they saw fit, freshly motivated by profit-seeking and impelled by competition, would introduce innovations in their product lines, seek new suppliers that would be a better business fit than those prescribed by the central planning authorities earlier, shed labour to make production more efficient, and aggressively seek new markets. In short, the formerly planned enterprise had to become a "firm". In many cases, however, this has not yet happened.

THE PATTERN OF TRANSFORMATION AND ITS MICROECONOMIC DIMENSION

Though the term “economies in transition” is routinely applied to all the countries of central and eastern Europe and central Asia that used to have centrally planned economies, the group of these countries is far from homogeneous. Some countries have advanced further towards functioning market systems; others have declared transition to market economy as their goal, but have thus far not initiated the major reforms of transition. But everywhere there is analysis, debate and experimentation about alternative ways of bringing about economic and social transformation.

Transition in the more rapidly reforming countries, though far from smooth, is quite tangible. For example, some transition economies (in particular, Hungary) are seeing the results of transition policies initiated more than two decades ago. At the same time, others, which started barely three years ago, advanced unexpectedly quickly given the burden of decades of bureaucratic planning and control. Thus, the Baltic States have made remarkable progress in many aspects of economic transformation, which places them among the fastest reforming transition economies. Few analysts expected the Russian Federation to lead in economic transformation within the Commonwealth of Independent States, but it happened.

Manifestations of the tempo of economic transformation are ubiquitous, as are, of course, tasks yet to be accomplished. One clear indicator of the radical changes in the transition economies is the growing share of the private sector in all areas of economic activity. This was accomplished in part by the rapid “destatization” of enterprises (in some countries, through mass privatization programmes of different types) and in part by the spontaneous growth of newly established private firms. As a result of this development, the share of output produced by the non-state sector has been growing steadily: in 1994, it is estimated that this share was in the range of 35 to 65 per cent of GDP in the central and eastern European transition economies and the Russian Federation (see table VI.1).

Another important sign of change is the increasing openness of the transition economies in both trade and financial terms. Most of the economies in transition have considerably liberalized and diversified their trade, allowing for a growing import penetration and removing artificial barriers between production for export and production for domestic consumption. Most of these countries have also established unified exchange rates and have introduced “internal convertibility” of their currencies (i.e., limited current-account convertibility) and the faster reformers are moving towards full convertibility. Indeed, in 1994, Estonia, Latvia and Lithuania made an important step in this direction by accepting the obligations of Article VIII of the Articles of Agreement of the International Monetary Fund and became the first transition economies to undertake this commitment.

In contrast to the past, the opening up placed domestic producers in a completely different environment, exposing them thoroughly to foreign competition. Despite the existing market distortions, the pressure of international competition became one of the strongest driving forces of enterprise reform, pushing firms to adjust their costs and prices towards competitive levels.

Table VI.1

THE PACE OF ECONOMIC TRANSFORMATION OF ECONOMIES IN TRANSITION

Countries	Share of non state sector in GDP mid-1994 ^a , (Percentage)	Mass privatization	Cumulative value of FDI, 1988-1994 ^b (Millions of dollars)	Currency	Stock exchange
Bulgaria	40	Voucher type privatization in preparation	205	Internally convertible; floating	Brokerage houses
Czech Republic	65	Two waves of voucher privatization implemented	3 319	Internally convertible; pegged	Operating
Estonia	55	None	468	Article VIII of IMF accepted; pegged	To be opened in 1995
Hungary	55	Only preferential terms for small local investors	6 941	Internally convertible; adjustable peg ^c	Operating
Latvia	55	Voucher privatization started in January 1995	269	Article VIII of IMF accepted; pegged	To be opened in 1995
Lithuania	50	Voucher privatization implemented	74	Article VIII of the IMF accepted; pegged	To be opened
Poland	55	Voucher type privatization in preparation	2 884 ^d	Internally convertible; crawling peg	Operating
Romania	35	Voucher type privatization in preparation	501	Internally convertible; floating	To be opened
Russian Federation	62 ^e	Voucher privatization implemented	3 958	Internally convertible; floating	Operating
Slovakia	55	First wave of voucher privatization implemented; second wave in preparation	434	Internally convertible; pegged	Operating

Source: UN/DESIPA; ECE, *Economic Survey of Europe in 1994-1995*, and EBRD Transition Report, October 1994.

^a EBRD estimates.

^b UN/ECE foreign direct investment (FDI) database, based on national balance-of-payments statistics.

^c Crawling peg, since March 1995.

^d 1990-1993.

^e Goskomstat data for 1994.

Apart from the effect of the opening up to international markets and foreign competition, the internationalization of the transition economies is taking place also through the inflow of foreign capital, both foreign direct investment and portfolio investment. Although the inflow of foreign capital to these countries was below expectations, it has been playing an important role in the transformation process. In fact, owing to the scarcity of local capital, the degree of foreign participation is one of the factors determining the speed of commercial privatization in the transition economies. Foreign direct investment is also an important channel for the transfer of technological and managerial know-how and for enhancing the access of these countries to new markets.

The first steps towards the establishment of capital markets have also been taken, at least in the faster-reforming transition economies. Although still in their embryonic stage, with quite low volumes of trading by international standards, stock exchanges already function in Bratislava, Budapest, Moscow, Prague, Warsaw and some other capital cities of central and eastern Europe. In some cases (most notably the Czech Republic), the stock exchanges have channelled substantial flows of foreign portfolio investment into the transition economies. With further progress in privatization, the stock exchanges will increasingly play the essential role of raising capital for microeconomic restructuring in the transition economies and generating important market signals for economic agents.

Thus, some of the basic market institutions are now essentially in place in the rapidly reforming countries, even if they are not always fully operational. Of course, there is still much to be done before the institutional infrastructure and the regulatory framework in these countries match the standards of developed market economies; however, the progress already made in a relatively short historic period is encouraging.

Governments differ significantly in the design and implementation of economic reforms, and intensive policy debates on many problems of economic transformation continue in all transition economies. In some countries, society and the political system work towards a workable consensus on the modalities of transition and its policy requisites, the role that the State should retain in the reformed economy or the risk of relying on outside financing. In other countries, the policy-making process has not yet crystallized around precisely what should be the concrete path of economic transformation and what strategy should be followed, beyond a general concept of striving for a "market economy".

In this regard, the experience that is building in the making of transition policies, learning which approaches work in the way intended and which do not, will be of widespread usefulness. Recent research in a number of transition economies has opened the door to a deeper perspective on one of the core issues of transition: transforming enterprises.

Reforming corporate governance and control

Each of the former centrally planned economies began the transition process with the same fundamental challenge, namely, to convert its state-owned enterprises (SOEs) into appropriately functioning companies. Several steps were necessary (although not necessarily in a distinct sequence).

One of the first steps was “commercialization”: SOEs were granted formal autonomy and independence, as well as all the responsibilities for surviving in a transitional environment on their own. As part of this process, mainly in eastern Europe, many — but by no means all — of the large, often vertically integrated and monopolistic enterprises were broken up into separate, smaller units, especially in Czechoslovakia in 1990-1991 and in Bulgaria in 1991-1992.¹

Another related part of the reform was to change the legal status of the SOEs, a process called the “corporatization” of the state-owned sector, which is still under way in some countries. Many former centrally planned economies embarked on the transition with state ownership of enterprises somewhat imprecisely defined, which led to a vacuum of control over the SOEs after the mechanisms of the command economy were abolished. For example, the system of internal control of enterprises that applied especially in Poland, but also in Czechoslovakia and Hungary, entailed the active involvement of the employees in the management of their company. Thus, the so-called “workers’ councils” in Poland approved or took many important internal decisions, including hiring and firing of the management and setting their wages. In these cases, the Government (formally or informally) had little say in enterprise management and there were no other external authorities. Corporatization would change this.

The next task for Governments was thus to make ownership rights over the SOEs transparent. On a legal basis, this was accomplished by incorporating them, that is, by transforming the SOEs into joint stock companies or limited liability companies, initially 100 per cent owned by the State. By early 1995, the process of corporatization had almost been completed in Bulgaria, the Czech Republic, Hungary, Romania and Slovakia and was well advanced in Poland, although a large number of non-corporatized SOEs still remained in that country.

Corporatization entailed the establishment of explicit oversight bodies of the transformed SOEs which was a further step in the deepening of corporate reform. In some countries, oversight powers were delegated to existing institutions by restructuring and rearranging their function. For example, in Bulgaria, those powers remained in the supervising ministries. In the breakup of the Soviet Union in 1992, the all-union ministries and their plants in the Russian Federation were transformed into “combines” or “concerns” that held the enterprises in essence in the form of corporate trusts or holding companies. In other countries, new institutions were created for the purpose of enterprise supervision and governance. Thus, in Hungary, there are two such bodies: the State Holding Company, controlling SOEs that are not expected to be privatized in the short run, and the State Property Agency, controlling all other SOEs; in the Czech Republic, the controlling functions are divided among three bodies — the supervising ministries, the Ministry of Privatization and the newly established Fund of National Property. In Poland, the commercialized SOEs are formally owned (and hence governed) by the Treasury; in addition, another government body was established — the Industrial Development Agency — with the goal of assisting the process of enterprise restructuring before privatization. In Romania, three institutions were empowered to implement enterprise restructuring: the Restructuring Agency, the State Ownership Fund and the supervising ministries.

Once commercialized, corporatized and with a formal line of state responsi-

¹ For example, before 1989, the average Czech manufacturing enterprise consisted of eight to nine plants that were usually vertically integrated. By 1992, the average number of plants per enterprise dropped to one to two (see Economic Commission for Europe, *Economic Survey of Europe in 1993-1994* (United Nations publication, Sales No. E.94.II.E.1), p. 167).

² For example, in Polish SOEs, the only firm-level decisions not formally controlled by workers' councils pertained to changes in the legal and organizational status of the enterprise. These were the responsibility of the State as the owner (represented by the "founding organ" — a ministry or the local administration). After reform, Polish workers retained only the right to nominate their representative(s) in the boards of the corporatized firms (see Marek Belka and others, "Enterprise adjustment in Poland: evidence from a survey of 200 private, privatized and state-owned firms", paper presented at the Workshop on Enterprise Adjustment in Eastern Europe, 22-23 September 1994 (Washington, D.C., World Bank).

³ The 429 funds in the Czech Republic managed to obtain 72 per cent of all available voucher points during the first round of voucher privatization. The concentration of ownership within the funds is also very high: after the transformation of vouchers into shares, the 14 largest investor groups ended up holding 43 per cent of all company shares that were traded in the first wave of voucher privatization (see Vladimír Dlouhý and Jan Mládek, "Privatization and corporate control in the Czech Republic", *Economic Policy*, No. 19, Supplement (December 1994), pp. 155-170).

⁴ It must be added, however, that the situation of ownership and corporate governance in the Czech Republic is still quite heterogeneous. The concentration of shares in the privatization investment funds does not necessarily mean accumulation of large stakes in single companies; in fact, regulations limit the latter to no more than 20 per cent. Besides, funds followed different strategies with respect to their portfolios. While some of them (notably the larger ones) have followed the strategy of assembling relatively large stakes in selected companies — presumably with the goal of having higher voting power — others have followed the opposite strategy, namely, that of portfolio diversification, undertaking only the general risk of the market. As a result, ownership in the Czech Republic is still quite dispersed.

⁵ Even in retail trade and public catering — where the small scale made entry easier for individual private entrepreneurs than in the case of medium- and large-scale enterprises — the purchasers of more than two thirds of the enterprises were their "labour collectives", with only 8 per cent of retail and 7 per cent of public catering enterprises sold to entrepreneurs (see *Torgovaya Gazeta*, 28 December 1994).

bility, it was still necessary to establish new management boards for each enterprise, nominated by the legally authorized state institution, to supervise major decisions of the enterprise (although decisions on what to produce, how to produce it, from whom to buy and to whom to sell were the responsibility of enterprise management). In those state firms in which workers had earlier participated directly in management, this role was greatly circumscribed.²

As countries adopted different privatization strategies, different styles of corporate governance followed; indeed, as management and workers in the SOEs had a direct interest in the outcome of privatization, they often sought to shape it to their advantage. Management or employee buy-outs of the firm are obvious examples where "insiders" control the privatization. Insiders also generally took an active role in "strategic commercial sales", that is, sale of a controlling interest in the enterprise, usually to a foreign investor. In this case, the insiders offer their support for the project, knowledge about the enterprise and influence over enterprise matters in exchange for certain commitments by the investor (e.g., on lay-offs and investment). In any event, this type of privatization usually resulted in the quick assimilation of the privatized company into the model of corporate control of the strategic investor.

In contrast, all types of privatization that did not involve strategic investors resulted in dispersed ownership — at least initially — and as a consequence generally weak shareholder control over the company, effectively strengthening the power of the firm's management. The one important novelty was the "mass privatization schemes", such as those in Czechoslovakia (later in the Czech Republic and in Slovakia) and the Russian Federation. The "voucher privatization" in Czechoslovakia was the prototype. It provided practically free distribution of vouchers that could be exchanged for equity shares.

Somewhat unexpectedly, however, the voucher scheme led to a significant concentration of ownership of the privatized enterprises. That is, investment privatization funds appeared that offered people shares in the fund in exchange for their vouchers and then used the vouchers to purchase substantial ownership shares of the companies being privatized.³ As most of the large funds had been controlled by commercial banks — some of these banks were also privatized during the first two waves of voucher privatization — the banks indirectly became influential shareholders of the enterprises. So, despite the intention of establishing an ownership and control structure based on the Anglo-Saxon model of stock-market dominance of corporate governance, the voucher-privatization scheme resulted in a corporate governance structure rather similar to the German model.⁴

In the Russian Federation, by the end of 1994 more than 60 per cent of enterprises were no longer state-owned and more than 40 million people had become shareholders. But in this case, the privatization process led to a preponderance of insider-controlled enterprises. During the first (voucher) stage of privatization, the large majority of enterprises chose the option whereby the majority of shares were distributed among the employees, with a large stake also given to management. By late 1993, two thirds of the privatized industrial enterprises were formally controlled by management and employees. Once this stage was accomplished, managers tended to gradually buy out the shares from the employees, thereby ensuring firm control without effective supervision by an outside board of directors.⁵

Insider influence in privatization has, in fact, been quite general. In the cases of strategic sales in Poland, for example, employees of corporatized SOEs had the right to participate in choosing strategic investors; there is also evidence that the ownership structure of some to-be-privatized firms was designed in a way to preserve insider control. Besides, insiders of Polish enterprises had a say in the timing of the privatization itself, enforcing schedules they considered most favourable for them.⁶ In the first wave of voucher privatization in the Czech Republic, about 75 per cent of the privatization projects approved were those submitted by the enterprise managers.⁷

The very act of announcing a privatization programme and the plans for its implementation appears to provoke all actors to react in defence of their interests. Thus the announcement of lists of enterprises to be included in mass privatization schemes in Poland, Bulgaria (though not yet implemented as of early 1995) and the Russian Federation aroused an active response in the form of numerous proposals for alternative privatization schemes. Most of these were cases where enterprise managers or employees could see possibilities for extracting higher benefits for themselves by applying alternative methods of privatizing "their" enterprise.

The motivations of managers and employees in the pre-privatization phase may translate into changes in enterprise performance. If the SOE is to be sold to a strategic investor, then managers may be motivated to restructure first in order to prove their skill at running a successful business. On the other hand, if the enterprise is privatized via a management or management-employee buy-out, then the management may be motivated to delay restructuring (or even show worse performance) in order to reduce the selling price.⁸

Privatization per se does not solve the problem of corporate governance and managerial motivation, especially in schemes resulting in dispersed ownership or insider control. In this case, "perverse" managerial behaviour may persist into the post-privatization phase. Much depends on the environment in which management operates.

"Hard" or "soft" management?

Whether state or privately owned, managers make decisions according to the world they confront. Under central planning, a state enterprise was not expected to be fully responsible for its financial autonomy. In case of financial problems, the State always stood behind to rescue the enterprise, a reality that has commonly been depicted by the phrase "soft budget constraint". In a private enterprise — at least in the stylized theoretical showcase — management closely monitors the financial flows related to its activities and alters those activities so as to "maximize" profits.

Hardening of the enterprise budget constraint was thus a central requirement of the transition from planned to private enterprise. The essence of the policy of hard budget constraints is the commitment of the authorities to clear and transparent ex-ante rules and restrictions on the access of enterprises to financial resources different from those generated by their own business activity. Indeed, discontinuation of budget subsidies, combined with monetary and fiscal austerity, was aimed at forcing enterprises to be more responsive to demand pressures and to increase their internal efficiency.

⁶ See ECE ..., p. 202; Charalambos Christofides, "The supply response: microeconomic liberalization, sectoral developments and the labour market", *Poland: The Path to a Market Economy*, Occasional Paper No. 113 (Washington, D.C., International Monetary Fund, October 1994); and Wendy Carlin, John Van Reenen and Toby Wolfe, "Enterprise restructuring in the transition: an analytical survey of case-study evidence from central and eastern Europe", Working Paper No. 14 (London, European Bank for Reconstruction and Development, July 1994).

⁷ See Aleš Čapek and Alena Buchtiková, "Output decline and the dynamics of privatization in the Czech Republic", paper presented at the Workshop on Industrial Restructuring, Trade Reorientation and East-West European Integration, Vienna, 26-29 November 1992.

⁸ Deliberate underperformance of enterprises before privatization is reported in Belka and others, op. cit.

The threat of liquidation, one consequence of properly functioning bankruptcy legislation, is also an element of the policy of hard budget constraints. All central and eastern European transition economies have now introduced (or reinstated) bankruptcy legislation. However, the latter has not yet had wide application as an enterprise restructuring tool, at least regarding SOEs. Strict application of the bankruptcy codes would have run roughshod over diverse and complicated cases, many involving large-scale enterprises, thereby worsening social pressures that were already aggravated by the transition process.⁹ In addition, it might also end up destroying units that could be viable in the long run.

In this regard, much was learned from Hungary's experiment in 1992, when it introduced bankruptcy legislation with an "automatic trigger" that forced enterprise managers to file for bankruptcy within 90 days after failing to honour any pending obligation under the threat of criminal suit. The result was a flood of bankruptcy procedures, over 4,000 in 1992 alone, mostly involving small enterprises, that clogged the courts.¹⁰ Without the requisite economic, legal and institutional structures to process such a caseload, the "automatic trigger" was abolished after less than two years.

After bankruptcy is declared, one end-point is the dismantling of the assets of the enterprise. Another is the financial restructuring of troubled firms. However, it is a costly operation and, unless the goals are clear and are shared by all participants and the rules are transparent and enforceable, it may not lead to the expected results either.

Recently, the Governments of a number of transition economies engaged, somewhat reluctantly, in massive financial restructuring-and-rescue operations for SOEs and state-owned commercial banks. These moves were provoked by the rapidly accumulating losses in many SOEs, the snowballing of uncollectible inter-enterprise debt and bank loans, and the resulting crisis in the banking sector. Again, countries followed different approaches but all involved different forms of bail-out using public financial resources.

Hungary has had the most experience with financial rescue operations. It undertook a large-scale rescue operation of commercial banks in two steps in 1992-1994. In the first, it swapped government bonds for bad debt and in the second it recapitalized eight state-owned banks. In addition, 14 industrial firms and 159 Hungarian agricultural cooperatives in financial difficulties were selected by the Ministry of Finance for special treatment in 1993. Assistance included the cancellation, rescheduling or swapping of outstanding debt, underwriting by the State of large credits, allocation of large funds from privatization proceeds for reorganization, and cancellation of large outstanding customs duties and taxes.¹¹

Bulgaria followed a similar approach, although it was implemented in one step in 1994. In that move, all non-performing bank loans to enterprises that had originated before 1991 were removed from the banks' balance sheets in exchange for long-term government bonds; then, the principal of those debts was written off the enterprise balance sheets.¹²

In the Czech Republic, a new financial institution — a "hospital" bank — was created for the purpose of financial restructuring. It purchased at a discount a substantial amount of old substandard loans from the other commercial banks. The Czech Government also implemented a number of financial rescue

⁹ Some countries, like the Czech Republic, even conducted an active anti-bankruptcy policy for state enterprises (see Karla Brom and Mitchell Orenstein, "The 'privatized sector' in the Czech Republic: government and bank control in a transitional economy", IEWS Working Paper (New York, Institute for EastWest Studies, December 1993)). Indeed, of the 1,861 bankruptcy claims initiated in the Czech Republic up to 31 March 1994, bankruptcy became effective in only 123 cases. Only 18 SOEs were among the latter; the rest were new private firms (see Rumen Dobrinsky and others, "Enterprise behaviour in transition economies: a comparison of Bulgarian and Czech enterprise performance", paper presented at the Workshop on Industrial Restructuring, Reorientation of Trade and East-West Integration, Sofia, 29-30 May 1994).

¹⁰ Of the 3,074 bankruptcies announced by the end of 1993, only 174 were large enterprises (having more than 300 employees) and 1,558 were small companies (with less than 20 employees). On the other hand, the 174 large firms constitute 11 per cent of all firms in this category and the 1,558 small firms, only 2 per cent of its category (see John Bonin and Mark Schaffer, "Banks, firms, bad debts and bankruptcy in Hungary", paper presented at the Workshop on Enterprise Adjustment in Eastern Europe, 22-23 September 1994 (Washington, D.C., World Bank)).

¹¹ For additional details, see Bonin and Schaffer, *op. cit.*; and ECE ..., p. 194.

¹² The rescue operation was estimated to cost about \$3 billion (see Rumen Dobrinsky, "The problem of bad loans and enterprise indebtedness in Bulgaria", *Moct-Most*, vol. 4, No. 3 (1994), pp.37-58).

operations such as cleaning up old debts of to-be-privatized SOEs (1991), recapitalizing commercial banks (1991) and bolstering the capital of commercial banks (1992). These policy actions were implemented by the Fund of National Property using resources accumulated from the privatization of SOEs.¹³

The Polish approach to financial restructuring has been the least “interventionist” as it involved the State in only one step, the initial recapitalization of the banks. After that, banks were obliged to clean up the substandard loans from their asset portfolios by forcing financial restructuring of the indebted enterprises. The banks were given four options: persuade the debtor to start servicing the debt, initiate bankruptcy or liquidation procedures, sign a conciliation agreement, or sell the questionable loan on a secondary market.¹⁴

It must be stressed, however, that these rescue operations do not solve the fundamental problems of physical and economic restructuring of the enterprises in the transition economies: the enterprises need to renovate their obsolete physical assets, modernize their production technologies, upgrade their management and become capable of producing marketable products. Ultimately, the disruption of restructuring cannot be avoided and it is clear that not all enterprises will survive the process. This will be a long-term operation and in any case it will require substantial resources; however, it must be based on clear goals and transparent policy for its implementation.

OWNERSHIP AND EFFICIENCY: HOW ENTERPRISES BEHAVE

As noted at the outset, the aggregate supply response and the inflation-promoting pressure for financing under transition have been disappointing. But recent surveys and case-studies now provide some ability to differentiate behaviour among enterprises. A quick summary of that work would be that there is some evidence of positive adjustment and improved performance of both SOEs and privatized companies in many central and eastern European transition economies; at the same time, there are numerous negative examples as well.¹⁵ The studies suggest that most state and privatized enterprises have adjusted in only a partial way, although there are also certain instances of pronounced passive behaviour wherein firms take no action towards adjustment and change. And although industry and regional differences have been significant in explaining firm behaviour, particularly as regards output and wages,¹⁶ firm-level factors appear to be the most discriminating determinants and ownership status has the strongest bearing, at least in eastern Europe.

A recent study of Polish enterprise performance, for example, revealed some striking differences among four categories of firms: traditional SOEs, corporatized SOEs, privatized companies and newly established private firms.¹⁷ Thus, new private firms in Poland display high tax discipline and good cash management with respect to both their payables and their receivables; privatized firms fair quite well in these terms, but notably worse than the new private companies; SOEs show the worst performance, with some of them having accumulated huge amounts of inter-enterprise and tax arrears. Also, private firms in Poland grow faster, create more jobs and hire larger numbers of new employees, invest more and are more profitable than SOEs. At the same time, the study revealed that in many aspects of their behaviour, privatized firms

¹³ See Aleš Čapek, “The bad debts problem in the Czech economy”, *Mact-Most* vol. 4, No. 3 (1994), pp. 59-70; and Rumen Dobrinsky and others, *op. cit.*

¹⁴ See Marek Belka, “Financial restructuring of banks and enterprises in Poland”, *Mact-Most*, vol. 4, No. 3 (1994), pp. 71-84.

¹⁵ See Brian Pinto, Marek Belka and Stefan Krajewski, “Transforming state enterprises in Poland: evidence on adjustment by manufacturing firms”, *Brookings Papers on Economic Activity*, 1993, No. 1, pp. 213-270; Philippe Aghion and Wendy Carlin, “The economics of enterprise restructuring in central and eastern Europe” (London, May 1994); Josef Brada and Inderjit Singh, “Transformation and labour productivity”, paper presented at the Workshop on Enterprise Adjustment in Eastern Europe, 22-23 September 1994 (Washington, D.C., World Bank); Saul Estrin, Alan Gelb and Inderjit Singh, “Shocks and adjustment by firms in transition: a comparative study”, paper presented at the Workshop on Enterprise Adjustment in Eastern Europe, 22-23 September 1994 (Washington, D.C., World Bank).

¹⁶ Albeit less so in explaining adjustment in employment, productivity and exports (see Saul Estrin and Lina Takla, “Enterprise adjustment in transition: does history matter?”, paper presented at the Workshop on Enterprise Adjustment in Eastern Europe, 22-23 September 1994 (Washington, D.C., World Bank).

¹⁷ See Belka and others, *op. cit.*

more often resemble SOEs than newly formed private enterprises.

In other countries, however, the significance of ownership status as a determinant of enterprise behaviour has been smaller. It was lowest in the Czech Republic among the central European countries studied, where voucher privatization was implemented on a large scale, resulting in quite dispersed ownership and less intensive external corporate governance.¹⁸ Such results lend credence to the proposition that hard budget constraints and exit mechanisms (e.g., bankruptcy) perform more efficiently when clear ownership relations and corporate governance are in place.

The experience of the Russian Federation adds a further dimension to the comparison. There, the destatization of enterprises has taken place in the absence of stable, transparent and enforceable property rights or of contract enforcement mechanisms, securities supervision and the like. This created an opportunity for managers to "privatize the rewards and socialize the costs" of their businesses; and in the conditions of macroeconomic unpredictability and general instability, their business goals could hardly be anything but short term. Thus, survey data show almost no difference in behaviour between new private firms and destatized enterprises.¹⁹ The former are considered to be more flexible and innovative as far as production programmes and markets are concerned, and they accept responsibility for social services only if it advances their business interests. But they, too, are primarily concerned with short-term objectives, if not mere survival, so strategic corporate planning and long-run investment in most cases do not have high priority.

Firm-level studies of a number of transition economies have also identified a phenomenon that has come to be called the "financial black hole".²⁰ The essence is that a significant portion of the financial problems of the enterprise sector tends to be concentrated in a relatively small group of large, financially troubled SOEs. These enterprises are typically chronic loss makers and have accumulated considerable amounts of bad debt. And while many of them could be considered technically insolvent, they continue to operate as going concerns.

Financial black holes have been discerned in studies of Bulgaria, Hungary, Poland and Romania. A comprehensive study of large and medium-sized Polish enterprises, for example, revealed that in 1992-1993 about 90 per cent of enterprises were practically debt-free, whereas the remaining 10 per cent of enterprises accumulated large debts to banks, as well as inter-enterprise and tax arrears. The subgroup of the most financially troubled enterprises, comprising 14 per cent of all enterprises included in the study, contributed 11 per cent of all revenues, but was responsible for 62 per cent of all credits and loans.²¹

A study employing the same methodology and covering all medium and large non-financial enterprises in Hungary (about 5,000 firms) unveiled a similar, though not so acute, situation. The group of the most financially troubled firms, accounting for 10 per cent of revenues in 1992, held 38 per cent of the total end-year bank debt. Another enterprise survey in Hungary, conducted by the Ministry of Finance, revealed that 68 per cent of the losses of large and medium-sized enterprises were concentrated in a relatively small group of 603 large enterprises which, at the same time, held 37 per cent of all bank loans extended to enterprises in 1992. Within this group, there was a subgroup of 41 very large enterprises, each of which had losses exceeding 1 billion forints.²²

¹⁸ There is also another important governance issue in the Czech Republic. In many cases Czech banks hold in their portfolios substandard and non-performing loans extended to enterprises in which they have acquired stakes through investment funds. This situation sometimes creates problems of conflict-of-interest in the lending practice of the banks.

¹⁹ M. Busse, "Restructuring and recovery of output in Russia", Working Paper No. 94-090 (Laxenburg, Austria, International Institute for Applied Systems Analysis, September 1994), pp. 7-9.

²⁰ This term was apparently used for the first time by Stanislaw Gomulka (see S. Gomulka, "The financial situation of enterprises and its impact on monetary and fiscal policies, Poland 1992-1993", *Economics of Transition*, vol. 2, No. 2 (1994), pp. 189-208).

²¹ See Gomulka, *op. cit.*, and Marek Belka and Stefan Krajewski, "Hardening of budget constraints for Polish manufacturing enterprises, 1991-1993: a wish or reality?", paper presented at the Conference on Experience of Economic Transformation in Central Europe — Lessons for the Future, Warsaw, 14-16 April 1994.

²² See, respectively, Bonin and Schaffer, *op. cit.*, and István Ábel and Kristofer Prander, "Main factors of economic adjustment in Hungary", paper presented at the Workshop on Industrial Restructuring, Reorientation of Trade and East-West Integration, Sofia, 29-30 May 1994.

In addition, a study of 1,766 manufacturing enterprises in Bulgaria found that, in 1992, 10 per cent of the enterprises held 62 per cent of all the long-term bank credit to this group and were responsible for 43 per cent of the losses.²³ In Romania, it is reported that about 100 large enterprises account for almost 50 per cent of all arrears to the banking system.²⁴ The situation is somewhat different in the Czech Republic, where no concentration of financially troubled enterprises has been identified among the large SOEs.²⁵

The formation of such financial black holes creates very serious problems for the transition economies. Most of these enterprises are industrial giants, initially designed for regional market integration, currently equipped with obsolete physical assets and heavily overstaffed. They are usually concentrated in mining, in heavy industrial branches or in industries in which a country was "specialized" within the regional integration scheme.²⁶ Most of these enterprises are genuinely unviable in a market environment and most probably have no future.

However, unlike small loss makers, whose liquidation does not pose serious economic and social problems, the closure of big loss-making enterprises is politically very difficult. Aside from the political pressure that the management of such firms can bring to bear, politicians are reluctant to face the social consequences of closing them, especially when such enterprises are the major employers in their region. At the same time, their continuing existence leads to the snowballing of huge losses, which are a burden for the whole society.

The issue is not, however, corporate size per se. In the Russian Federation, many industrial giants have been successfully privatized. However, they appear to continue to hoard labour even as privatized enterprises and many retain the financially burdensome social infrastructure of the state-enterprise era (child-care facilities, hospitals, recreation etc). Here it appears that, unlike the social and political concerns of the Government or the Parliament, the directors of privatized enterprises in the Russian Federation have strong financial motives for their actions. Although they might also fear strikes and unrest, there are tax consequences that make labour hoarding less expensive than firing workers. Similarly, the new owners appear not to hesitate to sell social service facilities when they can find buyers, which is almost never in the case of the facilities in "company towns".

Research also seems to suggest that there may be traditions — or at least a continuity — of entrepreneurship in the transition economies. A recent study based on panel data on Czechoslovak (later Czech and Slovak) and Polish enterprises detected that currently viable enterprises in most cases also have a record of good pre-reform performance in terms of growth, exports, profitability etc.²⁷ Such enterprises were typically more responsive to change and adjusted relatively better than did less profitable firms, in spite of the fact that their superior financial position could have allowed them to cushion themselves against hard budget constraints for a longer period of time.

Entrepreneurial distortions

In seeking to understand how to bolster the amount of dynamic behaviour in enterprises in transition economies, it is natural to look back over managerial behaviour thus far in the transition period. Certainly, the enterprises in transi-

²³ See Dobrinsky and others, op. cit.

²⁴ *Romania Economic Newsletter*, vol. 4, No. 2 (July-September 1994), special insert.

²⁵ See Čapek, op. cit.; and Dobrinsky and others, op. cit.

²⁶ In Poland, the most indebted enterprises are concentrated in coal mining, steel, shipbuilding and agriculture; in Bulgaria, the most financially troubled enterprises are to be found in mechanical and electrical engineering and electronics and computer industries; in the Czech Republic, bad debts are relatively more concentrated in mechanical and electrical engineering and iron and steel; the financial problems of SOEs in Romania are concentrated in three key sectors of the economy: metallurgy, the chemical and petrochemical industry and machine-building (see Louisa Vinton and Ben Slay, "Bad debts and the Polish restructuring programme", *Mact-Most*, vol. 4, No. 3 (1994), pp. 85-108; Rumen Dobrinsky and others, "Financial analysis of Bulgarian enterprise performance in 1991-1992", paper presented at the Workshop on Industrial Restructuring, Trade Reorientation and East-West European Integration, Budapest, 1-2 November 1993; Čapek, op. cit.; and *Romania Economic Newsletter* ...).

²⁷ See Estrin and Takla, op. cit.

tion economies have operated in "imperfect" markets that have been rife with monopoly, poor information and infrastructure, without adequate access to financing and in some cases with powerful labour movements. Specific transitional market imperfections are a serious obstacle to the process of enterprise adjustment and restructuring in these countries. But the key to understanding the disappointing microeconomic performance in the transition economies seems to reside in the first place in the entrepreneurial distortions put before enterprise management.

Viewing the enterprises as complex social organizations, one's focus is quickly drawn to the pushes and pulls on the managers. As already noted, at the start of the transformation, the transitional shocks created a power vacuum in SOEs. On the one hand, enterprises and their managers found themselves in an unprecedentedly harsh situation of macroeconomic austerity and vanishing markets and, on the other, a loosening (or altogether lacking) governance.

Even though later policy makers undertook to overcome this situation, proper corporate governance of SOEs and some privatized companies (especially those resulting from mass privatization) is not yet in place even at the current stage of the transformation process. Governments themselves rarely engage in close control over enterprises that they formally own; nor are they perceived as having direct control or authority over enterprise decision-making, according to survey data.²⁸

The governance criteria of the bodies that formally hold the property rights to the new firms have tended to be ambiguous and sometimes heavily influenced by private or institutional interests. It is thus not surprising that the strongest managerial motive, certainly at the start of the transition, seems to have been survival: retaining the managerial position in an enterprise that survives as a going concern. The goals of market-oriented adjustment and restructuring, at best, came in second place among the priorities of managers, and only if they were considered a prerequisite for survival.

Another factor affecting managerial incentives, at least in eastern and central Europe, has been workers' power. To the degree that managers depended on the formal or informal decision-making power of their workers, they were prone to seek strategies that did not provoke a dangerous feedback from them. The emergence of a stagnant pool of long-term unemployed workers, not to mention the high cost of job loss, promoted active resistance of workers' unions against layoffs. The problems related to this type of situation were likely to confront countries with relatively strong workers' movements such as Poland, but there is also evidence of similar symptoms in other transition economies.²⁹

Together, these factors made managers more risk-averse and discouraged them from undertaking radical measures for enterprise adjustment. The generation of liquidity necessary to maintain the enterprise as a going concern became instead one of the highest priorities. Enterprise restructuring measures that would raise the value of the enterprise in the future, but not generate cash in the short run, had low priority. Not surprisingly, micro-data indicate that restructuring efforts, if undertaken by the managers of SOEs, were as a rule actions that were not threatening to the insiders and were not cash demanding.³⁰

The one major potential exception was if the reforms entailed higher potential for personal gains for the managers. Since the threat of enterprise extinction always existed for managers in the uncertain and highly risky environment

²⁸ See Estrin, Gelb and Singh, *op. cit.*

²⁹ For example, econometric analysis of enterprise performance suggests that worker power in Czechoslovakia (later the Czech Republic) although informal, may be significant. The low unemployment rate in this country may also be interpreted as an indirect indication of significant *de facto* power (see Lubomir Lizal, Miroslav Singer and Jan Svejnar, "Manager interests, breakups and performance of state enterprises in transition", paper presented at the Workshop on Enterprise Adjustment in Eastern Europe, 22-23 September 1994 (Washington, D.C., World Bank).

³⁰ See Carlin, Van Reenen and Wolfe, *op. cit.*

of the transition, seeking short-term rents from their current position was another strong factor in their behaviour. Rent seeking could take a variety of forms but one of the most common has been the establishment by enterprise managers of parallel private firms.

To avoid legal difficulties, managers could do this through arrangements with other persons who are trusted by the managers. By contracting out some of the firm's supplies or sales and manipulating price differentials, a portion of the enterprise's income could be channelled to the private firm or firms controlled by the managers. In another scheme, the enterprise would transfer productive assets to private enterprises by leasing or by contributing them to joint ventures.³¹ This could strip away significant parts of the enterprise's assets and, in loss-making SOEs, turn a difficult situation into an impossible one.

Such activity could even keep an unviable enterprise afloat. For example, an unviable state enterprise might lease one of its assets, say an office building, to a private firm. The revenue from the lease might generate enough cash flow to make it possible for the SOE to survive. Alternatively, the State could close the SOE and sell or lease the building itself, keeping the revenues in the public domain.

A further pull on managers away from the desired venues of entrepreneurial behaviour lay in the "hard" budget policies. That is, although most of the traditional "soft" budget constraints of central planning were eliminated, managers became very ingenious at evading the new hard-budget constraints by simply not paying bills, as the legal and regulatory bodies lacked the means for enforcing the rules against such behaviour. Indeed, in the Russian Federation, intentional non-payment became the preferred method of financing even for relatively liquid firms.

Moreover, the prolonged pursuit of macroeconomic austerity repeatedly prompted the political need for enterprise rescue operations. What economists call the "moral hazard" of such operations — tolerating repetitions of a risky behaviour by saving economic agents from the consequences of undertaking it — seemed applicable and eroded the credibility of economic policy.³²

Indeed, in analysing the attitude of managers towards their new budget constraints, it was found that some of the constraints were considered "harder" than others. In a survey of Polish enterprises, when asked to rank their payment obligations in the order they were paid, both private firms and SOEs as a whole ranked taxes and wages first and second, whereas payments to suppliers and banks were ranked last. The situation was distinctly different only in financially distressed SOEs, which ranked wages first, with all other obligations far behind. The SOEs financed almost half of their losses by increases in tax and social security arrears. Other studies found similar results, indicating that although Polish enterprise behaviour is extremely differentiated, relations with the State have been the main factor softening budget constraints, particularly of SOEs.³³

The situation of financially distressed firms in Hungary appears to resemble that in Poland. An analysis of the dynamics and of the structure of enterprise arrears in Hungary revealed that, among the surveyed firms, over half of the arrears constituted tax and social security payables. There was less evidence of deteriorating inter-enterprise payments.³⁴

The payment priorities of Czech and Bulgarian enterprises appear to have been quite different. An analysis of the structure of enterprise indebtedness in

³¹ See World Bank, *Poland: Growth with Equity Policies for the 1990s* (report No. 13039-POL) (Washington, D.C., World Bank, September 1994).

³² See Dobrinsky and others, "Enterprise behaviour...."

³³ See Belka and others, *op. cit.*, and Belka and Krajewski, *op. cit.*

³⁴ See Bonin and Schaffer, *op. cit.*

the Czech Republic has shown that most of the enterprise arrears comprised overdue payments to suppliers, rather than to banks or other creditors. On the other hand, in Bulgaria, the overdue service of bank credit constituted the overwhelming majority of enterprise arrears.³⁵

³⁵ See Dobrinsky and others, "Enterprise behaviour...."

In all these countries, as in all likelihood in the other transition economies where comparable survey research is not currently available, specific aspects of the legal and economic environment shape how managers cope with their "hard" budget inconsistencies. Managers, in effect, select their coping strategy based on the opportunity costs of various options, including the size and probability of penalties, and, obviously, these differ from country to country.

In this regard, one of the important determinants is the strength — or rather, weakness — of contractual agreements. Although initially concentrated in the SOEs, the moral-hazard consequences of not fulfilling contracts has started to contaminate the newly emerging private enterprises. Violation of contracts, delays or cancellation of deliveries and deferred or rejected payments are thus by no means exclusive characteristics of SOEs. Commercial banks, for example, are accumulating new bad loans owed by new private firms. When faced with financial problems, private businesses and foreign companies operating in transition economies have also started to queue for state support or tried to obtain government preferences.³⁶

³⁶ See ECE..., pp. 196-197.

Learning from the policy experience

With the benefit of hindsight, certain assumptions about the causal relations of microeconomic adjustment now seem to have been inaccurate. One such assumption was that enterprises had to be placed in an environment that would force adjustment and restructuring in order to become viable and efficient; that is, restructuring was considered the medium for attaining viability and efficiency. In reality, the causal relation likely worked in the opposite direction: it is mostly those enterprises that were already viable that restructured and adjusted successfully.

Not all SOEs whose accounts showed them to have been profitable in the past turned out to be profitable under market conditions; however, most of the firms that are profitable now also performed well in the past.³⁷ There is almost no evidence, however, of the reverse happening: an unprofitable enterprise becoming profitable and efficient after the transformation. Of course, all quantitative measures of pre-transition "efficiency" or "inefficiency" need to be interpreted rather cautiously owing to the highly distorted price structure at that time. However, it is clear that at least past "inefficiency" was not only due to distorted prices; it also reflected basic underperformance.³⁸

³⁷ See Estrin and Takla, *op. cit.*

All this, as well as the diverging patterns of enterprise performance in the transition economies, seems to mirror the heterogeneity of the SOEs at the start of the transition (partly reflected in their performance indicators): some of them were equipped with better technologies than others; some enterprises had already been exposed to foreign markets and competition, others had not; and managerial skills differed across the enterprise sector.

In sum, the experience of microeconomic adjustment in the economies in transition has revealed some striking features of enterprise behaviour and performance in this period. Not all of them were anticipated by policy makers in

³⁸ Admittedly, it is not always possible to trace back the records of many companies, as when enterprises underwent organizational restructuring (as noted, many breakups occurred in the first years of transition).

these countries, which created extra difficulties in the process of economic transformation. Indeed, the environment in which firms are supposed to adjust still has many shortcomings. All markets in the transition economies are still in their embryonic stage and are impaired by severe distortions and imperfections. Deficient information and malfunctioning information channels engender segmented markets and some policy measures impede competitive pressures. Undesirable, if explainable, enterprise behaviour is still widespread. In any event, the actual — in many instances, painful — experience of transition provided new insights and better understanding of the patterns of enterprise adjustment in this turbulent period.

One of the policy lessons of the first phase of economic transformation is thus that transitional markets require clear and enforceable regulatory norms and well-designed motivational mechanisms for their implementation. Activist policies have to be very carefully designed in order to avoid “moral hazard”. It is also important that privatization policies lead to proper corporate governance structures which are the basic requirement for market-conforming restructuring and adjustment.

The big loss-making SOEs constitute one of the most acute microeconomic problems of the transition economies. Privatization cannot be a solution for all of them as some are simply “unprivatizable”. However, postponing the day of reckoning tends to aggravate the negative effects of the loss-making giants. If possible at all, the restructuring of such enterprises requires a closer involvement of the authorities; but in the end, many of them will have to be liquidated.

Enhancing the development of a competitive market environment is another requirement for successful enterprise restructuring. In this regard, the further opening up of transition economies to the international economy can have an important role in fostering competition and breeding larger numbers of entrepreneurs. On the other hand, it needs to be remembered that virtually all market-economy countries — including the most advanced and the fastest growing — have economic and political reasons to depart from a complete laissez-faire policy.

The new phase of the transformation process will pose new challenges to policy makers in the transition economies. Careful attention to both macro- and microeconomic policy issues will be needed in order to speed up the reform process, maintain macroeconomic stability and embark on a path of sustainable growth. As elsewhere, however, policy-making will still be a case of “learning by doing”, with a premium on recognizing when policy adjustments are needed and having the flexibility to take timely corrective action.

VII THE CHANGING ORIENTATION OF INTERNATIONAL COOPERATION FOR DEVELOPMENT

In the preceding three chapters, the effort was made to characterize important aspects of policy-making in three analytically distinct groups of countries. In each case, policy-making was seen to be somewhat different than it had been several years earlier and one could identify loci of innovation within each group of countries. The policies discussed were all domestic, albeit within a context of economies that are increasingly open to international trade and financial flows. However, policy has also been evolving in the realm of international economic cooperation. The present chapter looks at a selection of international arrangements among Governments in the trade and financial arenas that wholly or in part aim to promote economic development. That is to say, this chapter looks at the results for developing countries of the Uruguay Round of multilateral trade negotiations that were held under the General Agreement on Tariffs and Trade (GATT) from 1986 to 1993, and at the provision of official finance for development by the industrialized countries in recent years.

The picture that emerges from these cases is one of fundamental change, whereby the developing countries — for the most part, excluding the least developed among them — are seeking to be and are being treated differently than in the past. This may be attributed in part to changes in the pressures on Governments in both groups of countries — those arising from their own private sectors and from changing political priorities in a post cold-war world — as well as from the give and take of international negotiations. At this point, however, these are only speculations because the changes identified seem to be part of a broader process of policy change globally. In other words, we seem to be in the midst of a turning-point as regards the nature of international cooperation and turning-points are analysed most clearly long after they have been passed. The ambition of the present chapter is the more limited one of identifying and characterizing the changes that are taking place.

For the policy cases at hand, the core of the changes seems to reside in a more confident approach by the policy makers in developing countries and the new image that people in the developed

economies have of the developing countries. As now seen by many voters in developed economies, the stereotypical developing country is either a low-wage competitor that produces increasingly sophisticated products or an entity that is mired in poverty, social dissolution and political decay. As is the case with any stereotype, both of these are exaggerations, but neither one prompts votes in industrialized countries for continued or deepened special arrangements, other than those involving assistance of a humanitarian nature. Indeed, as this chapter documents, the special trade arrangements and financial flows offered by many developed-country Governments have weakened. By the same token, many developing-country Governments have more actively joined in international negotiations and sought alternative trade and financial arrangements to replace dependency on less assured special treatments.

TRADE POLICY FOR DEVELOPMENT AFTER THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS

Trade policy for development encompasses many activities, but one of the central concerns has been the terms of access of developing-country exports to the markets of the industrialized countries. The international rules of access have been governed by the GATT — and are now being governed by its successor, the World Trade Organization — and thus evidence of a new approach to international cooperation for development should be visible in the results of the Uruguay Round of multilateral trade negotiations.

The several rounds of multilateral trade negotiations since the end of the Second World War have focused essentially on two goals: first, each participant sought to gain greater access to foreign markets in exchange for allowing more foreign access to its domestic market; second, each sought to establish favourable rules of the game for trade relations and dispute-settlement procedures. Before the Uruguay Round, developing countries for the most part had not actively participated in the give and take of multilateral trade negotiations.

Industrialized countries had acknowledged that developing countries were at a disadvantage *vis-à-vis* developed countries, particularly in terms of competing in sectors where comparative advantage could be acquired as a product of learning-by-doing, economies of scale, and positive externalities associated with the establishment of modern manufacturing and service activities.¹ Developing countries were thus accorded “special and differential treatment” in the GATT agreement itself, as well as in the various negotiating rounds.

As it evolved, differential treatment followed two distinct tracks. On the one hand, developing countries were largely exempted from most of the disciplines that applied to developed countries. For example, “tariff bindings”, which are commitments in tariff negotiations of ceiling or actual tariff levels, were not required of developing countries. In addition, they were given flexibility to impose temporary quantitative restrictions for balance-of-payments purposes (article XVIII.B) of the GATT;² and perhaps most importantly, there was a recognition that subsidies were an acceptable tool of development policy.

The second track, which had been incorporated as part IV of the GATT in 1965, made an explicit commitment to preferential access and formally waived

¹ For samples of such arguments, see D. Rodrik, “Conceptual issues in the design of trade policy for industrialization”, *World Development*, vol. 20, No. 3(1992); and F. Stewart, “Recent theories of international trade and some implications for the South”, in *Monopolistic Competition and International Trade*, H. Kierzkowski, ed. (Oxford, Clarendon Press, 1984).

² Admittedly, article XVIII.B was abused, with temporary measures often becoming permanent. Article XVIII.C also provided flexibility to protect infant industries. However, this section has rarely been invoked, because criteria for applying the balance-of-payments provisions were less demanding than those for invoking the provisions of article XVIII.C.

the obligation of developing countries to make reciprocal concessions in trade negotiations. Preferential access was subsequently put into practice through the various schemes of the Generalized System of Preferences (GSP) instituted by the developed countries. It has often been argued that, while according a measure of benefits, these schemes have not lived up to expectations, mainly owing to their limited product coverage, their non-contractual character (preferences can be withdrawn unilaterally by grantors), the exclusion and "graduation" of beneficiaries at the discretion of the grantor, and the existence of tariff quotas and other limitations within the system.³

The Tokyo Round of multilateral trade negotiations in the 1970s was a culminating point in the consensus in favour of special and differential treatment of developing countries. The so-called Enabling Clause provided a permanent legal basis for the GSP, but did not make it obligatory. The codification of differential treatment resulted in the explicit introduction of the concept of graduation into the Enabling Clause, stating that such treatment should be available only according to need and for a limited time period. The problem with the Enabling Clause was that it failed to spell out criteria both for classifying a country as developing and, by implication, for graduation. In practice, industrialized countries have graduated developing countries unilaterally from GSP eligibility. In any event, the value of GSP benefits has been weakened under the Uruguay Round, as the non-preferential tariffs themselves were lowered.

Dilution of special and differential treatment

In negotiations under the Uruguay Round and in negotiations of the terms of accession to the GATT for countries that had not previously been members, developing countries lost a considerable part of their differential treatment, although differential treatment of least developed countries was largely protected (see table VII.1 for details).

A first loss — partly the price of entering the negotiating arena — was the binding of tariff levels. However, bound tariffs have been set at levels that are substantially above those of currently applied tariffs and they thus accord a measure of policy flexibility to the affected countries. Bound tariff rates for developing countries are mostly in the range of 25-35 per cent. This means that bound tariffs will continue to be, on average, substantially higher than in developed countries.⁴ In this regard, some degree of differential treatment survives in the tariff field; and the freedom to raise tariffs up to the bound level may come to be useful in terms of avoiding the need to pay compensation when balance-of-payments problems surface.⁵

Developing countries also lost flexibility in using trade policy measures for addressing balance-of-payments difficulties; that is to say, they have committed themselves to giving preference to "price-based measures" over quantitative restrictions. Moreover, their ability to use quantitative restrictions for balance-of-payments reasons will be severely curtailed by the stringent procedures that surround their imposition and by the possibility that affected parties might invoke the dispute-settlement machinery. Indeed, developing countries have been given less freedom than developed countries in the application of quantitative restrictions, as they are still permitted in sectors and issues of interest to the latter, such as agriculture, textiles and safeguard actions.

³ Acceptance by developing countries of the creation of an instrument that is not contractually bound in GATT — and the benefits of which could therefore be withdrawn at the discretion of the granting country — may have had more serious drawbacks than the benefits afforded to them by the GSP. Developed countries have used the threat of withdrawal of GSP benefits to extract concessions from beneficiaries in various policy fields (see J. Whalley, "Non-discriminatory discrimination: special and differential treatment under GATT for developing countries", *Economic Journal*, No. 100 (December 1990), pp. 1,310-1,328).

⁴ Once non-tariff barriers in agriculture are "tariffed" (in other words, transformed into tariffs with equivalent protective effect), this may no longer be true.

⁵ The new understanding on article XVIII.B allows countries adversely affected by measures taken for balance-of-payments reasons to resort to the dispute-settlement mechanism and demand compensation. However, having the prior right to raise tariffs from applied to bound levels provides developing countries with some leeway before being subject to compensation claims.

Table VII.1.

**“SPECIAL AND DIFFERENTIAL” TREATMENT OF DEVELOPING COUNTRIES
UNDER THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS**

Subject	Provisions
Institutional structure	Exemptions from liberalization obligations under the Round for least developed countries; “due restraint” to be used when a developing country is the object of a case being brought under a trade dispute
Tariffs	Tariff ceiling bindings at higher levels (25-30 per cent)
Agriculture	Agreement not applied to least developed countries. Smaller reductions in “tariffied” non-tariff barriers and domestic support (two thirds of industrialized-country obligations required of developing countries; spread over 10 years instead of 6; greater number of subsidies permitted)
Textiles	Special treatment for least developed, small suppliers and fibre-producing countries
Safeguards	Can maintain their own measures for a maximum of 10 instead of 8 years. <i>De minimis</i> provisions in export markets. Can reapply measures more often
Subsidies	Export subsidies to be phased out within 8 years, with a possibility of extension. No restrictions on subsidies required from countries with gross domestic product (GDP) per capita below \$1,000. <i>De minimis</i> provisions in export markets. Exemptions for privatizations
Anti-dumping	Special regard for developing countries before action is taken. <i>De minimis</i> provisions
Trade-related aspects of intellectual property rights (TRIPs)	Longer transition period to adjust: 5 years for developing countries (extendable to 10 years), 10 (extendable) years for least developed countries. Technical assistance
Trade-related investment measures (TRIMs)	Longer phase-out period: 5 years for developing, 7 for least developed countries. Allowable under article XVIII.B
Balance-of-payments	Simplified consultations for least developed countries
Services	Principle of increasing participation of developing countries; fewer market-opening measures required; assistance in strengthening service sectors. For financial services, less stringent provisions

Source: GATT *Analysis of the Draft Final Act of the Uruguay Round, with Special Attention to the Aspects of Interests to Developing Countries* (MTN/TNC/W/122, Geneva), 29 November 1993; and *Final Act Incorporating the Results of the Uruguay Round of Multilateral Trade Negotiations* (MTN/FA), Geneva, 15 December 1993.

Note: *De minimis* provisions specify that a threshold impact must be crossed before measures can be taken.

Instead of providing special treatment for developing countries, the agreement on subsidies inherently favours developed countries over developing ones. It allows subsidies for basic research and development, labour retraining and environmental adaptation (used more by developed than by developing countries) but prohibits aid for product development (more appropriate to the stage of development and needs of developing countries). More fundamentally, it eliminates the acceptability of subsidies as a tool of economic development programmes, which had been included in the Tokyo Round Code. Exemption from the subsidies agreement exists for lower-income countries, but the graduation point is quite low: all countries with a per capita gross national product (GNP) above \$1,000 — spelt out in annex VII of the subsidies agreement — will have to abide essentially by the same disciplines in this field. Besides the least developed countries, there are only 20 countries with a per capita GNP below \$1,000: 10 in Africa, 5 in America and 5 in Asia. The very low per capita income dividing line adopted in the subsidies agreement effectively graduates countries in which export incentives might continue to play a useful role. This group includes countries classified by the World Bank as lower middle income and where significant industrialization has not occurred (for example, the Congo, Jamaica, Jordan, Paraguay).

The agreement on trade-related aspects of intellectual property rights (TRIPs) is particularly stringent with regard to differential treatment. After a grace period of five years (ten years for the least developed), those developing countries that have not yet done so will have to align their intellectual property legislation with that prevailing in the developed countries. Essentially, this involves the extension of patentability to virtually all fields of technology recognized in developed countries and the granting of patent protection for 20 years and of copyright protection for 50 years. This will limit some important forms of technology absorption by developing countries (for example, reverse engineering).

Gains in market access

Even with preferential access weakened, developing countries expected to gain from participating in the GATT round through enhanced market access for their exports. One element of the structural adjustment programmes that many developing countries had undertaken in the 1980s included a liberalization of their import regimes. These were unilateral measures and it was widely felt that participation in the Uruguay Round would help turn an import liberalization strategy into export promotion. Developing countries thus participated actively in the Round, making tariff-reduction offers and record tariff bindings. The end result was a measure of success in reducing barriers to their exports, albeit (as in any negotiation) by less than had been sought.⁶

Although tariffs on products of interest to developing countries were reduced, they will remain at higher levels than those applied to products traded mainly among developed countries. Also, the Round will bring about only marginal improvements in market access in the crucial areas of agriculture and textiles. In spite of the setting up of a new instrument to liberalize trade in services, actual commitments in services of particular interest to developing countries, such as involve the movement of labour, were very few and did not

⁶ Efforts to quantify the gains and losses from the Round have led to extremely different estimates of the net benefits, depending on the kinds of models used and the assumptions of the modellers. The World Bank asked several model builders who had estimated the net effects before the Round was completed to re-estimate their equations in the light of the Final Act results. All found smaller net gains, mainly because the degree of agricultural liberalization achieved was less than had been expected (see World Bank, *Global Economic Prospects and the Developing Countries, 1995* (Washington, D.C., April 1995), pp. 35-37).

deal with the kinds of temporary migrant labour of greatest interest to developing countries.

Improved market access will also depend on the abolition of “grey area” measures (namely, selective restraints, usually bilateral and against the spirit of the GATT), their replacement by transparent and clearly temporary “safeguard” provisions under multilateral rules, and the disciplining of anti-dumping practices. The safeguard mechanism temporarily allows — because of an unforeseen and serious injury to domestic producers caused by imports — trade restrictions that are otherwise prohibited. As a result of the Uruguay Round, safeguards are due to replace grey area measures such as “voluntary” export restraints. However, the agreement legitimizes quantitative restrictions directed at individual exporters, albeit with fairly stringent limitations as to duration and proof-of-injury procedures. On the other hand, the anti-dumping agreement — whereby importers can take restrictive action because of “unfair” and injurious competition by an exporter — can be considered the major loophole of the Final Act and might well allow a recrudescence of protectionism in both developed and — by imitation — developing countries.

Tariff reductions

As in other GATT rounds, agreed reductions in bound tariffs were an important aspect of the Uruguay Round. All tariff reductions are to be implemented over a five-year period. Once the concessions are implemented, duty-free access by developing countries will increase from 12 to 37 per cent of the value of imports into the United States of America, from 24 to 36 per cent of imports into the European Union (EU) and from 25 to 48 per cent of Japanese imports.⁷ There was also some progress in reducing tariff escalation by degree of processing; however, it remains important in product groups such as leather, tobacco, coffee, tea, cocoa, and tropical fruits.⁸

In developed countries, however, tariff reductions for industrial goods average 38 per cent for imports from all origins, but only 34 per cent for imports from developing countries.⁹ This is due to the fact that the tariff cuts on products of export interest to developing countries are considerably more modest (averaging around 20 per cent ad valorem) than those applying to products traded among industrial countries (which range from 43 to 62 per cent). Moreover, as table VII.2 shows, tariff rates in the four major developed-country markets after the agreed tariff reductions are implemented will still be considerably above the average for all products in such groups as tropical and non-tropical agricultural goods, textiles and clothing, and leather and footwear.

Agriculture

For the first time in the history of the GATT, agriculture is included within the framework of international trade disciplines. This is in itself a major breakthrough. However, the substantive improvements in market access for developing-country exporters of temperate foodstuffs are small. There are two reasons. In the first place, the liberalizations and reductions of subsidies actually agreed upon were not large. Second, the safeguards that the agreement permits in case of sudden import “surges” or when low domestic prices persist make the prospects for significant real market access improvements quite uncertain.

The agreement covers three major areas: market access, domestic support,

⁷ UNCTAD secretariat, *A Preliminary Analysis of the Results of the Uruguay Round and Their Effects on the Trading Prospects of Developing Countries* (TD/B/WG.4/13), 10 June 1994, Geneva, p. 22.

⁸ *Ibid.*, p. 39.

⁹ GATT, *Analysis of the Draft Final Act of the Uruguay Round, with Special Attention to the Aspects of Interest to Developing Economies* (MTN.TNC/W/122), Geneva, 29 November 1993.

Table VII.2.
URUGUAY ROUND REDUCTIONS IN AVERAGE TARIFFS ON IMPORTS
FROM DEVELOPING COUNTRIES, SELECTED PRODUCT GROUPS

Percentage				
	Average MFN ^a rate		Average MFN/GSP rate ^b	
	Before	After	Before	After
Non-tropical agricultural products				
Canada	7.6	4.9	5.5	3.8
European Union	23.5	16.8	22.8	16.6
Japan	19.5	14.9	18.2	14.5
United States	9.1	7.0	6.0	4.9
Tropical agricultural products				
Canada	1.2	0.6	0.6	0.3
European Union	17.4	10.0	15.2	9.4
Japan	17.4	10.9	9.9	8.4
United States	2.1	1.2	1.5	0.8
Textiles and clothing				
Canada	22.1	15.6	21.4	15.4
European Union	11.9	10.1	—	—
Japan	11.7	7.9	5.2	5.0
United States	18.7	16.9	18.5	16.7
Leather and footwear				
Canada	19.8	15.0	18.3	14.5
European Union	9.1	7.8	0.2	0.1
Japan	13.3	11.5	8.4	7.5
United States	9.6	9.1	9.2	8.6
All sectors (excluding hydrocarbons)				
Canada	12.4	7.4	7.5	5.3
European Union	9.8	6.9	5.1	3.5
Japan	7.4	4.7	4.3	3.4
United States	7.6	5.5	4.7	3.8

Source: UNCTAD secretariat, *A Preliminary Analysis of the Results of the Uruguay Round and their Effects on the Trading Prospects of Developing Countries*, TD/B/WG.4/13, 10 June 1994, Geneva, pp. 36-37.

^a Most favoured nation.

^b When available, GSP rates were used in calculating the product category averages.

¹⁰ Developing countries have commitments that are equivalent to two thirds of those of the developed countries and have 10 years to implement them. Least developed countries were not asked to make any commitments.

¹¹ The notion of "tariffication" is in itself ambiguous and the process subject to potential abuse. In the absence of fairly detailed econometric models of the markets for commodities included in the exercise, the tariff levels could be chosen to provide unlimited protection, even after the phasing-in of agreed tariff reductions. This is evidenced by the fact that, in some sectors and for some of the major trading partners, tariffication has resulted in tariff rates in the range of 200-500 per cent.

and export subsidies. With regard to market access, the agreement establishes that all non-tariff barriers (NTBs) across borders will be "tariffied" (that is, replaced by tariffs yielding the same level of protection). In the case of developed countries, all tariffs on agricultural products will be reduced on average by 36 per cent over a six-year period, with minimum reductions in each tariff line.¹⁰ In view of the fact that many of the duties resulting from the process of tariffication will be at levels that will effectively ban imports,¹¹ it was decided to provide quantitative guarantees of minimum market access.

With regard to measures of domestic assistance, it was agreed that, with the exception of those that have a minimal impact on trade (the so-called green box measures), all supports are to be included in an "Aggregate Measure of Support" (AMS), which must be reduced by 20 per cent during six years. With regard to agricultural export subsidies, it was agreed that countries would reduce budgetary outlays for such subsidies by 36 per cent over a six-year period from their average levels prevailing in 1986-1990, when they were substantially higher than they are now, and that subsidized quantities would be reduced by 21 per cent over the same period.

The impact of the agreement on world markets is, however, likely to be small. For producers of agricultural products that are heavily protected in developed countries (for example, sugar and wheat) market access will remain limited, owing mainly to the application of very high tariffs which will continue to grant virtually unlimited protection to domestic producers in several developed countries, and particularly in the EU, where protection of agriculture is the highest (see box VII.1). In addition, the commitments with regard to production and export subsidies are very modest, indicating that developing and transition economy producers will continue to have serious difficulties in competing with less efficient developed-country producers in third markets. Finally, even this modest liberalization package has loopholes in the form of special safeguards.

Net food importers, among which are some of the poorest developing countries, stand to lose in the short run by the agriculture agreement, as international food prices are bound to rise owing to the reduction in government subsidies and domestic support measures in the developed countries (and particularly in the EU). The degree of price increase is quite uncertain, but these countries may well require special financial assistance to adjust to the higher food prices. This is an area of potential cooperation between the World Trade Organization, the International Monetary Fund (IMF) and the World Bank.

Services

The Final Act of the Uruguay Round also set up a General Agreement on Trade in Services (GATS), which is to become a constituent part of the World Trade Organization. As developing-country exports of services grow, the services agreement has the potential to affect importantly their export opportunities. It is a new area of endeavour for the GATT and part I of the GATS defines trade in services and its four "modes of supply": cross-border trade, which normally requires the movement of information; the movement of consumers; the establishment of a "commercial presence" in a foreign country; and the movement of physical persons. These definitions recognize that many categories of services require the movement of persons and capital across national borders

and therefore that national regulations of foreign direct investment and migration have the potential to act as serious barriers to trade.

GATS contains two sets of obligations: a general framework (part II) and specific commitments (part III). There are also annexes dealing with specific sectors (notably, air transport, telecommunications, and financial services) and with the movement of individuals.

The central element of the general framework is the “most-favoured-nation” (MFN) article. Countries must explicitly claim sectoral exemptions from MFN treatment at the start; such exemptions must be reviewed after five years and must have a maximum duration of ten years. National treatment and market access commitments are specified in the individual schedules of commitments relating to sectors and modes of supply.

All individual commitments with regard to national treatment and market access are specified in part III. This approach implies that, with the exception of the general norms contained within the framework agreement, whatever does not appear in the schedules of commitments is not liberalized and whatever is included is subject to the limitations that are specified therein. Members do in fact commit themselves to continue negotiations to progressively liberalize trade in services. The first round of negotiations is to take place within a five-year period.

All in all, GATS promises modest progress in liberalizing trade in services. The extent of sectoral coverage varies widely between offers. Sectors with a high degree of coverage include tourism, business services, value-added communication services and financial services. The majority of commitments involve the “commercial presence” mode of supply, reflecting the interest of all groups of countries in attracting foreign investment.

A GATS annex, of particular importance to many developing economies, deals with the movement of labour across national borders. These countries have a comparative advantage in labour-intensive services (including tourism, cleaning services, construction and engineering, data processing, medical and quasi-medical services, and the development of software of low complexity) and the full exploitation of that comparative advantage depends on significant reductions of barriers to labour mobility.

The annex specifies that agreements on the movement of labour will deal with measures affecting physical persons who are suppliers of services or are employed by a supplier of services and that the measures are to be in relation to services in which specific commitments have been made by a member. Measures that affect citizenship, permanent residence or employment are specifically excluded. Most countries confined their liberalization offers with regard to the movement of persons to the movement of company managers and specialist staff, leaving open the question of the degree of coverage of the right to the temporary movement of labour for purposes of supplying services or working in the employ of a service supplier.

Phasing out the Multi-Fibre Arrangement

Since the 1960s, the strong comparative advantage of developing countries in the production of textiles and clothing and the political strength of textile and clothing producers in industrialized countries have kept international trade in these goods outside the accepted principles of the GATT. Initially, the

Box VII.1.

THE EUROPEAN UNION: IS IT A FARM FORTRESS?

FOR MORE THAN A QUARTER OF A CENTURY, the Common Agricultural Policy (CAP) has protected agricultural incomes in the European Union (EU). It has distorted world trade in agricultural commodities and the price support mechanism has been a major drain on the EU budget. However, the European Community (EC) finally agreed to start market-oriented reforms of some sectors of the CAP in 1992. While its operations are now being adapted to the recently completed agreements in the Uruguay Round of multilateral trade negotiations, it is questionable whether the impact on agricultural trade, in particular as regards exports of the developing countries, will really be significant in the end. Although quite divisive, the CAP plays too central a political role in the EU for the member States to attempt any radical changes at this juncture in its carefully regulated trade network.

History

When Belgium, France, Germany, Italy, Luxembourg and the Netherlands signed the Treaty of Rome in 1957 to establish the European Economic Community, they committed themselves to including the agricultural sector in their common market. The six founding members were all net importers of agricultural products, and as memories of food shortages and wartime rationing were still alive, the security of domestic food supplies and the long-term perspectives for national farmers were natural priorities for all countries concerned. A stimulus to an increase in agricultural production and the creation of a larger market with more choice for consumers seemed to be the obvious instruments to fulfil these policy aims.

In view of the highly divergent performances of member States in the agricultural sector and the prominent role each member attributed to the welfare of its farming community, it was clear from the start that a common, border-free market could not be based on unrestricted competition if the political and social objectives of maintaining a vibrant farming community were to be achieved. Thus, the philosophy behind the CAP involved the aim to establish unified, remunerative prices as a mechanism to provide adequate incomes to all Community farmers and to guarantee minimum prices through market intervention (if necessary), thereby greatly reducing the financial risk for the producers. Financial responsibility for all aspects of the CAP was to be exercised collectively, and the European Agricultural Guidance and Guarantee Fund, an integral part of the Community budget, was set up in 1962 to provide the common financial resources.

With some exceptions, outside suppliers of products covered by the CAP were only allowed into the market at prices at or above target prices, depending on whether or not imports were regarded as necessary to satisfy demand. Such a market organization was progressively adopted for cereals, meat, dairy products, sugar, temperate fruit, wine and vegetables and oil-seeds. The difference between world-market prices and so-called threshold prices for imports was offset by charging variable border levies on the imports. Thus, only product groups not covered by the CAP offered non-EC suppliers sound, long-term export potential to the EC market. However, the number of unrestricted product groups decreased sharply over the years, eventually leaving only tropical products (except bananas and cane-sugar), beverages other than wine and non-food agricultural products outside the purview of CAP market organization.

The picture was made more complex because the Community tried to integrate pre-existing international trade links into the CAP through a system of trade preferences. A series of bilateral association agreements was thus concluded with the members of the European Free Trade Association and the southern European States (most of which had meanwhile joined the EU). Agreements were also signed with non-European Mediterranean States (their agricultural export arrangements had to be renegotiated after the accession of Greece, Spain and Portugal).

Special arrangements were also made for a third tier of traditional suppliers, consisting of a large number of developing countries in the African, Caribbean and Pacific (ACP) States. These mainly newly independent States were vitally concerned not to lose tradi-

tional export markets when their former colonial powers reoriented their agricultural sectors towards the CAP. The institutional and operational framework for the new EC-ACP relationship evolved in a series of agreements and is now governed by the 1990 Lomé IV Convention covering 70 ACP countries. Agricultural trade policy is only one aspect of the Lomé Convention, which encompasses the much wider context of the Community's development aid and cooperation efforts, but it has been quite an important one. The provisions for agricultural trade are more restrictive than for other products, although the basic principle is that ACP countries should enjoy duty-free access or at least receive more favourable treatment than any other third country. The setting out in protocols to the Lomé Convention of special measures for a number of products, such as sugar, bananas, beef and rum, amounts to perpetuating certain trade practices originating in the colonial era by including them under CAP market organization.

Agricultural imports and exports

Even though Community agricultural policy thus excludes a level playing-field for many agricultural products, annual imports in the 1990s have nevertheless been in the range of \$55 billion - \$60 billion, compared with intra-EC trade in agricultural goods of over \$100 billion. Over 50 per cent originates from developing countries (with ACP States and members' overseas territories accounting for roughly a quarter), over 30 per cent comes from other developed market economies (with roughly one third from the United States) and some 7 per cent from the transition economies. This notwithstanding, a far-reaching process of trade diversion resulted from the CAP, as member countries switched from traditional outside suppliers to intra-Community sources, while there was also considerable intra-EC trade creation.^a Trade diversion was repeated every time new members joined and was accelerated in all product areas where the Community approached or exceeded self-sufficiency (in particular, cereals, beef, milk and wine). To give an example, in 1961 the six founding members and Great Britain, Denmark and Ireland imported over 70 per cent of their agricultural products from third countries. By 1989, although total volume grew, this percentage had dropped to about 37 per cent.^b

By the late 1970s, the CAP had brought about rampant overproduction and in the 1980s it pushed high-cost Community products onto the world market under a system of export subsidies introduced to try to reduce excess stocks. The expense to the taxpayer was considerable, as farmers continued to be paid the support prices for output that was sold at low world prices. At the same time, these exports angered other agricultural exporters, whose competitive advantages were cancelled out by what they saw as a gross violation of fair trade. Thus, CAP became an important issue in the GATT Uruguay Round, at a time when calls for CAP reform also became louder inside the Community as surpluses accumulated and budget expenditure skyrocketed.^c

Reform

Major reform of CAP was finally launched in June 1992. The overriding aim was to stop excessive production of cereals, oil-seeds and protein crops as well as beef and dairy products. This was to be achieved by (a) lowering guaranteed prices (29 per cent for cereals, 15 per cent for beef over three years); (b) withdrawing land from production (15 per cent of arable land for cereals, oil-seeds and protein crops); (c) imposing ceilings or scaling down existing ones for intervention purchases; (d) granting higher one-off premiums for slaughter of cattle; and (e) creating incentives for environment-friendly, extensive crop- and cattle-farming methods.^d

The longer-term objective of the reforms is to restore a more market-oriented approach to the CAP (albeit within a framework of protective mechanisms), and to shift the CAP from price/production support to direct income support for farmers. For political and social reasons, the Community has alleviated the negative impact on farming

^a Since the mid-1980s, when EC imports from third countries were roughly equal to intra-EC agricultural trade, the intra-EC figure has increased to nearly double the level of imports from outside the EC (see European Commission, *The Agricultural Situation in the Community*, annual report, 1993 (Brussels, European Commission, 1994) and reports of earlier years).

^b Michel Cyncynatus and Jean Michel Floch, *L'Agriculture et la CEE: les Échanges Extérieures de Produits Agri-Alimentaires* (Paris, Institut national de la statistique et des études économiques, 1992), p. 22.

^c CAP budget expenditures on guaranteed prices, including export refunds and storage costs, rose by over 50 per cent in real terms between 1980 and 1988, reaching the equivalent of about \$31 billion in 1988, 63 per cent of the EC budget of that year. Intervention stocks for cereals reached a peak of 18.5 million tons in 1986. After an intermittent drop they jumped to 26.3 million tons by 1992. For a detailed analysis, see "EC agricultural policy for the 21st century", *European Economy*, Reports and Studies, No. 4, 1994 (Brussels, European Commission), pp. 57-61.

^d Implementation of the reforms did not start before the 1993/1994 marketing year (beginning July 1993). The transition period is scheduled to last until the end of June 1996.

- e Farmers whose production area is less than that required to produce 92 tons of cereals per year (about 20 hectares) fall within this category. Nearly 80 per cent of all farms in the EC are smaller than 20 hectares.

- f Under the Europe Agreements, most manufactured goods imported from the newly associated countries were granted immediate free access to the EU and only some "sensitive" manufactured products are subject to a gradual phasing-out of tariffs and non-tariff barriers; however, the agreements do not foresee the ultimate elimination of EU tariffs and quantitative restrictions on the imports of agricultural products from these countries. On the other hand, there are also factors operating to slow the growth of the supply of agricultural exports from the associated transition economies. In particular, agricultural subsidies in the countries of central and eastern Europe have been drastically reduced on average in the past several years and farmers in these countries now find themselves in a rather uncompetitive position as compared with their EU counterparts.

incomes by providing practically full compensation for lost earnings and has maintained a strong link between the CAP and rural development by exempting small farmers from the set-aside requirements.^e At the same time, incentives have been put in place to promote alternative use of farm land, such as for natural parks and leisure purposes.

The final GATT agreement on agriculture in the Uruguay Round also affects the CAP. Its terms for developed countries require (over a six-year transition period) (a) the conversion of all existing import controls into conventional import tariffs and a tariff reduction of 36 per cent; (b) a reduction of 21 per cent in the volume and 36 per cent in the value of export subsidies; and (c) a reduction of 20 per cent in overall levels of support to domestic agriculture. The potential impact on EU farmers' incomes, a politically divisive issue in Europe, has been mitigated by exemptions. Also, a clause allowing direct income support under production-limiting programmes is tailored to cover EU (and also United States) compensation schemes currently in place.

Results?

Looking ahead to the implementation of the Uruguay Round agreement on agriculture under the CAP, it is quite likely that progress in agricultural trade liberalization will be rather limited. In essence, the reform of the CAP has not changed the principles of Community preference and internal market protection; all concessions agreed in the final round of the GATT talks were also designed to limit the impact on the CAP beyond the measures already agreed on price and surplus reduction. In addition, when issues such as enhanced market access are to be assessed, the EU — if challenged — will continue to argue that its special treatment of ACP States and its system of generalized preferences for all developing countries must be taken into account.

In accordance with the agreement, variable import levies are being abandoned and replaced by appropriate tariff structures, but the price differential in favour of Community products is to be largely maintained. In other words, "niche products" aside, any sizeable new imports of cereals, meat or dairy products would likely cause serious disturbance in an already oversupplied market, thus allowing the EU to trigger restrictive measures, as specified in article 5 of the agreement on agriculture and in the agreement on safeguards. These could include additional import duties or temporary variable import levies. Finally, the agriculture agreement's exemptions leave enough scope for any politically desired level of domestic support to be relabelled as compensation payments, and these are not timebound.

The recent experience under new arrangements for agricultural trade with the transition economies may be indicative. Since 1992, the so-called Europe Agreements with the Czech Republic, Hungary, Slovakia, Poland and (since 1993) Bulgaria and Romania have set a framework for agricultural trade on the basis of tariff quotas, with an accelerating timetable for asymmetrical, progressive tariff reductions and quota enlargements in favour of the eastern Europeans. The approach towards the liberalization of agricultural imports from these newly associated economies was quite different from the treatment of imports of manufactured goods.^f In effect, access to the common agricultural market has been improved only marginally for these economies, as large-scale imports would invariably have upset the delicate balance of CAP supply management. Indeed, EC agricultural exports to these countries have risen much faster than imports from them.

Ultimately, especially in the light of the plans to negotiate EU membership with several countries that have large agricultural sectors, the CAP will be all but unaffordable. Thus, proposals put forward by independent experts all focus on the need to phase out production-related subsidies and separate the economic aspects of agriculture from social measures. A recent study undertaken for the European Commission by a group of independent agricultural economists came to the conclusion that the reforms under way had to be extended, coupled with further reductions in support prices for most farm products,

if a financial collapse of the CAP after eastern enlargement was to be avoided! Incomes for farmers could increasingly be topped up from national budgets. As long as national support payments remained transparent, and did not encourage production or create unfair advantages within the CAP for one set of national farmers, a partial "renationalization" of the Community's agricultural budget could provide more financial scope for other, future-oriented programmes designed to ease transition from traditional patterns to a new concept of rural development and environmental land management, which was no longer based exclusively on agricultural production.

While these arguments are likely to set the tone for the incipient debate on further CAP reform, the European Commission has not endorsed the report's conclusions and is now in the process of preparing its own proposal on a "pre-accession strategy" for eastern European countries. In fact, EU leaders as well as the Commission have adopted a "wait-and-see" attitude on the CAP as there is no political consensus on how or even whether CAP needs to be reformed in the near future. Besides, any suggestions that might lead to an unravelling of the CAP and its unified, supranational structure are strongly opposed both in Brussels and in a majority of member States.

f "EC agricultural policy for the 21st century", *European Economy*, Reports and Studies, No. 4, 1994 (Brussels, European Commission), pp. 57-61.

problem was seen as a "safeguard" case, in which the developed-country producers sought temporary protection from increasing imports while they upgraded their industry. The "temporary" arrangement lasted 30 years, albeit in its present form as a multilateral agreement called the Multi-Fibre Arrangement (MFA) since 1973.

What has been unique about the MFA is that while safeguards are usually thought of as assisting producers in one country that are harmed by an import surge, here the industrialized countries as a group claimed they needed protection and thus sought to manage world trade in these products. Country and country-group participants in the MFA have thus fallen into two groups: the importers and the exporters. Among the former, Austria, Canada, the European Union, Finland, Norway and the United States have applied stringent quantitative restrictions to textile and clothing imports, while Japan and Switzerland have not. The restrictions were either bilaterally agreed or unilaterally imposed limits on imports, typically on a product-by-product basis but in some cases at the aggregate level as well.¹²

The Uruguay Round sought to bring the trade in textiles and clothing under GATT rules and thus the objective was to define the modalities for winding down the MFA. Once the agreement to do so is fully implemented, the only border measures allowed will be tariffs. However, the integration of textile trade into GATT rules is to be extremely slow (almost 50 per cent of all trade is to be governed by the MFA until the last day of the 10-year transition period), which reduces the value of the agreement for developing-country exporters. Moreover, special safeguards during the transition period could make actual liberalization even slower.

The new "rules of the game"

The long experience of managed international trade in textiles and clothing is a major example of the departure of actual trade practices from the liberal principles embodied in international agreements, but it is not the only one and

¹² World Trade Organization, *Focus*, No. 1 (January-February 1995), p. 9.

developing-country exporters have not been the only targets of import limitations. That this happened and happened on many occasions reflected both the politics of interest groups in different countries and the differences in economic power among countries. Yet while there were several international arenas where complaints about protectionism could be lodged, there was no effective forum to which developing countries — or developed ones for that matter — could apply to have the general principles enforced. The Uruguay Round sought to remedy this situation, as the provisions regarding use of safeguard and “anti-dumping” actions indicate.

Safeguards and anti-dumping

One of the principal interests of developing countries in the Uruguay Round was to revise GATT’s provisions on safeguards in order to prevent individual countries from continuing to resort to the selective and discriminatory grey area measures against successful exporters in lieu of safeguards. This is an issue that has had a long history in GATT negotiations. GATT’s original safeguards clause (article XIX) was supposed to act as a temporary safety-valve in cases of import surges which had adverse impacts on domestic producers, so as to allow them enough time to adjust to import competition. However, article XIX has rarely been invoked, owing mainly to the requirements that safeguard action should comply with the most-favoured-nation principle (that is, not discriminate against the exporters of one country) and that affected parties have the right to compensation.

During the Tokyo Round of multilateral trade negotiations, agreement on safeguards could not be reached, largely because of the insistence of developed countries on the right to apply selective quantitative restrictions as safeguards.¹³ Developed countries, instead of having recourse to article XIX, have preferred so-called voluntary export restraints and remedies directed at “unfair” trading practices; these can be targeted at individual exporters and have less stringent provisions regarding injury tests.

The big drawback of the agreement on safeguards is that it legitimizes the use of quantitative restrictions aimed at individual exporters as safeguards, but it does so in exchange for more transparent and stringent rules on their application. The use of selective quantitative restrictions could lead to the reinstatement of grey area measures, now with legal sanction. However, in certain respects, the agreement takes steps towards improving the disciplines to be applied in this area. It prohibits the imposition of new grey area measures and calls for the elimination of all existing measures over a period of four years, with the exception of one specific measure by an importing country, which will have to be eliminated no later than 31 December 1999. Likewise, all safeguard measures adopted under article XIX will be terminated over a period of not more than eight years from the time of their adoption or five years from the moment of the entry into force of the World Trade Organization, whichever comes later. Safeguard measures cannot be retained for periods longer than four years, although under certain circumstances they can be renewed for a maximum of eight years. The agreement also has special provisions for developing countries.

Just as safeguard measures target foreign suppliers to give local producers time to become more effective competitors, anti-dumping measures target foreign suppliers for allegedly unfair competition. Since only the unfair competi-

¹³ C. Hamilton and J. Whalley, “Safeguards”, in *Completing the Uruguay Round — A Results-Oriented Approach to the GATT Trade Negotiations*, J. J. Schott, ed. (Washington, D.C., Institute for International Economics, 1990).

tors would warrant punishment, anti-dumping measures are by nature selective trade-policy penalties. In earlier years, the practice of assessing anti-dumping penalties was mainly limited to some of the industrialized countries; more recently, however, developing countries have also begun learning to use anti-dumping practices themselves. Thus, an important objective of the Uruguay Round was to discipline the use of such practices.

Anti-dumping penalties are generally assigned after the Government of the importing country carries out an investigation and finds that dumping has occurred. Two conditions are necessary to establish the presence of dumping. In the first place, the exporter's prices for sale abroad must be below domestic prices. Secondly, the foreign firm must have the intention and the ability to displace domestic producers and monopolize the market. In the case of developing-country exporters of manufactures, while the first condition has often been applied, particularly in cases of start-up operations or of new exporters, establishment of the second is generally quite difficult to carry off, since most developing-country firms are small and unlikely to be in a position to capture an important share of a foreign market, particularly that of a developed country. This notwithstanding, most anti-dumping actions have been aimed precisely at developing-country exporters.

The optimum outcome of the Uruguay Round in the area of anti-dumping would have been to make it considerably more difficult to initiate unwarranted anti-dumping proceedings. Here, the agreement is only a partial success. On the one hand, it establishes fairly detailed and more transparent norms and the agreement's sunset clause (set at five years) is a welcome addition. On the other hand, the agreement is unsatisfactory on a number of counts. In the first place, it retains the use of "constructed values" in price comparisons and in the calculation of dumping margins, when domestic prices in the exporting country or prices in a comparable third market are unavailable. Since there are no objective criteria for calculating these values,¹⁴ their continued use will almost certainly leave openings for protectionist abuse of anti-dumping practices.

Second, there are some clauses in the agreement that potentially are an improvement over current practice but insufficient to ensure against protectionist abuses. One such case is the *de minimis* provision, under which countries agree to terminate anti-dumping investigations when dumping margins do not exceed 2 per cent or when dumped imports are deemed "insignificant" (less than 3 per cent of the imports of the product). Minimum dumping margins and minimum levels of imports to justify an investigation protect exporters against the most flagrant abuses of anti-dumping, but they have both been set at extremely low levels. Dumping in any meaningful sense is impossible when the dumped imports constitute a substantial percentage of the product's imports but not of its consumption.

Operation of the World Trade Organization

The World Trade Organization will be responsible for the orderly management of world trade relations into the next century. Its tasks include facilitating the implementation and operation of all agreements and legal instruments negotiated in the Uruguay Round, providing a forum for all future negotiations and administering the Dispute Settlement Body (DSB) and the Trade Policy Review Mechanism (TPRM) which were established on a temporary basis at

¹⁴ J. Jackson, *The World Trading System — Law and Policy of International Economic Relations* (Cambridge, Massachusetts, the MIT Press, 1989), pp. 218-222.

the Montreal mid-term review of the Uruguay Round in December 1988.

The initial members of the World Trade Organization are countries that were contracting parties to the GATT of 1947, as amended over the years, that accepted the three core agreements (GATS, TRIPs, and the GATT of 1994, which contains the agreements on goods resulting from the Uruguay Round), and that made specific concessions with respect to market access in both goods and services.

There is, in other words, a unified nature to the requirements for membership in the World Trade Organization. This will preclude the splintering of the new trading system into multiple layers of differing rules. However, the survival of four plurilateral trade agreements that bind only their signatories¹⁵ — and the threat that other such agreements may be signed in the future — could jeopardize the universal application of the principles of unconditional MFN and non-discrimination in the trading system.

The World Trade Organization will have important implications for the multilateral trading system in general and for developing countries in particular. First, the World Trade Organization will stand on a firmer legal basis than existing GATT arrangements. It will have a legal personality and will be accorded privileges and responsibilities for international trade, placing it on an equal footing with IMF and the World Bank. Indeed, the Final Act calls for cooperation among the World Trade Organization, the World Bank and IMF in order to improve the coordination of trade, financial, and monetary policies.

Second, surveillance of trade policies (broadly defined to include all aspects under the jurisdiction of the World Trade Organization) is improved by the periodic reviews of individual countries' policies via the TPRM and annual reviews of international trade. Regular ministerial meetings are provided for so as to ensure the effectiveness of the World Trade Organization. Improved and centralized arrangements under which members notify the World Trade Organization of changes in trade measures are also to be instituted.

There is a concern, however, that surveillance of World Trade Organization member countries might not be symmetric, that is, applied with equal force as regards developed and developing countries. In other words, there is a fear in some quarters that with cooperation provided for among the World Trade Organization, the Fund and the Bank, the financial power of the last two institutions will be deployed to impose enforcement of the rules of the World Trade Organization mainly on the developing countries, while the stronger trading powers are left with wide latitude to apply restrictive trade measures (for example, in the anti-dumping or safeguards areas). Certainly, cooperation between the Bretton Woods institutions and the World Trade Organization ought to centre instead on ensuring the global coherence of international policies in the areas of trade, finance and money, so as to promote more rapid growth of the world economy.

Perhaps most importantly, countries committed themselves in the Final Act not to take unilateral action against perceived violations of trade rules. Instead, they pledged to seek recourse in the World Trade Organization's new dispute-settlement machinery and to abide by its rules and procedures. Under the World Trade Organization, there will be a single DSB dealing with all disputes arising from the agreements contained in the Final Act. It will have considerably expanded powers compared with predecessor bodies in the GATT. Its cre-

¹⁵ The "package" approach of the Uruguay Round does not apply to some plurilateral agreements emanating from the Tokyo Round (the Agreement on Trade in Civil Aircraft, the Agreement on Government Procurement, the International Dairy Arrangement, and the Arrangement Regarding Bovine Meat), which continue to be binding only on signatories.

ation is the most important contribution of the Round in terms of providing security and predictability to the multilateral trading system. The DSB will set up panels, adopt reports, supervise the implementation of rulings and recommendations, and authorize retaliation. Under the GATT, in comparison, dispute settlement was fragmented between the GATT Council and the committees set up by the Tokyo Round Codes.

The new dispute-settlement rules establish a sequence of phases that a complainant must follow and, with a view to speeding up the process, sets maximum time periods for each phase. This is a significant improvement over GATT practice, whereby the offending country had many opportunities to introduce delays over procedural matters. Another important new feature distinguishes the World Trade Organization mechanism from current practice. Now there will have to be a consensus against the establishment of panels or the adoption of panel reports for decisions not to be made, whereas under the current system there had to be consensus before a positive decision could be taken. Thus, under the new system, parties to a dispute can no longer block decisions against them. However, panel decisions can now be appealed to a standing Appellate Body.

Nevertheless, a last-minute modification proposed by the United States to the *anti-dumping agreement* has effectively isolated *anti-dumping procedures* from the unified dispute-settlement system. In essence, multilateral panels have not been granted authority to challenge the substance of national anti-dumping investigations. Therefore, the new anti-dumping rules will remain subject to discretionary interpretation in national laws. This is an important loophole which could transform anti-dumping into an area on the cutting edge of protectionism. This clause is subject to review after a five-year period.

A striking feature of the World Trade Organization is the possible linkage of market access in goods and World Trade Organization obligations in the areas of intellectual property and trade in services. That is, cross-sectoral retaliation is now possible, under which restrictive action can be taken against exports of goods in retaliation for offending policy measures in the new areas. However, cross-retaliation is allowed only as the third in a three-step procedure. In principle, suspensions of concessions should be restricted to the sector in dispute. If this is not practicable or effective, the suspension can be made in a different sector of the same agreement. Only as a last resort should the suspension of concessions be made under another agreement (for example, with a dispute under the intellectual property agreement leading to retaliation in the areas of goods or services).

The creation of the World Trade Organization and its DSB raises the question of how far recourse to unilateral action — such as that under section 301 of the United States Trade Act of 1988 — will be curtailed. Although the spirit of the World Trade Organization is against unilateral action, it is far from certain that the United States will give up recourse to section 301.¹⁶ However, the World Trade Organization can contribute to the curtailment of unilateral action. If the United States (or any other country contemplating such action) abides by its international commitments, it will have to first bring its disputes to the World Trade Organization and go through the various phases specified in the dispute-settlement mechanism before retaliating against the offending party.¹⁷ This could prove to be a significant extension of the rule of law in

¹⁶ In fact, Japan, the EU, India, and Pakistan have recently been threatened with action under section 301. Also, the French Government has proposed that the EU adopt an equivalent instrument, thereby assuming that such legislation is compatible with the World Trade Organization.

¹⁷ J. J. Schott, with J. W. Buurman, *The Uruguay Round, An Assessment* (Washington, D.C., Institute for International Economics, 1994), pp. 130-131.

international economic relations. If the political will is strong enough for the major trading powers to abide by the decisions of the DSB, its creation will have provided a counter to the unilateral actions and threats to which the international trading community has grown accustomed in recent years.

Trade policy for development

Developing countries have emerged from the Uruguay Round in a stronger position than ever before, albeit with less generous "special and differential" treatment. Many countries have made important contributions to the success of the Round, and they will continue to participate actively in the World Trade Organization. The agenda for developing countries is reasonably clear. As regards traditional items, there is still much to be done to improve and secure market access in goods: tariffs on items of interest to developing countries are still high, tariff escalation has not been removed, and trade in agriculture and textiles has only begun to be liberalized. Indeed, the system emerging from the Uruguay Round can best be described as one of carefully managed improvements in market access.

More generally, the anti-dumping agreement might well prove unsatisfactory, and countries are likely to press for norms that limit the initiation of anti-dumping proceedings to cases where the imports in question constitute a significant proportion of consumption in the importing country (say, at least 10 per cent) rather than of imports. In new areas, the liberalization of trade in services that require the movement of labour across borders should find its way into the agenda.

Also, the World Trade Organization has been given a mandate to include in future negotiations the issues of environmental and labour standards. It will not be an easy matter to harmonize policies in these areas. The reason is that harmonization can be expected to take the form of aligning policies on developed-country standards, and this may reduce the grounds for competition between developing- and developed-country producers. Nevertheless, the demands of environmental groups and labour unions on these matters must be addressed. Therefore, the challenge ahead is to constructively draft multilateral rules that expand or preserve access to markets and preclude punitive unilateral action, while taking into consideration environmental and labour concerns.

One can see, in short, that developing countries have now become more activist advocates of multilateral trade policy, taking a seat at the negotiating table and seeking to bolster an international system of enforceable rules. Indeed, as of 31 December 1994, 128 countries had become contracting parties to the GATT, with Djibouti, Papua New Guinea and Solomon Islands having just joined, and these plus some 20 additional countries (virtually the entire world) will become the member countries of the World Trade Organization. On the other hand, developing countries have also become active outside of the GATT, as regional trading arrangements have burgeoned in recent years, both among developing countries and with developed-country partners, as evidenced by Mexico's participation in the North American Free Trade Area and various bilateral agreements with the EU.¹⁸

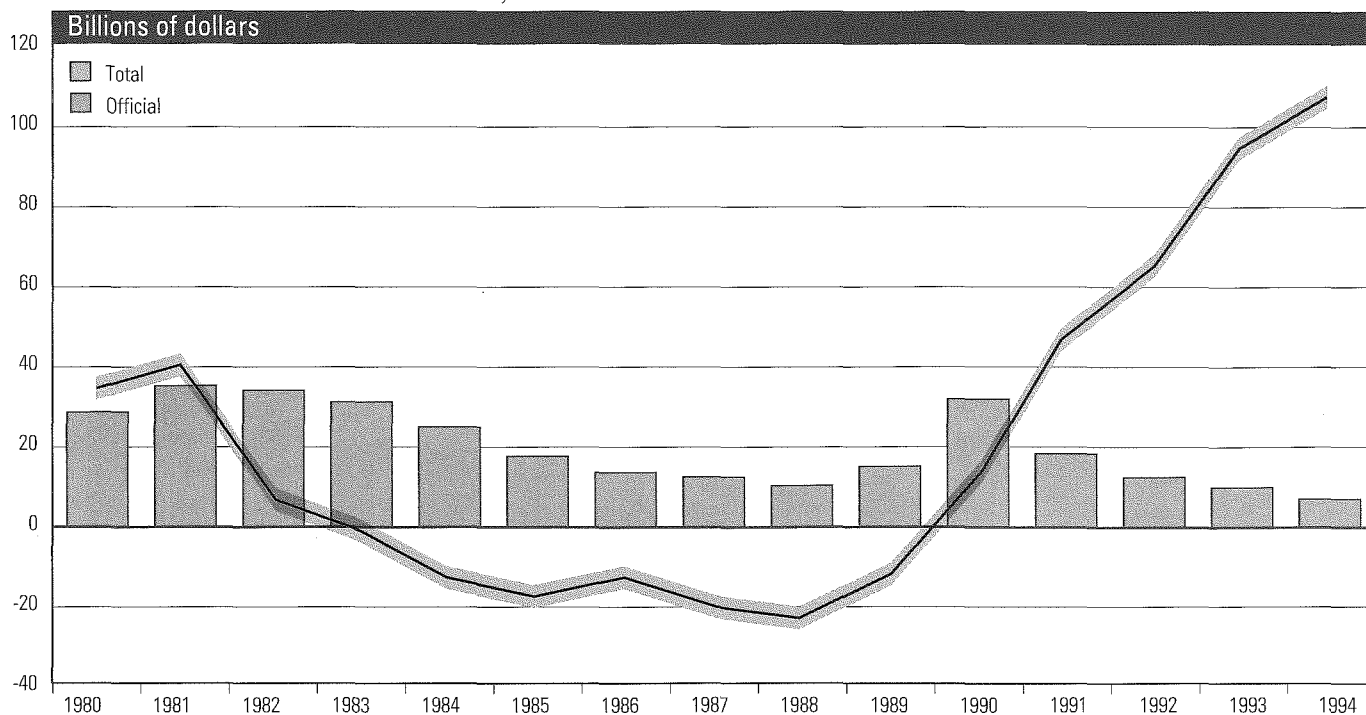
From a global perspective, special arrangements for the developing countries are still warranted, but the political reality is that the range of concessions accorded by industrialized countries has narrowed appreciably. Developing countries, at least those in a position to do so, are adjusting to this reality.

¹⁸ See, for example, *World Economic and Social Survey, 1994* (United Nations publication, Sales No. E.94.II.C.1), chap. III, section entitled "Regionalism: recent developments".

DIFFICULT TIMES FOR OFFICIAL FINANCE FOR DEVELOPMENT

Set next to the highly volatile private financial flows into and out of developing countries over the years — which drove the overall net transfer of resources from positive (inflows) to negative (outflows) and back — official finance has been a more stable source of resource transfers (see figure VII.1). Since the middle 1980s, however, the net transfers on account of official flows have been roughly half of what they were in the early 1980s, that is, roughly \$15 billion a year instead of about \$30 billion (the one exception being for the year of the conflict between Iraq and Kuwait). The official flows that declined were first IMF loans, which had earlier burgeoned in the wake of the developing-country debt crisis (see table A.29), and also export credits, as on the one hand developing countries had to curtail imports of capital equipment and other large-scale items that such financing supported, and on the other, many countries lost “export cover” owing to their debt crises. Multilateral development financing, however, continued at a fairly strong pace; but it peaked in the early 1990s (see table A.34). Receipts of official development assistance (ODA) also seem to have peaked.

Figure VII.1
**NET TRANSFER OF FINANCIAL RESOURCES
 TO CAPITAL-IMPORTING DEVELOPING COUNTRIES:
 OFFICIAL AND TOTAL TRANSFERS, 1980-1994**



Sources: UN/DESIPA, based on data of IMF and the World Bank.
 Note: Transfers are measured on a financial basis; that is, they include flows into and out of reserve holdings; 93 country sample.

¹⁹ For statistical purposes, however, aid to the more advanced transition economies is not classified as ODA; also, after jumping to \$7.3 billion in 1991, aid disbursements to these countries have slowly fallen (see Development Assistance Committee, *Development Co-operation, 1994 Report* (Paris, Organisation for Economic Cooperation and Development, 1995), pp. 85-87).

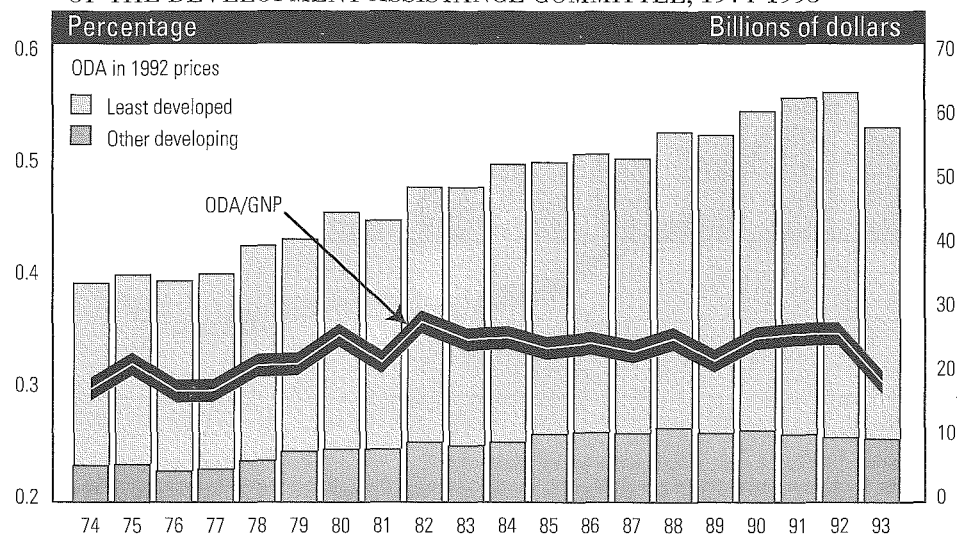
The total flows of ODA, when measured in constant prices and exchange rates instead of in dollars, had in fact stagnated during the 1980s, as some donors had to cut back their aid efforts. These included the formerly centrally planned economies, many of which became net recipients of concessional assistance in the 1990s after beginning their transition to market economies.¹⁹ Another group of donors that had to cut back their aid efforts were the major oil-exporting countries. Mainly as a result of wars in the Middle East and soft oil prices, Arab donors — now down to three countries: Kuwait, Saudi Arabia and the United Arab Emirates — went from supplying almost 15 per cent of assistance from market economies to about 2.5 per cent (see table A.33). Thus, aside from small amounts of assistance from other developing countries, ODA flows are now almost entirely those of the industrialized countries that coordinate their efforts through the Development Assistance Committee (DAC) of the Organisation for Economic Cooperation and Development (OECD); but even these flows peaked in 1992 and, indeed, a major reassessment of aid programmes in DAC member countries is under way.

Official development assistance (ODA): end of an era?

In almost every one of the past 20 years, DAC countries raised the total real level of ODA, channelling it as bilateral financial transfers to developing countries, technical assistance, write-offs of official debt, or contributions to the concessional windows of the multilateral development institutions. With the drop in 1993, however, a long-feared stagnation and perhaps even decline in total ODA from DAC member countries may have begun.²⁰ Certainly, measured as a share of GNP, overall ODA from DAC countries has been fairly constant for decades; but as GNP was growing, so too were aid programmes (see figure VII.2). As of 1993, however, even this can no longer be taken for granted.

²⁰ Preliminary estimates of ODA in 1994 are expected to be released by the DAC secretariat, following past practice, in the summer of 1995.

Figure VII.2
**OFFICIAL DEVELOPMENT ASSISTANCE (ODA)
 OF THE MEMBER COUNTRIES
 OF THE DEVELOPMENT ASSISTANCE COMMITTEE, 1974-1993**



Source: Data of OECD

A great deal of attention has focused, quite naturally, on the decline in United States aid. Measured in constant prices, United States aid fell 19 per cent in 1993, as reported by DAC; but even excluding the United States, ODA of other DAC members taken together fell 6 per cent. By the same token, the fall in the ODA/GNP ratio as seen in figure VII.2 was not entirely due to the fall in the United States ratio. The ratio excluding the United States fell as well, from 0.41 per cent of GNP to 0.38 per cent. This notwithstanding, the cut-back in ODA of the United States has been especially dramatic and worrisome to fellow DAC members, as a withdrawal of the United States from a leadership role “poses a risk of undermining political support for development cooperation in other DAC countries”.²¹ Although the United States remains the second largest donor, its ODA/GNP ratio has fallen to 0.15 per cent (from 0.20 in 1992), half the DAC average.

In contrast, the largest donor, Japan, is still building up its aid programme. Although its ratio of ODA to GNP has also been slipping and remains below the DAC average, the Government is committed to increased ODA levels in the medium term. That is, under the fifth medium-term target for ODA, which covers the period 1993 to 1997, Japan’s total ODA volume is expected to rise to \$70-75 billion on a net disbursement basis, representing an almost 50 per cent increase over the previous five years.²²

It is becoming clear that in a period of generalized fiscal constraint and austere budgets, along with a refocusing of attention on domestic social and economic issues, questions are being raised in several donor countries on the degree to which aid to developing countries is efficient, or even effective. The malaise about ODA has acquired a name, “aid fatigue” (also “donor fatigue”), and is said to be quite widespread. It has even been identified among some segments of Japanese opinion, although the Government sees itself as having the responsibility of countering that view and bolstering public support for development assistance.²³

The political base for development assistance in donor countries has always been a complicated one, involving promotion of the security and commercial interests of donor countries (a reading of parliamentary debates about aid generally makes this clear) as well as the expression of feelings of humanitarian solidarity. Aid is also anchored to international commitments made in the General Assembly and other international forums.

More than an income transfer to developing countries, aid is an investment in development. Thus, after 30 or more years of development assistance, questions are increasingly being asked about the appropriate duration of aid: how long should a country require ODA inflows before its development becomes self-sustaining? What is to be made of the countries that have been long-run recipients of ODA and in which per capita output fell for decades? Did the ODA prevent an even more rapid decline? How should one measure the “productivity” of ODA?

With questions such as these being posed, the political environment in several donor countries for continued assistance on a substantial scale to many long-term recipients is frankly critical and in some instances quite hostile. However, none of the Governments of traditional donor countries have abandoned the concept of ODA and some of the more rapidly growing developing countries have begun modest aid programmes of their own. Also, traditional

²¹ DAC, *United States, Development Co-operation Review Series*, No. 8 (Paris, OECD, 1995), p. 9.

²² If the yen/dollar exchange rate remains in the range of that of April 1995, the budgetary burden of meeting the aid target will be significantly lighter than was initially anticipated.

²³ Address of Mr. Hiroshi Hirabayashi, Director-General of the Economic Cooperation Bureau, Ministry of Foreign Affairs, presented to the United Nations community, New York, 14 September 1994.

donors have increasingly been called upon to support new aid programmes for countries in transition from deep social conflict to peace-building and have responded to the call; but sharp questions of cost effectiveness are being posed everywhere.

Donor agencies have thus increasingly tried to ensure better use of and accountability for aid by the recipient countries. For instance, the Canadian Government adopted a strategy for aid to Africa that would emphasize regional integration possibilities and formulation of a coherent overall approach of the Canadian International Development Agency, entailing more interaction with other Canadian Government departments and the setting up of a system whereby Canadian and African participants collectively determined programming priorities. Norway, too, will emphasize increased policy dialogue with its aid recipients and the gradual transfer of responsibility for planning and implementation of programmes to local counterparts, this being an area that the DAC review of Norwegian aid had sought to encourage.

To enhance aid effectiveness, some donor countries have reorganized their aid agencies. Sweden has reduced the number of its official development cooperation agencies to two (one to handle long-term cooperation with poorer developing countries, and the other to manage aid activities in the industrial and infrastructure sectors). The United States has overhauled its Agency for International Development, simplifying its structure and focusing its efforts towards achieving sustainable development in the areas of economic growth, population and health, environment and democracy.

A related issue is coordinating the multiple official assistance efforts for each recipient by donor countries and multilateral institutions, in terms both of programming the assistance and of implementing it in the field. Coordination of assistance to individual countries typically takes place through the consultative groups or round-table meetings, as organized by the World Bank and the United Nations Development Programme (UNDP), as well as in the recipient countries. At the broadest level, principles are agreed in the General Assembly and other forums, while donors seek to agree upon implementing aid principles and establishing operational guidelines through DAC and its subgroups.²⁴ A more intensive level of coordination takes place through joint donor programmes, which sometimes take the form of bilateral co-financing of, say, World Bank projects (for example, under the chapeau of the Special Programme Assistance for Africa at the World Bank) or through contributions to multilateral assistance itself.

Joint or bilateral aid: the case of the European Development Fund

There are advantages and disadvantages to coordinated or joint assistance from the donors' perspective, some of which can be seen in recent developments in the EU. While EU member countries have maintained national ODA programmes, they have also contributed increasingly to programmes separately managed by the Commission of the EU, especially through the periodically replenished — and off-budget — European Development Fund (EDF). The EDF was established to channel funds to the ACP countries — many of them former colonies of European powers — that were associated with the EU through the series of Lomé conventions and their predecessors. These conventions ensured that at least as

²⁴ See DAC, *Development Co-operation, 1994 Report* (Paris, Organisation for Economic Cooperation and Development, 1995), chap. II.

far as the ACP countries were concerned, EU would have a common foreign aid policy.

The common funding of Community aid programmes harmonized to a degree the "regionalist" approach to aid of countries with strong ties to the African continent, like France and Belgium, and to a certain extent, Italy, and the more "globalist" approach of Germany, the Netherlands and the United Kingdom of Great Britain and Northern Ireland.²⁵ As a result, the share of sub-Saharan Africa in total German foreign aid, for example, increased from 16 per cent in 1970-1971 (before Lomé I) to more than 25 per cent in the 1980s and 1990s. However, even as this was happening, forces were at work that led many members to question both the processes (generally, low conditionality) and the share and amounts of Community aid going to ACP countries.

In the 1990s, interest in transferring more aid funds to non-ACP countries intensified. Reasons for this involved, on the one hand, the economic and political imperatives on the eastern and Mediterranean flanks of the EU, and on the other, the Maastricht Treaty on European Union, which called for development of a common foreign policy and established a common policy on development cooperation.²⁶ In addition, EU countries have wanted to assist certain Latin American countries to fight narcotics traffic and have sought to develop closer ties to emerging markets in Asia and Latin America. Moreover, an important dimension of aid in recent years that has been supported by the budget of the EU Commission (and by member countries) aims to bolster the democratization process through technical assistance, grants to help hold elections, and to improve the justice system and other forms of institution-building.

Tensions about aid policies came to a head as part of the mid-term review of the Lomé Treaty and the negotiations within the EU to replenish and bolster the EDF. In February 1995, France, which held the EU presidency at the time, and the European Commission proposed to increase the funds pledged to the current EDF from ECU (European currency units) 11 billion programmed to last until the year 1998 to over ECU 14 billion to last until the year 2000. It was also proposed that the EDF be enlarged to take account of the three new members of EU as of 1 January 1995 and to adjust for inflation.

The United Kingdom objected that, as a result, about 40 per cent of its aid budget would be under EU control, rather than under its bilateral programmes and it announced that it would reduce its contribution to EDF by 10 per cent as of 1998.²⁷ Germany, too, cited its desire to put a ceiling on its contribution to Lomé funds and refused to accept the inflation adjustment. As of late April, the negotiations remained deadlocked.

In short, even if joint aid programmes can be efficient, they entail dilution of national control over the issue of which countries are given what amount of assistance for what purposes, and donor Governments seem increasingly reluctant to give up this control. Aside from losing opportunities to use aid as a tool of foreign policy, there are significant differences among donors as regards how aid should best be used to promote development; and as overall aid budgets are tightly constrained, competition among prospective uses of the limited resources have sharpened. This can be seen as well in the international treatment of debt relief for low-income countries.

²⁵ See Enzo R. Grilli, *The European Community and the Developing Countries* (Cambridge, United Kingdom, Cambridge University Press, 1993), chap. 2.

²⁶ See Adrian Hewitt, "The European Union: fundamental change without crisis", in *Crisis or Transition in Foreign Aid*, Adrian Hewitt, ed. (London, Overseas Development Institute, Washington, D. C. Overseas Development Council, and Ottawa, North-South Institute, 1994), pp. 19-24.

²⁷ The squeeze on British bilateral aid programmes, which was a focus of the past DAC aid review of the United Kingdom, has arisen from the stagnation of the volume of British aid in real terms for over a decade and growing multilateral obligations (see DAC, *United Kingdom, Development Co-operation Review Series*, No. 1 (Paris, OECD, 1994), chap. I).

Aid and debt relief

Some ODA takes the form of general budgetary support or balance-of-payments financing; this means that no limitations are put on how the funds are used (although policy conditions for accessing the funds can be rigorous). Other cases involve more restricted transfers, but they too can be used for almost any purpose; that is to say, as a general proposition funds transferred from one Government to another are "fungible". For example, ODA funds that are given to a Government for support of education can be used for debt-servicing if the Government's own spending on education is reduced and the freed local resources are used instead to pay interest and principal on the debt. Therefore, even if a donor wishes to focus its assistance programmes on particular social and economic sectors, it cannot be indifferent to the macroeconomic and financial situation of the recipient and the pressures on it to make compensating shifts of funds.

Donors have found it necessary, in other words, to pay close attention to the debt situation of low-income, aid-receiving countries and the budgetary and balance-of-payments implications of the debt. In some cases, donors have explicitly helped aid-recipient countries to service their foreign debt, in particular when countries fell into arrears to the multilateral financial institutions and sought to work their way out of the problem in cooperation with the international community.²⁸ In other cases, under great pressure to reduce budget deficits and also service debt, increased aid flows appear to have helped cover debt-servicing through the fungibility mechanism.

Within this context, donors have understandably been concerned about the fact that debt difficulties, especially of the severely indebted, low-income countries, have been so difficult to bring to an end. The World Bank estimated, for example, that interest arrears alone constituted 10 per cent of the total debt of these countries at the end of 1994, a fraction that has risen in every year of the 1990s.²⁹ Donors are also fully aware that the donor Governments and multilateral institutions are the largest creditors of the lowest-income countries and thus a significant part of the aid-financed debt-servicing that has occurred was merely returned to the initiating treasuries and multilateral institutions. Therefore, some \$6 billion of the loans that had originally been incurred as ODA credits were forgiven between 1989 and 1993 by donor Governments, the bulk of them in sub-Saharan Africa. Donor Governments have also written off about \$8 billion in non-concessional debts of these countries from 1990 to 1993.³⁰

However, even with debt-relief measures such as these, the concessional financial flows from the international community generally were not of a sufficient magnitude to fill the financing gap. Multiple defaults on official export credit payments and other official debt-servicing obligations to the donor countries occurred and the work-out from each default was treated under the Paris Club mechanism. Initially, the Paris Club would only reschedule debt-servicing obligations, charging commercial interest rates on the outstanding balances. The Paris Club moved more slowly than the private bank creditors in recognizing that countries had become insolvent and that levels of debt in many low-income countries exceeded any reasonable measure of capacity to pay.³¹ By the 1990s, however, increasing amounts of scheduled debt-servicing had been written off.

²⁸ On programmes for Guyana and Zambia, see *World Economic Survey, 1991* (United Nations publication, Sales No. E.91.II.C.1), chap. VII, section entitled "Policy on debt owed to multilateral creditors".

²⁹ Interest plus principal arrears accounted for 30 per cent of the debt in 1994 (World Bank, *World Debt Tables, 1994-95: External Finance for Developing Countries*, vol. 1 (Washington, D.C., December 1994) p. 220).

³⁰ *Ibid.*, pp. 41-42.

³¹ See the report of the Secretary-General on the external debt crisis and development entitled "Recent experience under the international debt strategy" (A/47/396), 10 September 1992, paras. 61-75.

In 1995, the Paris Club began applying its most concessional set of debt-restructuring terms, including the option of reducing the debt-servicing of covered debt by up to 67 per cent. Under these "Naples terms", named after the 1994 summit meeting of the Group of Seven major industrialized countries, at which the decision was taken to ease the debt-servicing of low-income, heavily indebted countries, creditors may also decide to reduce the stock of non-concessional debt by up to 67 per cent under certain circumstances. This notwithstanding, of the Seven Paris Club agreements under the Naples terms in the first quarter of 1995, only one (Uganda) embodied the stock-reduction option.³²

One reason why deep cuts were needed in bilateral official (and also private) debt of low-income, heavily indebted countries was that the debt owed to multilateral institutions had been exempted from demands for debt and debt-service reduction. It had been argued that any restructuring of those credits would reduce the creditworthiness of the institutions themselves and penalize all developing countries, as they would have to pay higher interest charges as a result. Nevertheless, it had increasingly been recognized that even with the most favourable debt-restructuring terms, some of the poorest and most heavily indebted countries would never be able to service all their obligations to the multilateral financial institutions.

Although the institutions do not have provisions to reschedule or write-off their credits, they have engaged in indirect refinancing; for example, new balance-of-payments loans on highly concessional terms have helped to finance the debt-servicing of older non-concessional loans. In addition, for countries that had once borrowed from the non-concessional window of the World Bank but now qualified only for concessional loans from the Bank's International Development Association (IDA), a special "fifth dimension" lending programme was established by IDA. It provides to countries already under IDA programmes supplementary credits in proportion to the interest obligations due on non-concessional World Bank debt. Since IDA loans are highly concessional, this effectively subsidizes the original interest payments without formally restructuring Bank debt.

Many believe that these techniques, while helping to alleviate the burden of multilateral debt-servicing, need to be supplemented by additional ones. On 27 September 1994, the British Chancellor of the Exchequer, Mr. Kenneth Clarke, speaking at the Commonwealth Finance Ministers meeting at Valletta, Malta, proposed additional mechanisms to reduce the cost of servicing loans owed to IMF, the World Bank and the regional development banks. The most specific proposal was for the debt owed to IMF.

Currently, IMF lends on concessional terms to low-income countries through its Enhanced Structural Adjustment Facility (ESAF). Loans have an original maturity of 10 years and repayments do not begin for 5 years. Disbursements can be over a three-year period, under a joint Fund/Bank "Policy Framework Paper" arrangement. The interest rate is only 0.5 per cent per year. Mr. Clarke proposed establishing a "new ESAF window" whose loans would carry a longer maturity and grace period. The new loans would be available to low-income, heavily indebted developing countries "after a sustained period of Fund programmes". One reason for the time factor in the eligibility criterion is the borrower's need to first establish a positive track record on reform. Another reason is that significant repayment obligations accrue after a sequence of Fund programmes.

³² This is considered the "exit option", requiring agreement among the creditors to offer the option and an understanding that the country will not request subsequent Paris Club treatment of its remaining debt, which is to be rescheduled at commercial interest rates over 23 years with a 6-year grace period (as per communication from UNCTAD, 28 April 1995).

The proposal would require two forms of financing. First, as with other ESAF funding, interested creditor countries would lend to IMF the total value of loans to be issued from the window, receiving a non-concessional interest rate on their loans. Second, donors would provide a subsidy to ESAF to allow it to charge low interest rates; but the British proposal recognizes the severe constraints on aid budgets and thus suggests a phased sale of small amounts of the IMF's gold holdings. The profits (capital gain over SDRs (special drawing rights) 35 per ounce) could be placed in a new trust fund which would in turn invest in international financial instruments. The earnings of the trust fund would be used to pay the interest subsidy on the ESAF loans.

What matters in the end is not the details of the proposal, but the fact that the difficulty of multilateral debt servicing for some countries has been recognized by a major donor whose aid fatigue is a parliamentary fact of life (at least for economic as opposed to humanitarian aid). The proposal is under discussion in the Bretton Woods institutions where interest in it seems to be building.

The "Tobin tax" will not solve the financing problem

As donor-country aid budgets have been highly constrained in recent years, some analysts have looked for alternate sources of funding for international cooperation via automatic international taxation mechanisms; but it is hard to believe that the same parliaments that deny funds for international cooperation through their budgets will agree to transfer potential taxing authority. The ability to collect some of the proposed taxes at low administrative cost is also unclear. The difficulties with the most prominent proposal in this category of revenue measures, the "Tobin tax", illustrate the difficulties.

The Tobin tax on foreign-exchange trading, a proposal aiming to "throw sand in the wheels of the market" and discourage speculation, fell into obscurity for over 15 years, until revived recently as a potential mechanism for raising funds for international purposes.³³ The efficacy of the proposal was always contested, but its capacity to solve important multilateral financing problems today is questionable. Professor James Tobin's idea was to impose a uniform *ad valorem* transaction tax on all spot sales and purchases of foreign exchange in all major foreign-exchange markets. The tax was to be small — he used 1 per cent as an example — but since it would be paid once as funds left and again as they returned home a short time later, this would have been enough to raise significantly the change in the exchange rate necessary to profit from the speculative transactions.

The proposal was made because speculators had been increasingly responding to emerging inconsistencies between monetary and exchange-rate policies and forcing the devaluation of pegged exchange rates. Professor Tobin's intention was not to provide a substitute for more consistent policy-making by the major-currency countries, but merely to enlarge the potential degree of inconsistency before speculators jumped in. In this regard, the aim was to reduce the volatility of the foreign-exchange market. The tax would have had to be uniform and be applied in all foreign-exchange markets to avoid shifting business to low-tax or untaxed markets.

When Professor Tobin proposed his tax in 1978, it appeared that the tax would be an administratively feasible proposition. It would have required an international agreement and the licensing of all foreign-exchange traders at the

³³ The proposal was raised by several speakers at the World Summit for Social Development, held in March 1995 in Copenhagen, including the former President of France; see also UNDP, *Human Development Report, 1994* (New York, Oxford University Press, 1994), pp. 69-70. The original proposal was published as James Tobin, "A proposal for international monetary reform", *Eastern Economic Journal*, vol. 4, Nos. 3-4 (July/October 1978), pp. 153-159.

wholesale level so as to ensure that all trades were taxed. As the market was mainly a banking market, most participants were already under supervision, although offshore centres would also have had to be brought into the agreement. Nevertheless, the proposal did not win broad support in the economics profession because its effectiveness in stemming exchange-rate volatility was not assured even in theory, while its distorting effect on resource allocation was clear.³⁴

Today, making the proposal work, especially in the major industrialized countries, seems a more difficult challenge, mainly owing to the development of the market in financial derivatives. Now, foreign-exchange speculators need never deal in the actual spot market for foreign exchange. It should be possible to tax derivatives trading too, but this adds an extra dimension to the cost of administering the tax. Moreover, even in the "halcyon days" of the 1960s, transnational corporations speculated without explicitly buying or selling additional amounts of foreign exchange by simply advancing or delaying their normal foreign-exchange purchases, financing the difference in payment timing with local credit. Firms could still use intra-affiliate transactions to evade the tax.

To sum up the argument to this point, today's foreign-exchange market — at least for the major currencies — is a highly complex and interrelated set of markets for spot and forward currency, plus futures, swaps and other derivative contracts. One can imagine a transaction tax imposed on some or all segments of the market, although it would be a "leaky-bucket" tax, with new holes opening as the tax authorities plugged each of the holes it found. Moreover, no one has claimed that the tax would discourage any serious speculative run on a currency, only that it would eliminate the profits of speculation on relatively small changes in exchange rates. Would the tax be worth the effort? Probably not.

The Tobin tax sought, in essence, to reverse the falling cost of international financial transactions owing to technical change and liberalization of exchange control. In this regard, it was a kind of Luddite proposal and the "sand in the wheels" metaphor seems evocative. Yet, the idea has been echoed by proposals to establish or raise security transfer excise taxes (STETs) so as to reduce volatility in financial markets in the United States. In each case, the aim was to "merely return direct unit transactions costs to around their late 1970s level".³⁵ These proposals also seem to reflect the suspicion that speculative activities and the financial sector in general are of less worth to society than physical production and should be discouraged. If that is the case, it seems arbitrary to single out foreign-exchange speculation.

There is, in any case, a simpler way to "fight" speculation (if that is the villain) and it need not involve singling out foreign-exchange trading: tax the profits from speculation at a higher rate than other profits.³⁶ In the United States, for example, short-term capital gains are already taxed at a higher rate than long-term gains. Governments could also discourage speculation by not allowing losses from the targeted activities to be deducted from earned income (for example, on assets turned over within a stated short period), while taxing the gains heavily. Also, any one country could decide to tax speculation more heavily than some other country. The tax rate would not have to be harmonized, although the standard mechanisms of international coordination would still be needed to fight tax evasion and curtail double taxation of the same income. If enough countries

³⁴ See the arguments and references in Victor Argy, "The design of macroeconomic policy in the world economy: proposals for reform", in *International Financial Policy: Essays in Honor of Jacques J. Polak*, Jacob A. Frenkel and Morris Goldstein, eds. (Washington, D.C., IMF and De Nederlandsche Bank, 1991), pp. 373-419.

Interest in the proposal and new criticisms were also sparked by the currency instability in the European Union in 1992-1993. In addition, a related alternative to the tax was proposed, under which banks that expanded loans of domestic currency to foreigners would be required to maintain increased non-interest-bearing deposits with their central bank. Proponents of both proposals were quite aware of their shortcomings and hardly seemed enthusiastic advocates of them (see Barry Eichengreen, James Tobin and Charles Wyplosz, "Two cases for sand in the wheels of international finance", *Economic Journal*, vol. 105, No. 428 (January 1995), pp. 162-172; for the case against the proposals, see Peter Garber and Mark P. Taylor, "Sand in the wheels of foreign exchange markets: a sceptical note", and Peter B. Kenen, "Capital controls, the EMS and the EMU", in the same volume and number of *Economic Journal*, pp. 173-180 and 181-192, respectively).

³⁵ See David Felix, *The Tobin Tax Proposal: Background, Issues and Prospects* (UNDP, Human Development Report Office, 1994), p. 11.

³⁶ This idea was among those proposed by G.C. Harcourt in "Taming speculators and putting the world on a course to prosperity: a 'modest' proposal", *Economic and Political Weekly* (Bombay), 17 September 1994, pp. 2,490-2,492.

decided to heavily tax speculation on the consolidated, worldwide income of their taxpayers, it could reduce the speculative flows and raise tax revenue.

Anyway, such income taxation would not help raise funds automatically for international official activities, but that was not ever going to happen with a Tobin tax either. The more recent interest in the proposal apparently identified foreign-exchange trading as an activity on which the international community could assert a financial claim. However, it seems more realistic to view the foreign-exchange market as just one of many financial markets. The national (and local) authorities where the exchange is located are the ones that would seek to retain whatever revenue a tax on that activity generated. This did not matter in the original proposal, as the focus was on trying to stem speculation; indeed, the use of the tax revenue received little, if any, attention.

In sum, although funding international cooperation on a more automatic and stable basis would be highly desirable, taxing foreign-exchange transactions would be inefficient and ultimately ineffective. Moreover, a basic principle of public finance calls for transparency and explicit consideration by representatives of the public before public moneys are committed. The challenge that proponents of development cooperation have to face is making the case to parliaments that the expenditures are warranted. It might help the argument if development cooperation were viewed in a new way.

Towards a new model of development cooperation

In July 1994 in the midst of widespread discussion on the past and future of multilateral cooperation occasioned by the fiftieth anniversary of the Bretton Woods system, the World Bank issued a new "mission statement" to explain itself better to the global development community.³⁷ It acknowledged that its own Operations Evaluation Department had found that many Bank-financed operations were less than effective (p. 16). It also noted that the volume of World Bank lending had levelled off in real terms in the 1980s, although this was attributable to a number of factors, including distorted policy environments that limited creditworthiness in some borrowers and increased access to private capital in others and the regional development banks' also increasing their lending capacity in many countries (p. 14).

The Bank then committed itself to becoming a new institution for a new world. It would build upon and enhance its two main roles: financial and advisory (p. 27). It would dedicate itself to "five major challenges": pursuing economic reforms to enhance growth and reduce poverty, investing in people, protecting the environment, stimulating the private sector and reorienting government (p. 18). It would do this by following "six guiding principles", namely, increasing the selectivity of its activities, strengthening its partnerships with others, emphasizing its client orientation, increasing its results orientation, ensuring cost effectiveness, and maintaining its strong commitment to financial integrity (p. 27).

To get better results in the field, in other words, projects that are fully implemented and maintained, the Bank wants to involve borrower Governments and users more than in the past. This constitutes an allusion to what has come to be called the "ownership problem": if people do not feel part of a project they will not use and maintain it properly. As the mission statement indicates, the "eventual aim must be to enhance the participation of the poor in the design and implementation of Bank-financed projects and programmes" (p.

³⁷ The World Bank Group: *Learning from the Past, Embracing the Future* (Washington, D.C., World Bank, 1994).

29). A related commitment is the Bank's new "client orientation", which "implies listening more to borrowers and other relevant parties — and learning from them" (p. 29).

The crux of the problem that the Bank is seeking to address seems to be that the more successful developing countries now have additional financing options and are increasingly going elsewhere, while the less successful ones do not yet represent very bright prospects for private finance. The more successful countries can unbundle the Bank's package of finance and advice on policies. As the Bank said, "Many borrowers are also rapidly developing their own analytical capacities and using the resources of a wide range of other development agencies, official and unofficial" (p. 7).

These considerations — and parallel ones in DAC and in national Governments — reflect efforts to come to grips with a very major challenge to ODA. The facts are that budgetary support of donor Governments for ODA has been significantly weakened and the multilateral development banks have seen their role in development questioned by their supporters and allies. It seems, however, that what has become vulnerable is not support for international cooperation *per se*, but cooperation under the post-war model of assistance.

The essence of that model of cooperation was that the developing countries lacked finance and that the donors knew something that the recipients did not.³⁸ A donor would impart its knowledge and financing in a manner that the donor generally chose, controlled and audited. Today donors ask how more effective approaches can be designed that — while involving international financial cooperation — are "locally owned". If anything, however, the economic adjustment experiences described above in chapter V seem to demonstrate that the programmes and projects have to be locally generated as well. The point is that after two, three, or more decades, the model whereby the North "assists" the South to develop through ODA programmes and projects — including those of multilateral institutions — has to be deeply re-examined.

As a result, a new model might be articulated, one in which financial assistance is provided by Governments as part of agreed international programmes to advance a concrete collective goal, whether it be eradicating a disease from the planet (acquired immune deficiency syndrome (AIDS) is a case in point), combating environmental warming or ozone depletion in the atmosphere, or developing a new "green revolution" for Africa (see box VII.2).

ODA might also finance technical assistance that is more in the nature of sharing experiences than of teaching "advanced-country" expertise to lagging nations. Sharing experiences, whether on policies to tame speculative financial flows or processes that foster the flow of information about international trade opportunities, can even be politically popular. In all such cases, the model of ODA is of a joint effort of countries that come to the table to tackle a commonly perceived problem. Even if only some are in a position to bring money, all have something to contribute and have a stake in the solution of the problem.

If this view is correct, then multilateral cooperation for development in particular will come to look quite different as the twenty-first century progresses. Activities closer in approach to the Global Environment Facility might burgeon while the more traditional multilateral development assistance could shrink, although not necessarily disappear, especially as concerns humanitarian assistance and concessional lending programmes.

³⁸ The following draws heavily on Cristián Ossa and Barry Herman, "On multilateral cooperation for development: views on the eve of the Halifax Summit", paper presented to the Seminar on Development and Global Governance, North-South Institute and International Development Research Centre, Ottawa, 2 May 1995.

Box VII.2

IT IS TIME FOR A GREEN REVOLUTION IN AFRICA

Food production per person in Africa has been declining since the early 1970s. While Asia and Latin America have seen large gains in the production of rice and wheat since the mid-1960s as a result of the increased use of new high-yield varieties, Africa has hardly benefited from the Green Revolution. This can be largely attributed to a lack of seeds suitable to African conditions, weak local research capacity and a poorly developed support system to encourage adoption. Additional research specifically designed for application to African conditions is urgently needed and new funds for such research could be raised from the revenue potential of the property rights of germplasm collections that were recently placed under the auspices of the Food and Agriculture Organization of the United Nations (FAO).

Lack of suitable improved seeds

The green revolution in Asia was made possible by the development of high-yielding varieties of wheat and rice that responded very well to fertilizers and controlled water management. These varieties are, however, not very suitable for conditions in Africa, namely, its climate (for example, variability of rain), soil and plant diseases. While about 5 per cent of total arable land is currently irrigated in Africa — compared with one third in Asia — the potential for further irrigation is limited for technical and economic reasons.^a Since the early 1960s, the share of rice and wheat in total food production has remained at only about 6 per cent — again, compared with one third in Asia.^b

Even where irrigation has been available, the new varieties could not be easily transferred from Asia to Africa without significant yield loss. Agricultural technology is highly location-specific and needs a local research and development capacity for a transfer to be successful. The public and private research capacity in Africa has been rather weak, lacking a critical mass, and biased towards export crops.^c This also explains in part why there has not been a technological breakthrough in the development of other crops more apt for African conditions, neither for rain-fed coarse-grain cultivation in semi-arid zones, nor for the traditional roots and tubers typical of subsistence agriculture in the more humid regions of Africa. Maize in eastern Africa, particularly in Kenya and Zimbabwe, is the only food crop for which new hybrid seeds have been adopted by farmers to any considerable degree. There has also been some progress recently in the development of high-yielding cassava, but it has yet to be widely adopted by farmers.^d

The experience with maize in Kenya and Zimbabwe shows that the development of local research capacity yields results. The development and adoption of maize hybrids benefited from the commercialized farming sector, which pressured for the development of a local research capacity. The farming sector also benefited from an extensive transportation network, well-developed extension and credit systems and a local seed industry. Indeed, Zimbabwe was the second country, after the United States, to develop maize hybrids.

Where new technology is available, adoption is often slow

Spreading advanced techniques to the farming community in sub-Saharan Africa entails reaching the low-income farmers, particularly smallholders. About 60 per cent of the rural population lives in poverty and when subsistence in the short-term is at stake, farmers are risk-averse. In such a situation, the adoption of a new technology will be slow unless it is clearly recognizable as superior to, that is as cheaper than, the traditional one, and has a lower yield-variance and a lower risk of failure. However, hybrid varieties need complementary inputs: not only do they have a higher yield but they might also have a higher variance of yield and a higher susceptibility to pests and be more prone to drought.^e Smallholders also often operate under seasonal labour constraints that hinder the adoption of new techniques requiring additional work during the busy season.

Most important, the slow rate of adoption of new seed varieties by smallholders is due to the lack of reliable seed- and fertilizer-delivery systems, infrastructure, extension

^a About 75 per cent of all modern and large-scale irrigation in Africa is in Egypt and the Sudan, while about 80 per cent of traditional and small-scale irrigation in Africa is in Madagascar, Nigeria and North Africa. The potential for further irrigation development in northern Africa is small. There is, however, a limited but important and yet largely untapped potential for small-scale irrigation schemes (FAO, *African Agriculture: The Next 25 Years* (Rome, FAO, 1986), annex IV, pp. 59-61).

^b Rice cultivation is largely limited to Egypt and Madagascar and to some western African countries where it is much less important. Wheat is largely restricted to northern Africa and South Africa.

^c Michael Lipton, "The place of agricultural research in the development of sub-Saharan Africa", *World Development*, vol. 16, No. 10 (October 1988), pp. 1,231-1,257.

^d David Wigg, *The Quiet Revolutionaries: A Look at the Campaign by Agricultural Scientists to Fight Hunger (... and How the Much-neglected Cassava Could Help)* (Washington, D.C., World Bank, 1993).

^e Uma Lele, "Sources of growth in east African agriculture", *The World Bank Economic Review*, vol. 3, No. 1 (January 1989), p. 136; and Uma Lele, "Structural adjustment, agricultural development and the poor: some lessons from the Malawian experience", *World Development*, vol. 18, No. 9 (September 1990), p. 1,215.

services and other inputs, as well as inadequate credit. The provision of these items is often biased against smallholders. For instance, it has been observed that in Malawi, smallholders have a preference for flint maize over high-yielding hybrids owing to their poverty, and lack of credit, seeds, extension services and fertilizer, as well as to their taste preferences plus the processing and storability characteristics of the traditional varieties.^f

Need for research on suitable technology

In the light of Africa's food situation, research should focus on the development of drought-resistant, low-risk and low-cost seed varieties for rain-fed agriculture that do not need many external inputs. In this regard, the potential of biotechnology — involving genetic manipulation — is momentous. Biotechnology enables the adaptation of seeds to fit the environment instead of adapting the environment to the needs of the new seeds, as was the case with the green revolution in the 1960s and 1970s when the development of irrigation systems and use of chemicals accompanied the adoption of new seeds. With biotechnology, seeds can be developed that better resist drought and disease and are less dependent on fertilizer. So far, however, progress has been rather slow even for the crops that research has concentrated on, let alone for African food crops.

The question is how research can be reoriented towards the typical African food crops and crops suitable for African conditions. There are basically three sites of research: major corporations, and domestic and international research centres. Most African food crops, such as sorghum, millet, cassava, yams and pulses, are neither consumed, nor grown in developed countries, and only a small fraction are exported. Commercial interest at the international level in research and development of the typical African food crops is therefore small. In effect, the public sector has to play a catalysing role.

Domestic research capacity in Africa is itself too weak to generate a new green revolution. This capacity needs to be strengthened, not only for the purpose of participating in some of the new research, but because it will remain essential to adapt new technologies to local conditions and to help close large gaps between the yields on farms and those on experiment stations.^g

It thus seems that the basic research thrust has to fall to the network of international agricultural research centres (IARCs). The green revolution of the 1960s and 1970s was almost completely a product of international public research, in particular at the International Rice Research Institute (IRRI) and the Centro Internacional de Mejoramiento de Maíz y Trigo (CIMMYT) (International Centre for Maize and Wheat Improvement). In recent years, however, funding has declined for the central network of international agricultural research centres that were brought together under the Consultative Group on International Agricultural Research (CGIAR) in 1971.^h Funds for the core programme of CGIAR fell from \$275 million in 1990 to \$215 million in 1994. In real terms the funds for 1994 were equal to the amount available in 1979, while six additional IARCs have been brought under the CGIAR umbrella since then. Moreover, there is a growing gap between the donor-approved research agenda and the disbursement of funds.ⁱ

The decline in international public funding for agricultural research is part of an overall shifting of research expenditure to the private sector. This trend is most extreme for biotechnology where research is concentrated in large corporations of the developed countries that can mobilize the required resources.^j Only about 10 developing countries — none in Africa — have any capacity to undertake biotechnological research.

Even within the private sector, research activity has become increasingly concentrated, in part as a result of the extremely high cost of design and development of a new biotechnological product. This has prompted corporate mergers, take-overs, joint ventures and the proliferation of public-private linkages. Thus, public institutions and universities have focused more on basic research that is partly financed by private firms receiving the patent rights, developing and marketing the product, and collecting royalties.

^f Uma Lele, "Structural adjustment, agricultural development and the poor: some lessons from the Malawian experience", *World Development*, vol. 18, No. 9 (September 1990), pp. 1,207-1,219; and Melinda Smale, Paul W. Heisey and Howard D. Leathers, "Maize of the ancestors and modern varieties: the microeconomics of high-yielding variety adoption in Malawi", *Economic Development and Cultural Change*, vol. 43, No. 2 (January 1995), pp. 351-368. On the importance of the credit constraint, see also Paul Mosley, "Policy and capital market constraints to the African green revolution: a study of maize and sorghum yields in Kenya, Malawi and Zimbabwe, 1960-91", Innocenti Occasional Papers, Economic Policy Series, No. 38 (Florence, UNICEF, International Child Development Centre, December 1993).

^g See Michael Lipton, "The place of agricultural research in the development of sub-Saharan Africa", *World Development*, vol. 16, No. 10 (October 1988), pp. 1,231-1,257; and Donald L. Plucknett, *Science and Agricultural Transformation* (Washington, D.C., International Food Policy Research Institute, 1993).

^h CGIAR is an informal association of donors that currently supports 16 IARCs. The World Bank, UNDP and FAO are co-sponsors of CGIAR and the chairperson of the group is an official of the World Bank. CGIAR is assisted by the Technical Advisory Committee with a secretariat at FAO. Four of the sixteen research institutions are in Africa. For history and analysis of CGIAR, see Warren C. Baum, *Partners Against Hunger: The Consultative Group on International Agricultural Research* (Washington, D.C., World Bank, 1986).

ⁱ Overseas Development Institute, "The CGIAR: what future for international agricultural research?", ODI Briefing Paper (September 1994).

^j Research expenditures in biotechnology by the private sector account for about two thirds of the total (about \$4 billion in 1985). In 1990, the biotechnology budget of CGIAR was \$14.5 million. For the recent changes in agricultural research, see Kerri Wright Platais and Michael P. Collison, "Biotechnology and the developing world", *Finance and Development*, vol. 29, No. 1 (March 1992), pp. 34-36; "Trade and development aspects and implications of new and emerging technologies: the case of biotechnology", report of the UNCTAD secretariat (TD/B/C.6/154), 11 March 1991, chap. II.A; and Dina L. Umali, "Public and private sector roles in agricultural research: theory and experience", World Bank discussion paper, No. 176, (Washington, D.C., World Bank, 1992).

^k Patents are covered under the Paris Convention for the Protection of Industrial Property, and plant breeder's rights (or plant-variety rights) are covered under the 1978 Convention of the International Union for the Protection of New Varieties of Plants (the UPOV Convention) which was revised in 1991 (see "Trade and Development aspects and implications of new and emerging technologies: the case of biotechnology", report of the UNCTAD secretariat (TD/B/C.6/154), 11 March 1991, chap. II.A). The agreement on trade-related aspects of intellectual property rights (TRIPs), part of the Uruguay Round agreements, obliges member States to provide protection of plant varieties, although disagreements on certain issues continue, for example, regarding materials that already exist in nature. See UNCTAD, *The Outcome of the Uruguay Round: An Initial Assessment — Supporting Papers to the Trade and Development Report, 1994* (United Nations publication, Sales No. E.94.II.D.28), chap. VIII, sect. C.2 (a) and sect. D.3; and FAO, "Analysis of some technical, economic and legal aspects for consideration in stage II", Commission on Plant Genetic Resources, first extraordinary session, Rome, 7-11 November 1994 (CPGR-Ex1/94/5 Supp.), September 1994.

^l Rural Advancement Foundation International (RAFI), *Conserving Indigenous Knowledge: Integrating Two Systems of Innovation* (New York, UNDP, 1994); UNCTAD, *The Outcome of the Uruguay Round: An Initial Assessment — Supporting Papers to the Trade and Development Report, 1994* (United Nations publication, Sales No. E.94.II.D.28), chap. VIII, sect. D.4; and José Esquinas-Alcázar, "Farmers' rights", Patenting workshop, European Parliament, Brussels, 3-4 March 1994.

^m This is particularly important because farmers need direct incentives to conserve diverse biological varieties *in situ* (in their natural habitats) while they also replace traditional crops with modern varieties with higher yields. Farmers are unable, however, to capture the rents associated with the plant genetic resources they conserve; instead, rents accrue in part to plant breeders and seed companies.

ⁿ FAO, "Issues for consideration in stage II: access to plant genetic resources, and farmers' rights", Commission on Plant Genetic Resources, first extraordinary session: revision of the international undertaking, Rome, 7-11 November 1994 (CPGR-Ex1/94/5), September 1994; and José Esquinas-Alcázar, "Farmer's rights", Patenting workshop, European Parliament, Brussels, 3-4 March 1994.

^o FAO, "The international network of *ex situ* germplasm collections: updating of the progress report on agreements with the international agricultural research centres", Commission on Plant Genetic Resources, first extraordinary session, Rome, 7-11 November 1994, CPGR-Ex1/94/Inf.5/Add.1), November 1994; FAO, "Analysis of some technical, economic and legal aspects for consideration in stage II", Commission on Plant Genetic Resources, first extraordinary session, Rome, 7-11 November 1994 (CPGR-Ex1/94/5 Supp.), September 1994; and RAFI, *Conserving Indigenous Knowledge: Two Systems of Innovation*.

^p The total contribution of germplasm held by IARCs to crop production in the developed countries is believed to be on the order of \$5 billion per year. A standard royalty of 2 per cent would yield \$100 million per year. See RAFI, *Conserving Indigenous Knowledge: Two Systems of Innovation*.

Property rights

The trend towards the privatization of agricultural research has been driven in part by the strengthening of the protection of intellectual property rights under patents and plant breeder's rights, which have increasingly included living materials,^k but there also exists a danger. Private research entails secrecy and inhibits free dissemination of knowledge, in contrast to the openness and widespread distribution of the results of the green revolution in the 1960s. On the other hand, the wider protection of intellectual property rights might encourage the spreading of new products by the patent holder through exports at prices that include royalties.

While the property rights in research outputs have been increasingly protected, rights of the providers of the natural inputs to the research have not been recognized under any current property-rights system. Much of the raw material used for agricultural research, the world's germplasm, has been freely available in the developing countries or through the genebanks of the IARCs. There are even cases in which patents have been applied for or granted to private companies that added little research to what had been undertaken by IARCs or learned by farmers over the years. In such cases, it is possible that farmers might end up paying royalties for use of products whose development was largely based on their own resources and knowledge.^l

To counterbalance this asymmetry, the concept of farmers' rights has been developed and endorsed by more than 160 countries in FAO Conference resolutions. The intention is to reward farmers for their efforts in conserving and improving genetic diversity and to allow farmers to benefit from the improved use of plant genetic resources through plant breeding and other scientific methods.^m For this purpose, an international fund for plant genetic resources will be set up to support plant genetic conservation, management and utilization programmes, particularly in developing countries. According to the resolutions, several areas deserve special priority, including the improvement of plant breeding and seed production. A number of issues regarding this fund, however, need to be resolved. Among them are its resources and how benefits would be transferred to farmers.ⁿ

One source of finance for the fund might be revenues from property rights in the germplasm collections of the IARCs. In October 1994 an agreement was signed by the IARCs to place all their genebanks (some 500,000 plant varieties with a large share being unique samples) under the auspices of FAO. Under the agreement, germplasm is to be kept in trust by the IARCs for the benefit of humanity, in particular the people of the developing countries. IARCs agreed not to claim legal ownership nor intellectual property rights. Samples are to be available "without restriction". Material transfer agreements would allow revenues to be collected, while restricting the recipient from seeking patents. These agreements would generally involve, *inter alia*, an initial payment from the recipient of the germplasm and an agreement on additional payments if the germplasm is commercialized by the recipient.^o Perhaps \$100 million per year might be mobilized for the fund in this way.^p

Funding a green revolution for Africa

These developments — the lack of commercial interest in African food crops, the concentration of research in large corporations and the increasing possibilities for acquiring patents on seeds — raise fears that Africa might never see a green revolution. Earnings from the genebanks might well aid farmers through their being applied to supporting research on seed varieties suitable for African conditions and to helping strengthen research capacity in Africa.

However, resources may not be generated by the genebanks for several years and even then may build up only slowly. Research activities warrant increased support today as well as in the future and thus there seems no escaping the appropriateness and desirability of increased international public support for agricultural research at this time. In the context of donor-country budgets, or even in the context of budgets for ODA, relatively small amounts of funds, which might later be replaced at least in part by earnings from the genebanks, could have very large payoffs in an area that constitutes an important human priority.

PART THREE

SOME
DIMENSIONS
OF ECONOMIC
AND SOCIAL
CHANGE

VIII MAJOR TRENDS IN POPULATION EMERGING IN THE 1990's

Recent United Nations population projections highlight three particularly significant developments in international population dynamics that are emerging in the 1990s.¹ The first is the slower than anticipated rate of growth of world population, which the Population Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat believes represents an acceleration of the long-term demographic transition from a high rate to a low rate of global population growth. Another concerns the growing effect of the spread of the acquired immunodeficiency syndrome (AIDS): the disease has become so prevalent in the heavily impacted countries as to affect national rates of mortality. As the effect is anticipated to worsen over time, it is expected to retard the long-term transition to a low level of mortality in these countries. A third development that is probably more transitory is the sharp deceleration in population growth in "eastern Europe".² Indeed, there was an actual decline in population in several countries in the past five years. This has been the result of fertility decline, rising mortality and net out-migration of population in response to the unsettled conditions that accompanied radical political changes and the ongoing economic transition from centrally planned to market economies.

WORLD POPULATION GROWTH

The rate of world population growth slowed significantly in the first half of the 1990s: world population is estimated to have increased at 1.57 per cent annually between 1990 and 1995 compared to 1.73 per cent a year in the past decade and a half (see table VIII.1). The current growth rate is the lowest recorded since the Second World War and marks the resumption of the declining trend that prevailed from the mid-1960s to the mid-1970s. The decline in the rate of growth in the first half of the 1990s reflects, on the one hand, the onset of slower population growth in many countries that previously had persistently high fertility and, on the other hand, a continuing or accelerating decline in population growth in other countries, including those that had fertility reduction policies in place.

United Nations projections indicate that the growth of world population will continue to slow steadily, falling to less than 1.0 per cent a year during 2020-2030. Consequently, world population is projected to increase from an estimated 5.72 billion in 1995 to 8.29 billion in 2025. World population is projected to continue growing after that, albeit by gradually slowing rates, reaching almost 10 billion people by 2050. World population will still be growing at that point, if only by 0.5 per cent a year.³

¹ See, *World Population Prospects: The 1994 Revision*, (United Nations publication, forthcoming).

² For the purposes of United Nations population estimates and projections, eastern Europe comprises the economies in transition of eastern Europe and the European States of the Commonwealth of Independent States.

³ However, under a lower assumed rate of fertility (the "low-fertility variant") world population would stabilize at about 8 billion people in 2040-2050 (for details on the conditions underlying assumed fertility rates, see *World Population Prospects: The 1994 Revision*...).

Table VIII.1.

SIZE AND GROWTH OF WORLD POPULATION, 1950-2045

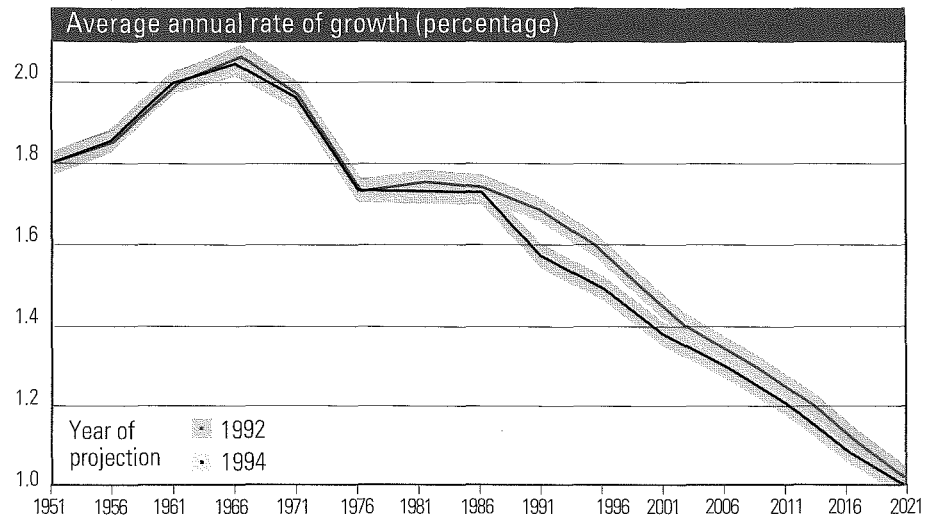
Period	Population at end of period (Billions)	Annual rate of change of population (Percentage)		
		World total	More developed regions ^a	Less developed regions ^a
1950-1955	2.75	1.78	1.20	2.05
1960-1965	3.34	1.99	1.10	2.36
1970-1975	4.08	1.96	0.81	2.37
1980-1985	4.85	1.73	0.56	2.09
1990-1995	5.72	1.57	0.40	1.88
2000-2005	6.59	1.37	0.25	1.63
2010-2015	7.47	1.20	0.18	1.41
2020-2025	8.29	1.00	0.10	1.17
2030-2035	9.01	0.78	-0.08	0.92
2040-2045	9.59	0.57	-0.14	0.67

Source: *World Population Prospects: The 1994 Revision* (United Nations publication, forthcoming), annex tables A.1 and A.2.

^a See footnote 5.

The current projections mark a downward revision of the projections (and estimates of historical population growth) made two years before. As may be seen in figure VIII.1, the largest revision is in the growth of population during the most recent five-year period. This unanticipated slowing of population growth is projected to carry forward into the future, so that the growth of world population is projected to be smaller than it was previously expected to be in each decade well into the next century. The revision entailed slower population growth in almost all geographical regions, developed and developing, especially in the past five years (see table VIII.2). By the end of the first quarter of the next century, however, the projected growth rates are almost as seen before.

Figure VIII.1.

THE GROWTH OF WORLD POPULATION OVER TIME
AS SEEN IN 1992 AND 1994

Source: Population Division, UN/DESIPA

Table VIII.2.
A COMPARISON OF WORLD POPULATION GROWTH RATES
AS PROJECTED IN 1992 AND 1994

Region	Average annual rate of change (percentage)			
	1991-1995		2021-2025	
	1992	1994	1992	1994
	Revision	Revision	Revision	Revision
World total	1.68	1.57	1.02	1.00
More developed regions	0.54	0.40	0.23	0.10
Less developed regions, of which	2.01	1.88	1.18	1.17
Africa	2.93	2.81	2.15	2.08
Asia	1.85	1.70	0.92	0.93
Latin America and Caribbean	1.79	1.84	0.90	0.96

Source: Data of Population Division, UN/DESIPA.

Note: The country grouping in the two projections differed slightly, in that the Asian member countries of the Commonwealth of Independent States were classified as Asian less developed countries in the 1994 revision, but in the 1992 revision they were part of the former Soviet Union and included in the more developed regions. See, also, footnote 5.

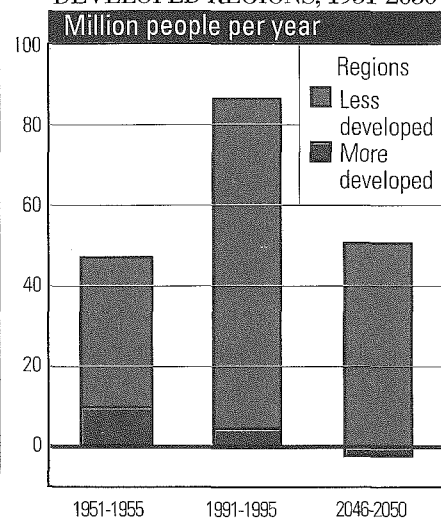
All told, this has a significant effect on the future size of the world population. By the year 2025, world population is expected to be 180 million less, or 2.1 per cent lower, than what had been projected in the previous exercise.⁴ In the current projections, as in previous ones, great variations in population growth rates persist across regions.⁵

While population growth rates in both more developed and less developed regions decline over time, the decline has been relatively more rapid in the more developed regions (see table VIII.1).

The population growth rate in the less developed regions is now almost five times as rapid as that in the more developed regions. That is, the growth rate in the 1990-1995 period was 0.4 per cent per year for the more developed regions and 1.9 per cent a year for the less developed regions (it was 2.8 per cent annually for the least developed countries). Among the countries of eastern Europe, the already low population growth rate declined sharply and turned negative (at -0.11 per cent per year) in the period.

The share of the contribution of the less developed regions to the annual increment of world population has thus risen substantially since the 1950s as a result of the persistent disparities in the growth rates of the different groups of countries. Whereas 79 per cent of the annual increase in world population between 1950 and 1955 originated in the less developed regions, 95 per cent of the increment between 1990 and 1995 originated in those regions (see figure VIII.2). It is expected that by 2045-2050 all of the net population growth in the world will arise in the less developed regions, as the population of the more developed regions is expected to be declining in absolute numbers.

Figure VIII.2.
POPULATION INCREASE
IN MORE AND LESS
DEVELOPED REGIONS, 1951-2050



Source: *World Population Prospects: The 1994 Revision* (United Nations publication, forthcoming).

⁴ Both projections were the medium-fertility variants; the earlier exercise was published in *World Population Prospects: The 1992 Revision* (United Nations publication, Sales No. E.93.XIII.7).

⁵ This classification of countries into regions is employed by the Population Division of the United Nations Secretariat for the purposes of United Nations population estimates and projections. More developed regions include North America, Japan, southern and western Europe (including Malta and former Yugoslavia), eastern Europe (as defined in footnote 2), Australia and New Zealand. Less developed regions include all of Africa, Latin America and the Caribbean and Asia (excluding Japan but including the central Asian States of the CIS, Cyprus and Turkey).

FALLING FERTILITY RATES

The important trend in population dynamics underlying the slower world population growth rate is the greater decline of world fertility. The world fertility rate declined by 13 per cent in the decade 1980-1985 to 1990-1995, to 3.1 births per woman (see table VIII.3).

The decline was more pronounced in the less developed regions (16 per cent) where fertility has remained relatively high. In those regions, the greatest decline was experienced in the countries of East and South-East Asia, particularly China, as well as Central and South America and Northern Africa.

Among the regions where fertility decline has been slower, that is, sub-Saharan Africa and South and West Asia, there are indications that the decline is nevertheless becoming more broad-based and sustained. Some countries in sub-Saharan Africa appear to have begun the transition to fertility decline. These include Madagascar, Rwanda, the United Republic of Tanzania, Namibia, South Africa and Mauritania. Fertility decline in others, such as the Gambia, Zambia and Zimbabwe, has accelerated while the trend towards lower fertility continued in countries where fertility declines had already been documented, such as Kenya and Botswana. In West and South Asia, the Islamic Republic of Iran is going through a rapid fertility transition, while past fertility declines are continuing in India and Nepal and accelerating in Bangladesh.

The most important factor in these declines is the increase in the prevalence of contraceptive use. A higher age at marriage has also helped to lower fertility in some countries. These changes are, in turn, the result of population and health policies as well as the increasing education of women and other dimensions of social and economic development.

In the more developed regions, fertility decline was most pronounced in eastern and southern Europe. The decline in southern Europe is a continuation of a long-term trend, with the exception of Albania and the former Yugoslavia. In eastern Europe, in contrast, it can be directly linked to the political and socio-economic changes that began in the late 1980s (see below).

Table VIII.3.

THE LEVEL AND CHANGE IN FERTILITY RATES, 1980-1995

Region	Total fertility rate		Change		
	(Births per woman)		in total fertility rate (Percentage)		
	1980-1985	1990-1995	1980-1985 to 1985-1990	1985-1990 to 1990-1995	1980-1985 to 1990-1995
World total	3.58	3.10	-5.6	-8.3	-13.4
More developed regions ^a	1.84	1.70	-0.5	-7.1	-7.6
Eastern Europe ^b	2.06	1.62	1.5	-22.5	-21.3
Less developed regions ^a	4.15	3.48	-7.7	-9.1	-16.1

Source: *World Population Prospects: The 1994 Revision* (United Nations publication, forthcoming), annex tables A.18 and A.19.

^a See footnote 5.

^b See footnote 2.

AIDS AND MORTALITY RATES

Mortality is continuing a long-term decline in most countries, with the average life expectancy for the world as a whole estimated to be more than 64 years in 1990-1995, an increase of almost one and a half years over 1985-1990. In many countries of sub-Saharan Africa, however, this trend has been attenuated by the growing impact of AIDS. While rapid gains in life expectancy would have been anticipated through the beginning of the next century in the absence of AIDS, its growing impact is expected to result in stagnation, and even decline, in life expectancy. This will result in a widening of the gap in life expectancy between these countries and other less developed and more developed countries. In the 15 hardest-hit countries,⁶ it is estimated that the toll from AIDS reduced the life expectancy at birth by three years from the expected level in 1990-1995. It is currently only 50 years and is projected to remain at this level through 2005, having been diminished by almost eight years by the effect of AIDS. In contrast, the average life expectancy of all less developed countries is anticipated to increase from 62 years to 65 years from 1995 to 2005.

The rising death toll due to AIDS will impede the growth in the size of the population of these countries, although it will continue to be positive. In 1995, their population is 221 million, approximately 2 million or 1 per cent less than it would have been without AIDS (see table VIII.4). By the year 2005, their population is projected to be 292 million, about 12 million or almost 4 per cent less than would have been expected in the absence of AIDS. Furthermore, the population of the most severely impacted countries — Uganda, Zambia and Zimbabwe — will be 6 to 7 per cent lower than would have been anticipated without AIDS.

⁶ These are Benin, Burkina Faso, Burundi, the Central African Republic, the Congo, Cote d'Ivoire, Kenya, Malawi, Mozambique, Rwanda, Uganda, the United Republic of Tanzania, Zaire, Zambia and Zimbabwe.

Table VIII.4.
PROJECTED POPULATION SIZE WITH AND WITHOUT AIDS
FOR SUB-SAHARAN AFRICAN COUNTRIES, 1985-2005

Population (Thousands)					
	1985	1990	1995	2000	2005
15 sub-Saharan African countries					
With AIDS	161 657	189 447	221 225	254 630	291 791
Without AIDS	161 661	189 758	223 383	260 833	303 397
Percentage difference	—	-0.2	-1.0	-2.4	-3.8
Total of Uganda, Zambia and Zimbabwe					
With AIDS	30 366	36 003	42 013	47 886	54 180
Without AIDS	30 367	36 117	42 760	49 946	57 928
Percentage difference	—	-0.3	-1.7	-4.1	-6.5

Source: *World Population Prospects: The 1994 Revision* (United Nations publication, forthcoming), chap. IV.

THE SITUATION IN TRANSITION ECONOMIES

The political and economic transformation of countries in eastern Europe has had a profound effect on the population dynamics of that region, including fertility, mortality and international migration. First, there was a sharp drop in fertility. In contrast to the virtual absence of change from the first half of the 1980s to the second half, fertility in the 1990-1995 period was 23 per cent lower than in the 1985-1990 period. Because of the initially low levels of fertility, all the countries in the region, except Republic of Moldova, currently have total fertility rates that are below replacement level (about two children per woman). This sharp decline was widespread among the countries in the region.⁷

At the same time that fertility has declined, mortality has risen; average life expectancy at birth fell between 1985-1990 and 1990-1995. This deterioration was found only in the life expectancy of males as there has been slight improvements in female life expectancy. Although the decline in the life expectancy of men began in the early 1980s owing to an increase in death from cardiovascular diseases, death rates from other degenerative and infectious diseases and external causes, such as accidents and suicides, rose in the early 1990s.

The increase in international migration in the region has also been significant, as formerly centrally planned economies of eastern Europe and the successor States of the former Soviet Union liberalized their exit policies and ethnic conflict prompted international flows of population. The net out-migration from the countries of eastern Europe (excluding the states of the CIS) increased substantially, from 700,000 in 1985-1990 to 850,000 in 1990-1995, mostly destined for western Europe. There have been significant increases in migration among the European successor States of the former Soviet Union with net out-migration from Latvia, Lithuania and Estonia and net in-migration to the Russian Federation and Ukraine. The out-migration from the former group of States is primarily of ethnic Russians to the Russian Federation. Out-migration from the Russian Federation and the Ukraine is mainly to western Europe, Israel and the United States while in-migration is from other successor States.

Population dynamics in the Asian States of the CIS have also been significantly affected by the breakup of the former Soviet Union. However, population growth rates have remained strongly positive despite the acceleration of fertility decline after 1990 and net out-migration since 1985. This is because of the initial relatively high level of fertility and continued gains in life expectancy. Thus, the annual population growth rate from 1990 to 1995 in all but two of these States was more than 1 per cent, with the highest rate of growth reaching almost 3 per cent.

⁷ Similar trends have been found in Estonia, Latvia and Lithuania, which are grouped as "northern European" countries for purposes of population analysis.

IX THE SOCIO-ECONOMIC STATUS OF WOMEN

The *World Economic Survey*, the predecessor of the present publication, has assessed and analysed the socio-economic attainment of women and their contribution to economic development on several occasions.¹ With the approach of the Fourth World Conference on Women: Action for Equality, Development and Peace, which will take place in Beijing in September 1995, the status of women and their contribution to economic and social development are the centre of international discussion. The present chapter highlights certain major developments in the areas of education, training and labour markets.²

EDUCATION AND TRAINING

Education is one of the most important means for women to acquire knowledge and skills that will enable them to fully participate in the development process and improve upon their own and their families' living standards. Despite some progress, the gap between male and female educational attainment is still wide.

The estimated illiteracy rate of women aged 15 years or over has declined over the past decades in all developing regions as table IX.1 demonstrates. The female illiteracy rate fell to 15 per cent in Latin America, and the gap in relation to male illiteracy is relatively small. On the other hand, female illiteracy is significantly higher in Africa and in western and southern Asia than in Latin America and the difference between women and men still considerable.

Averages presented in table IX.1 conceal wide disparities, however, across countries, geographical areas and age groups. Usually, the higher the overall illiteracy rate in a country, the wider the disparity between female and male illiteracy rates. This can be seen in particular in figure IX.1 in which each point represents a country and the countries that are farther away from the origin (zero male and female illiteracy) tend to be farther above the "equality line", where male and female illiteracy rates are the same.

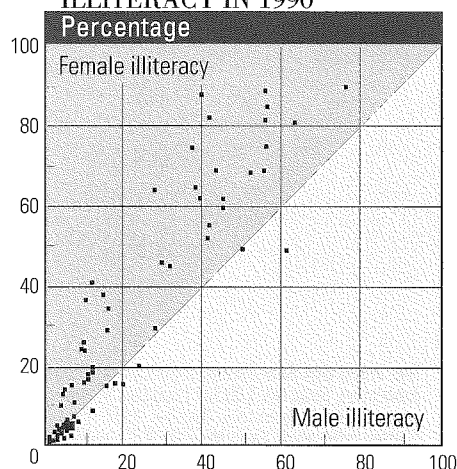
Illiteracy among older women tends to be higher than among younger women. In some countries, illiteracy rates among women of at least 25 years of age are more than twice as high as those among women ages 15-24. The older the women, the larger the difference. However, as figure IX.2 shows for a selection of countries for which adequate data were available, the countries with high illiteracy among women over 25 years of age also tend to show large drops in illiteracy among younger women, implying a considerable advance achieved in offering educational opportunities to women. This notwithstanding, in some countries illiteracy rates remained inordinately high among the younger age group.

Inequalities in access to education also exist between women living in urban areas and those in rural areas, with the latter usually showing much higher illiteracy rates, particularly in low- and medium-income countries. Illit-

¹ See *World Economic Survey, 1989* (United Nations publication, Sales No. E.89.II.C.1 and Corr.1), Special issue I; *World Economic Survey, 1990* (United Nations publication, Sales No. E.90. II.C.1 and Corr.1 and 2), Special issue A; and *World Economic Survey, 1991* (United Nations publication, Sales No.91.II.C.1), chap. IX, sect. A.

² The Statistical Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat, in collaboration with other departments of the United Nations Secretariat and the specialized agencies, has prepared a major report on the current socio-economic situation of women worldwide on which the present chapter draws heavily, namely *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2).

Figure IX.1.
FEMALE VERSUS MALE
ILLITERACY IN 1990^a



Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), table 4.

^a Illiteracy of males and females, ages 15-24

eracy rates in those countries tend to be higher among young women in rural areas than among those in the cities. The relatively small degree of political attention that distant, rural areas often receive from the central government is one of the factors underlying such a difference. Women in rural areas are also relatively disadvantaged in attaining literacy owing to stronger traditional and cultural attitudes in rural as compared with urban areas and the heavy demand for subsistence agricultural labour. While boys are sent to school, girls need to help their mothers take care of younger children, gather fuel and carry water.

Although adult illiteracy rates among females are still high in some regions, there has been progress in increasing the number of girls enrolled in primary and secondary schools. The combined primary plus secondary enrolment ratios presented in table IX.2 indicate improvements in overall female enrolment through the secondary level. The female gross enrolment ratio increased in most developing regions — the exception being Oceania — during the last decade, and in many instances at rates faster than those for men. Latin America and eastern, south-eastern and western Asia show comparable female and male enrolment ratios. In southern Asia, however, the gap remains wide despite the fact that female enrolment increased faster than male enrolment.

Notwithstanding the progress made, the number of countries where girls' combined primary and secondary enrolment ratio is equal to or greater than boys' is still limited. The number of countries reached 48 (out of the 118 countries for which data were available) in 1990 up from 37 in 1980 (see table IX.3). In several countries, enrolment ratios were reduced owing to a stagnation or decline in enrolment resulting from the deterioration of economic conditions and other adverse circumstances that had been experienced by these countries during the last decade.

Women are also increasing their presence in higher education, and in 1990 in some regions (eastern Europe, the developed countries outside western Europe, Latin America and the Caribbean and western Asia) they outnumbered men. In sub-Saharan Africa and southern Asia, however, they still lag behind, considerably as may be seen from table IX.4.

Table IX.1.
ADULT ILLITERACY RATE,^a
1980 AND 1995

Percentage	1980		1995 ^b	
	Female	Male	Female	Male
Developed regions^c	5	2	2	2
Sub-Saharan Africa	71	48	53	33
Latin America and the Caribbean	23	18	15	12
North Africa and western Asia ^d	74	45	56	32
Eastern and south-eastern				
Asia and Oceania	42	20	24	9
Southern Asia	76	47	63	37

Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), chart 4.1.

^a Aged 15 years or over.

^b Projection.

^c Approximations.

^d Also including Djibouti, Mauritania and Somalia.

Table IX.2.
PRIMARY PLUS SECONDARY
ENROLMENT PER 100
SCHOOL-AGE POPULATION,
1980 and 1990

	1980		1990	
	Girls	Boys	Girls	Boys
Western Europe and other developed regions	92	92	99	98
Eastern Europe	91	92	90	89
North Africa	50	74	67	82
Sub-Saharan Africa	38	52	44	55
Latin America and the Caribbean	77	78	83	81
Eastern Asia	86	89	91	92
South-eastern Asia	72	77	74	77
Southern Asia	32	55	43	59
Western Asia	71	82	84	89
Oceania	61	65	59	66

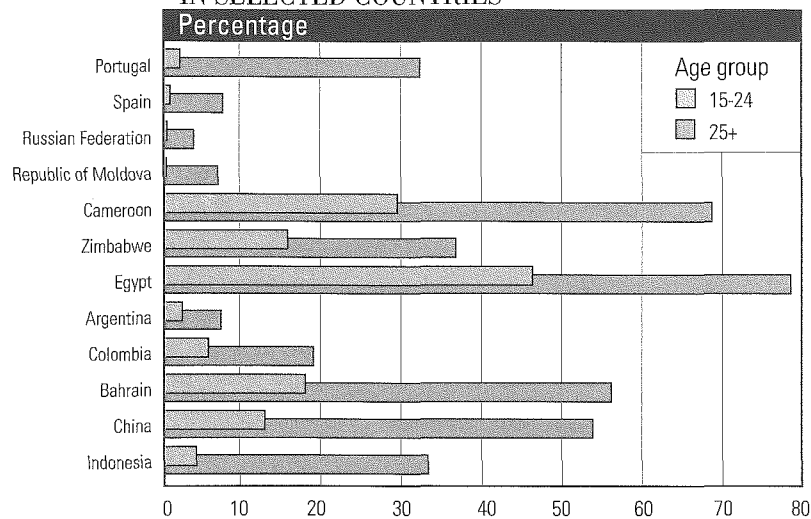
Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), chart 4.5.

Table IX.3.
NUMBER OF COUNTRIES WHERE FEMALE GROSS ENROLMENT RATIO
IN PRIMARY PLUS SECONDARY LEVEL WAS EQUAL TO OR GREATER
THAN MALE COMBINED ENROLMENT RATIO, 1980 AND 1990

Region/group	Number of countries with data available for both years		
	1980	1990	
Developed countries and eastern Europe	17	22	30
Africa	2	3	41
Latin America and the Caribbean	11	12	16
Asia and the Pacific	7	11	31
Total	37	48	118

Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), table 4.

Figure IX.2.
FEMALE ILLITERACY
BY AGE GROUP
IN SELECTED COUNTRIES



Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), table 4.

Note: Data for most countries refer to 1990

Table IX.4.
WOMEN PER 100 MEN
ENROLLED AT THE TERTIARY
LEVEL, 1970 AND 1990

	1970	1990
Developed regions		
Western Europe	52	93
Other developed countries	53	104
Eastern Europe	78	103
Developing regions		
North Africa	24	63
Sub-Saharan Africa	20	34
Central America	93	103
South America	56	100
Caribbean	69	140
Eastern Asia	37	71
South-eastern Asia ^a	45	58
Southern Asia	36	38
Western Asia	56	113
Oceania	..	87

Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), chart 4.10.

^a Excluding the Philippines, for which the figures were 126 in 1970 and 143 in 1990.

WORK, LABOUR FORCE PARTICIPATION AND EMPLOYMENT

During the past 25 years, women's share in the labour force increased somewhat, with the exception of sub-Saharan Africa where it declined slightly, from 39 per cent in 1970 to 38 per cent in 1990, and central Asia, where it declined also slightly, from 45 per cent in 1970 to 44 per cent in 1990. The most significant gains occurred in Latin America, the Caribbean, western Europe, southern Asia and north Africa (see table IX.5). The last, however, remains the region whose share was lowest, at 21 per cent in 1990.

The gender breakdown of the labour force is reflected in differences in economic activity rates between men and women, the rates for the latter being usually lower than those for the former.³ Men's activity rates exhibited little variation across regions, ranging from 75 per cent in eastern Europe to 87 per cent in sub-Saharan Africa in 1990. Women's participation rates, however, showed a much wider range: extending from 21 per cent in north Africa to 58 per cent in eastern Europe. Such divergences are partially explained by differences in cultural attitudes towards women working outside the home and, to a lesser extent, by the degree of economic development and the possibilities for wage employment in the countries concerned.

Over the past 25 years, the female participation rate has remained stable at about 57 per cent in eastern Europe, declined in sub-Saharan Africa and eastern Asia, and increased in all other regions (see table IX.6). Women's participation increased faster in the 1980s than in the 1970s in many regions. This might be explained by an increase in women-headed households, increasing the need of women to support their families; migration of men, leaving jobs for women; and a decline in fertility. On the other hand, stagnant and declining economies may explain why female participation in sub-Saharan Africa dropped from 57 per cent in 1970 to 53 per cent in 1990.

³ There are serious problems of measurement in this area involving definitions, methodology and data collection. The International Labour Organization (ILO) notes, for example, that activity rates for females are frequently not comparable internationally as the treatment of unpaid workers is not standardized in the definition of the economically active population by the various countries (see ILO, Yearbook of Labour Statistics (1992, Geneva), p. 3).

Table IX.5
WOMEN'S SHARE IN
THE ADULT^a LABOUR FORCE,
1970 AND 1990

	1970	1990
Developed countries	33	42
Eastern Europe	44	47
Developing countries		
North Africa	9	21
Sub-Saharan Africa	39	38
Latin America	20	34
Caribbean	32	43
Eastern Asia	40	41
South-eastern Asia	35	40
Southern Asia	20	35
Central Asia	45	44
Western Asia	19	25
Oceania	31	36

Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), chart 5.4A.

^a Aged 15 years or over.

Table IX.6.
ADULT FEMALE ECONOMIC ACTIVITY RATES, 1970, 1980, 1990

percentages	1970	1980	1990
Developed countries			
Western Europe	37	42	51
Other	40	46	54
Eastern Europe	56	56	58
Developing countries			
North Africa	8	12	21
Sub-Saharan Africa	57	54	53
Latin America	22	25	34
Caribbean	38	42	49
Eastern Asia	57	58	56
South-eastern Asia	49	51	54
Southern Asia	25	24	44
Central Asia	55	56	58
Western Asia	22	26	30
Oceania	47	46	48

Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), chart 5.4C.

Table IX.7.

DISTRIBUTION OF THE FEMALE AND MALE LABOUR FORCE BY INDUSTRIAL SECTOR, 1994

Percentage	Female			Male		
	Agriculture	Industry	Services	Agriculture	Industry	Services
Developed countries						
Western Europe	7	20	73	8	44	48
Other	5	19	77	6	38	55
Eastern Europe	17	35	48	20	45	45
Developing countries						
North Africa	25	29	46	27	33	40
Sub-Saharan Africa	75	5	20	61	15	23
Central America	7	19	74	41	23	36
South America	10	14	76	27	28	45
Caribbean	11	12	77	23	28	49
Eastern Asia	35	29	36	29	34	37
South-eastern Asia	42	16	42	47	19	34
Southern Asia	55	25	20	59	14	27
Central Asia	33	20	47	34	31	35
Western Asia	23	15	61	19	33	48
Oceania	21	13	66	27	29	44

Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), chart 5.7.

The distribution of the female labour force by kind of economic activity shows a pattern very different from that of the male distribution. The female labour force tends to have a high concentration in one sector; (except in eastern Asia where the distribution of the female labour force across sectors is more uniform). Women tend to predominate in services (developed countries, Latin America and the Caribbean, western Asia and Oceania) and in agriculture (sub-Saharan Africa and southern Asia) (see table IX.7). Industry is the sector where women tend to be the least represented. The male labour force, on the other hand, predominates in industry.

Women's and men's occupations have always differed. Women are often found in occupations that are losing prestige, and therefore command less income, while occupations of higher status are dominated by men. Women are underrepresented in administrative, managerial, transport and production jobs, while they predominate in clerical, service and lower-level professional and technical occupations (see table IX.8).

Women face major obstacles when they attempt to translate their educational attainment into economic advancement. Trends in the teaching profession, for instance, clearly illustrate this fact. At earlier stages of economic development, men occupy the bulk of education occupations at all levels; but they advance as new and better-paid positions in the secondary and higher education levels are created, while women occupy the vacated lower-paid jobs. The higher the educational level, the less frequent the presence of women among the teaching staff. In the developed countries, women represent about one fourth of all university professors but 75 per cent of all teachers at the primary level (see table IX.9).

Table IX.8.
WOMEN'S SHARE IN MAJOR OCCUPATIONAL GROUPS, 1990

Percentage					
	Professional, technical and related workers	Administrative and managerial workers	Clerical and related workers; service workers	Sales workers	Production and related workers; transport equipment operators and labourers
Developing countries					
Western Europe	50	18	63	48	16
Other	44	32	69	41	22
Eastern Europe					
	56	33	73	66	27
Developing countries					
North Africa	29	9	22	10	10
Sub-Saharan Africa	36	15	37	52	20
Latin America	49	23	59	47	17
Caribbean	52	29	62	59	21
Eastern Asia	43	11	48	42	30
South-eastern Asia	48	17	48	53	21
Southern Asia	32	6	20	8	16
Western Asia	37	7	29	12	7
Oceania	41	18	52	53	17

Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), chart 5.16.

Table IX.9.
TEACHERS WHO ARE WOMEN, BY LEVEL TAUGHT, 1990

Percentage			
	Primary	Secondary	University or equivalent degree-granting institution
Developed regions			
	75	51	26
Developing regions			
North Africa	48	35	23
Sub-Saharan Africa	39	23	15
Latin America and the Caribbean	73	52	32
Eastern Asia	67	45	26
South-eastern Asia	57	51	31
Southern Asia	34	26	20
Western Asia	56	45	22
Oceania	54	40	23

Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), chart 4.11.

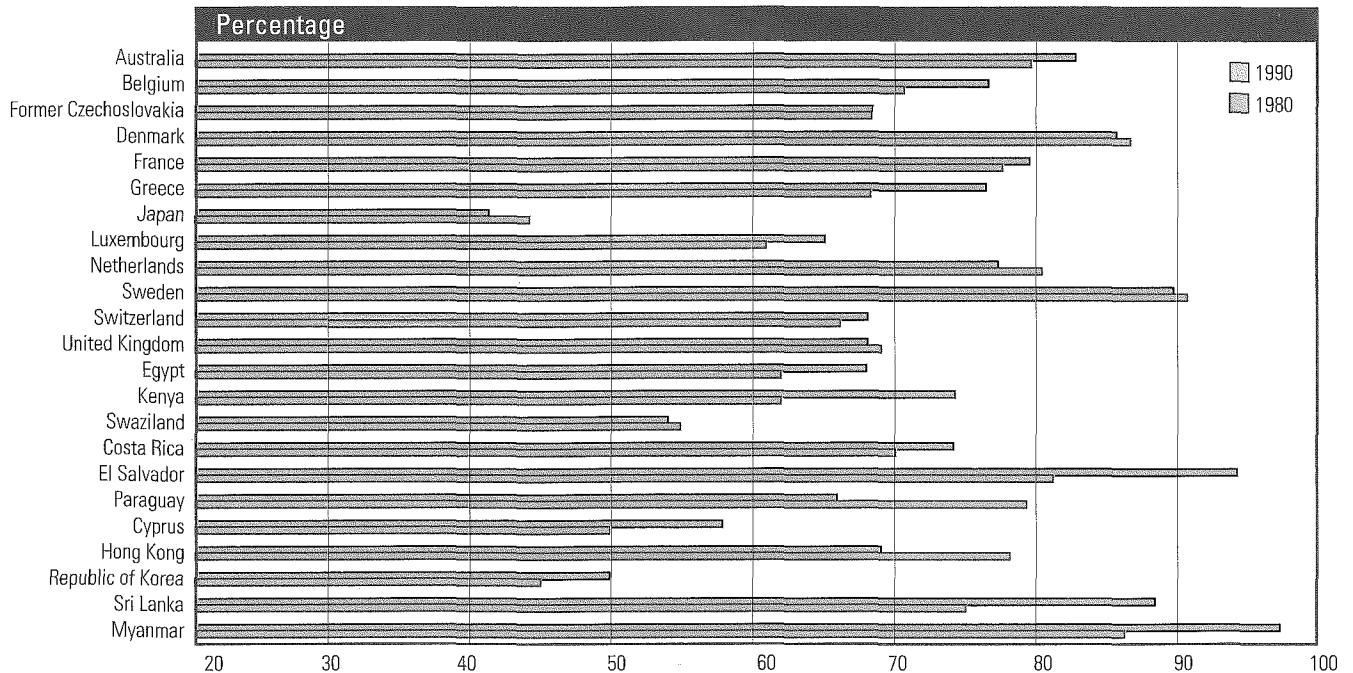
Gender segregation exists with respect to the top and bottom of the occupational hierarchy and within job categories. Job segregation involves factors such as skill, responsibility, pay, status and power. Women have fewer educational opportunities than men to acquire the relevant skills to occupy better-paid jobs. Female-dominated jobs offer less advantages than male-dominated occupations in terms of pay, benefits, security of contract and opportunities for promotion.

In many countries, the male-female wage gap narrowed during the past decade; however, significant differences persist. In all of the countries included in figure IX.3, for example, women's pay in manufacturing was lower than men's. Differences can be significant, as in the case of Japan where women working in manufacturing typically earned only 40 per cent of the average man's salary in 1990. Women who work in manufacturing tend to be found in a limited number of industries, usually labour-intensive ones (for example, the garment and food-processing industries). Moreover, they frequently have jobs that have low occupational status: 67 per cent of them are characterized as workers, while only 5 per cent occupy professional-technical positions. Less than 2 per cent of women in manufacturing carry out administrative-managerial functions.⁴

Another important factor explaining the lower level of women's earnings is part-time work. Women are much more likely than men to work part time. Part-time occupations, however, usually demand less skill and command lower pay and benefits than full-time jobs. Other factors include legal barriers and family roles.

⁴ *Women in a Changing Global Economy: 1994 World Survey on the Role of Women* (United Nations publication, Sales No. E.95.IV.1), subsection 4 entitled "Women in manufacturing".

Figure IX.3.
WOMEN'S WAGES IN MANUFACTURING AS A PROPORTION OF MEN'S WAGES,
1980 AND 1990



Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), chart 5.20.

A considerable share of the labour force of developing countries' is engaged in work in the informal sector. In the African countries for which information is available, with the exception of Egypt, about one third or more than of the female non-agricultural labour force works in the informal sector. In some African countries, the informal sector is the major employer, absorbing more than 50 per cent of the female labour force. Although the relative importance of the informal sector as a source of employment is smaller in other developing regions, the sector employs a considerable share of the non-agricultural labour force in these regions as well (see table IX.10). The fact that, with some exceptions, women's presence in the sector is greater than men's is an indication of the difficulties that women face in finding jobs in the formal sector. Additionally, incomes generated in the informal sector are usually lower and more insecure than those in the formal sector.

Table IX.10.

SHARE OF THE FEMALE AND MALE NON-AGRICULTURAL LABOUR FORCE ENGAGED IN WORK IN THE INFORMAL SECTOR, SELECTED COUNTRIES

Percentage			
Country	Year	Female	Male
Burundi	1990	32	21
Congo	1984	57	25
Egypt	1986	3	21
Gambia	1983	62	25
Mali	1990	34	45
Zambia	1986	72	29
Brazil	1990	21	19
Costa Rica	1984	8	19
Honduras	1990	34	21
Jamaica	1988	28	25
Mexico	1992	15	22
Uruguay	1985	15	17
Venezuela	1992	21	23
Indonesia	1985	65	41
Iraq	1987	5	11
Republic of Korea	1989	41	48
Malaysia	1986	24	17
Qatar	1986	0	1
Syrian Arab Republic	1991	24	12
Turkey	1985	7	21
Fiji	1986	10	15

Source: *The World's Women, 1995: Trends and Statistics* (United Nations publication, Sales No. E.95.VII.2), table 5.2.

X TECHNOLOGY, OPEC AND THE SUPPLY OF CRUDE OIL

Following the collapse of oil prices in 1986 and except for a short period of time in 1990, oil prices fluctuated within a range of \$16 to \$20 a barrel.¹ Over the past few years, however, oil prices moved to a lower range of \$13 to \$18 a barrel. The current range appears to reflect a level that permits most established oil producers to remain profitable for many years to come, although more and more small marginal oil producers, particularly in the United States of America, may be squeezed out of business. Reduction in exploration and development costs, combined with deregulation, privatization and the opening up of energy markets in a number of oil-producing countries, have led to this new situation. In the meantime, the influence on the market of the Organization of the Petroleum Exporting Countries (OPEC) seems to have weakened considerably and its ability to affect prices appears to have declined. Nevertheless, OPEC remains a major factor in the world oil market and it will likely be a growing factor in the medium run as world demand strengthens.

CHARACTERISTICS OF THE WORLD OIL MARKET TODAY

With the expansion of spot and futures markets for varieties of crude oil, oil prices have begun to behave more like other commodity prices. The prices of most varieties of crude oil tend to follow the prices of certain heavily traded benchmark crudes, most notably Brent and West Texas Intermediate. The growing depth of futures trading has brought more transparency to the petroleum market in the sense that the oil sector now reacts more quickly to shifts in supply or demand. However, often because of the eagerness of traders to make quick profits, rumours or speculation influence oil trading in a way that sometimes obscures the fundamentals.

It seems, however, that while the development of such markets has engendered more short-term volatility in normal times than in earlier years, it has also tended to mitigate, rather than amplify the effect of sudden major supply shortfalls. This was demonstrated, for example, by the reaction of the oil market during the Gulf war of 1990/91, when oil prices rose sharply in the early months of the invasion, but quickly fell back and remained low in the middle of the crisis once uncertainties were reduced over the ability of Iraq to inflict damage to Saudi oil facilities. Oil prices remained low and fell further every year since then in spite of the continuing embargo on Iraqi oil and the reduced oil exports from the former Soviet Union.

Many oil analysts take these developments to mean that oil prices are progressively being determined by market fundamentals rather than by OPEC. Indeed, additional non-OPEC supplies have lowered the demand for OPEC oil.

¹ Oil prices refer to the average spot prices of the OPEC basket of seven crude oils.

Reluctant to play the role of the residual supplier and unwilling to give up market share, OPEC members have often continued to produce at levels close to their quotas, creating an oversupply. As the oil market reacts to the oversupply, prices and revenues begin to fall, leading producers to produce even more in order to meet revenue targets despite the fall in prices. This exacerbates the oversupply and exerts further downward pressure on prices. In this scenario, the downward trend of prices will be reversed only when OPEC curtails output significantly or when demand for its oil rises considerably.

Yet, if one were to conclude that OPEC is no longer as potent as it once was, it still would not follow that the present level of oil prices was the result of supply and demand in a competitive market. A truly competitive market would push prices significantly lower than they have been. In a competitive market, the price of exhaustible resources is determined by the marginal extraction cost, which at current world production volumes is at least one third less than the prices of today (see discussion of the oil-supply curve below). Thus, while OPEC may have less control of prices, it would be wrong to consider OPEC irrelevant to the formation of world oil prices. It is still the only force keeping prices high enough to allow partial replacement of depleting reserves in relatively high-cost areas, such as the United States.²

In fact, OPEC has accounted for an increasing share of world oil production, especially since 1986. Lower oil prices, combined with a mature and depleting reserve base in long-established producers, have accelerated production declines, particularly in the United States. Also, because of reduced investment and poor maintenance of oil facilities, oil production in the Russian Federation has declined by 5 million barrels per day (mbd) since 1988. This loss of output is larger than the total production of any country in the world other than Saudi Arabia and the United States. This fall, combined with the decline of oil production in the United States, more than offset the remarkable rise of output in the North Sea and in a number of non-OPEC developing countries, most notably, Colombia, Malaysia, Oman, the Syrian Arab Republic and Yemen. As a result, total non-OPEC production declined slightly but steadily until 1993.

Nevertheless, total non-OPEC supply rose in 1994 and is expected to continue to rise over the rest of the present decade. The volume of oil output in the States of the former Soviet Union remains very uncertain, but it is likely to fall further before it recovers in the second half of the 1990s. By contrast, oil output in the North Sea and Canada is likely to keep rising over the next several years. Production in Mexico and China will also likely rise, but the extent of the increase will depend on the level of investment in the expansion of new production capacity. Production in Argentina, Brazil, Colombia, Ecuador, Oman, Papua New Guinea, the Syrian Arab Republic, Viet Nam and Yemen will continue rising as well, while production in many other countries in Africa will depend on the extent of participation of foreign oil companies in exploration and development.

What this means is that while increased world oil consumption will ultimately again have to be increasingly supplied from OPEC reserves, it will also be met by gradually rising supplies from a number of non-OPEC oil producing countries. At present, OPEC production capacity is estimated at about 30 mbd, but estimates of capacity by the year 2000 range from 34 mbd to 40 mbd, depending on the level of capacity to be kept in reserve. Expansion of capacity

² See John Lichtblau, "Forecasting oil trends: mirrors or telescopes", paper presented at the ninth Asia-Pacific Petroleum Conference (APPEC'93), Singapore, 13 September 1993.

by such magnitudes will require large investments — probably exceeding \$40 billion³ — which many OPEC members could only finance in conjunction with investment by foreign oil companies. Given the experience of the recent past, however, expansion of capacity may not be synchronized with growth in demand and there are likely to be periods of oversupply and undersupply, leading to price volatility. But ultimately, the very ample and low-cost reserves from the Middle East will undoubtedly be turned into producing capacity.

In 1950, world reserves were estimated at only 76 billion barrels of crude oil. They rose to 640 billion barrels by the end of 1979 and to 1,000 billion barrels by the end of 1994 (see table X.1). Estimates of probable additions to reserves vary widely, but a conservative estimate would be in the range of 500 billion to 1,000 billion barrels. Most importantly, more than three quarters of the present proved world oil reserves are in OPEC countries and about two thirds are located in five Middle East countries: the Islamic Republic of Iran, Iraq, Kuwait, Saudi Arabia and the United Arab Emirates. The latter countries are doubly blessed because they also enjoy the lowest production costs. At current production levels, the reserve-to-production ratio, an index usually used to approximate the life expectancy of reserves, stands at 84 years for OPEC and at only 18 years for non-OPEC countries. In the Middle East, the reserve-to-production ratio is 97 years. In the United States, by contrast, the ratio is only 9.5 years.

³ If one were to estimate that in the Middle East the average investment needed to add a barrel of daily capacity is about \$4,000, then, an expansion of production capacity by 10 million barrels per day would require a total investment of \$40 billion. It should be noted that estimates of the average investment needed to add a barrel of daily capacity in the Middle East range from less than \$1,000 to over \$10,000. Professor Morris A. Adelman believes in the lower range of these estimates. For more details, see M. A. Adelman, *The Economics of Petroleum Supply* (Cambridge, Massachusetts, MIT Press, September 1993).

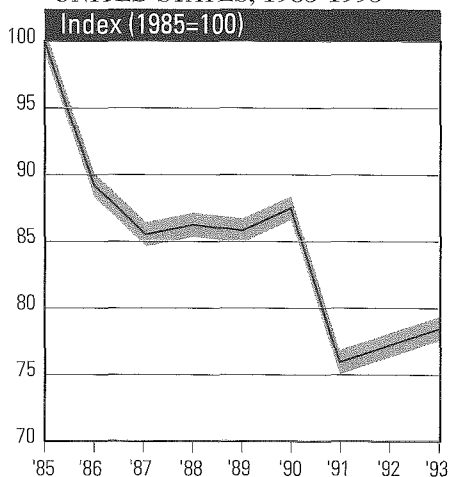
Table X.1.
WORLD PROVED OIL RESERVES,
1979 and 1994

	End 1979		End 1994	
	Millions of barrels	Percentage of world total	Millions of barrels	Percentage of world total
Developed market economies	58 796	9.2	45 880	4.6
Economies in transition	70 000	10.9	59 196	5.9
Developing countries	512 545	79.9	894 685	89.4
OPEC member countries	435 611	67.9	770 249	77.0
Kuwait	68 530	10.7	96 500	9.7
Iran (Islamic Republic of)	58 000	9.0	89 250	8.9
Iraq	31 000	4.8	100 000	10.0
Saudi Arabia	166 480	26.0	261 203	26.1
United Arab Emirates	29 411	4.6	98 100	9.8
Other	82 190	12.8	125 196	12.5
Non-OPEC developing countries	69 930	10.9	124 436	12.4
World total^a	641 341	100.0	999 761	100.0

Source: UN/DESIPA, based on *Oil and Gas Journal*, 24 December 1979 and 26 December 1994.

^a Totals may not add up because of rounding.

Figure X.1.
OPERATING COSTS
OF OILFIELDS IN THE
UNITED STATES, 1985-1993



Source: United States Department of Energy, *Cost and Indices for Domestic Oil and Gas Field Equipment and Production Operations, 1990 through 1993* (Washington, D.C., July 1994).

THE SIGNIFICANCE OF ADVANCES IN TECHNOLOGY

In recent years, the international oil industry has maintained a large profit margin, particularly upstream outside the United States, and avoided a precipitous decline in output despite the sharp decline in oil prices. The key factors behind this sustained profitability are a reduction in operating costs and gains in efficiency and productivity brought about by a rapid transfer and application of new technology throughout all sectors of the petroleum industry. The impact of technological innovations on the reserve base and on the overall cost of oil production has been substantial. Thanks to technological advance, oil can now be located more accurately and produced more efficiently than ever before. Innovative engineering and better understanding of earth science are yielding gains that even a few years ago could hardly be contemplated. Major oil companies are continuously relying on breakthroughs in technology that enable a better evaluation of oilfields and that locate potential deposits more accurately, driving down the cost of production from new oilfields.

The Falling Cost of Finding Oil

In 1986, OPEC attempted to regain the market share that it had been losing to other producers. As a result, oil prices fell by one half and an adjustment programme was set in motion that led the oil industry to drastically cut production costs. The degree of adjustment is not easily measured internationally, but the magnitude of the change seems to be well illustrated by the behaviour of operating costs in the domestic oilfields of the United States, as shown in figure X.1. The steep fall of oil prices in 1986 forced oil producers to re-evaluate their operations and to reposition for the future. Virtually all oil companies that are in business today have gone through intense periods of restructuring involving cost cutting. A significant part of the decline in production costs is the result of improvement in productive capacity brought about by rapid progress in petroleum technology. A large portion of the decline is also attributed to lower production taxes and royalty payments and to substantial reductions in the workforce, ranging from 20 to 40 per cent. In the United States, for example, employment in the upstream sector of the petroleum industry declined by 40 per cent between 1985 and 1992.⁴

The impact of technology has been substantial, particularly in reducing exploration and production costs. While petroleum technologies have been progressing ever since the first oil well was drilled in 1861, their impact has been particularly pronounced in the past several years because of rapid advances in computers. Exploration and development expenditures of international oil companies are at less than their level of the early 1980s. Oil companies are drilling fewer wells to find and produce oil than they did just a few years ago. Yet, many of these companies have managed to maintain and even improve their oil reserves position. Advances in technology have not only reduced exploration and development costs and improved efficiency and productivity, they have also led to more oil discoveries. Companies have also redirected their activities toward exploration and development in lower-risk areas. The result has been the growth in world oil reserves noted above.

⁴ Kevin Forbes, Joan Heinkel and Ernest Zampelli, "Productive efficiency in the upstream oil and gas industry", paper presented at the Sixteenth Annual North American Conference of the United States Association for Energy Economics and the International Association for Energy Economics, Dallas, Texas, 6-9 November 1994.

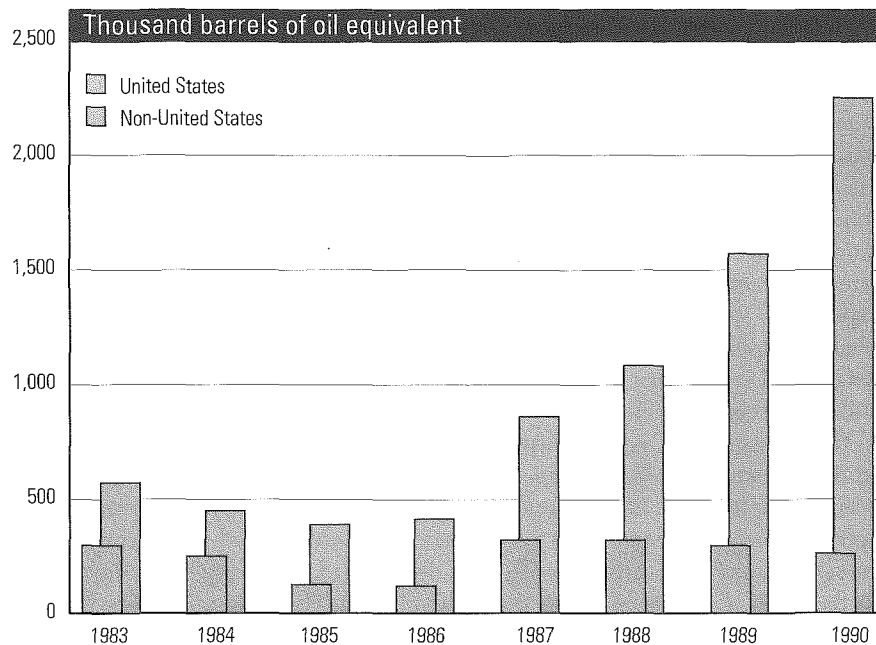


Figure X.2.
OIL RESERVES ADDED
PER SUCCESSFUL WELL,
1983-1990

Source: Jeffrey A. Schmidt, "Cost restructuring: challenge of the 1990's," *Oil and Gas Journal*, 18 November 1991.

The kind of petroleum-engineering techniques that have revolutionized the oil industry in recent years include: three-dimensional (3 D) seismic surveys, remote sensing, horizontal drilling, slimhole drilling, measurements while drilling (MWD), tension-leg platforms (TLP), reservoir modelling and better understanding of fluid-rock interactions. Many of these technological innovations, which have been in progress for quite some time, have come at a time of rapid advances in computers, without which many of these advances would not have been possible.

The principal tool that enables petroleum geologists to locate hydrocarbon prospects is the seismic survey. Recent developments in this area include three-dimensional (3 D) seismic surveys. The impact of 3 D seismic acquisition, processing and interpreting techniques in reducing drilling risk and in improving the discovery rate of new reserve additions has been phenomenal. The overall drilling cost is reduced by cutting the number of dry holes drilled. As a result, the oil discovery rate doubled in the United States between 1986 and 1990 and increased, on average, by nearly five times outside the United States (see figure X.2).^{5,6} Three-dimensional seismic surveys acquire and process a large volume of subsurface data and provide a clearer view and more detailed description of the underground reservoir formation.

Prior to the emergence of this new wave of technological innovation, companies had to drill 10 or more exploration wells before any significant oil discovery was found. Today, the combined use of 3 D and powerful computers for processing and interpretation of the data collected are minimizing the exploration risk, as operators have a better understanding of the subsurface geology before deciding where to drill. The average success ratio of drilling in new exploration areas is currently about 1 in 6 exploration wells (referred to as wildcat wells). In the North Sea, on average, one exploration well in every four leads to a significant discovery.

⁵ The discovery rate is an index usually used to indicate the amount of oil discovered per unit of drilling (e.g., barrels per foot drilled or barrels per well). Because reserve additions can result from revisions of existing reserves in known fields as well as from the discovery of new fields, this index can sometimes be invalid in reflecting the true returns to drilling, particularly in already explored areas. In addition, the amount of new reserves often remain unknown for years after initial discovery. The rapid rise in the discovery rate outside the United States shown in figure X.2 reflects, to a large extent, additional reserves in several OPEC countries owing to an upward revision of reserves in existing fields, particularly after 1987.

⁶ See also Christopher Ellsworth and Kevin F. Forbes, "The search for oil and gas in the offshore U.S.," paper presented at the Sixteenth Annual North American Conference of the United States Association for Energy Economics and the International Association for Energy Economics, Dallas, Texas, 6-9 November 1994.

⁷ According to estimates made by Schlumberger Ltd. (see "13th World Petroleum Congress, Report No. 2", *Oil and Gas Journal*, 4 November 1991, p. 24).

⁸ According to estimates made by British Petroleum (see "13th World Petroleum Congress, Report No. 2", *Oil and Gas Journal*, 4 November 1991, p. 24).

Better exploration techniques have enabled oil companies to more than double the amount of oil discovered for each exploration well drilled since 1986. Horizontal wells have also reduced production costs in many oilfields by more than 50 per cent. New exploration techniques have led to a reduction in the costs of seismic acquisition from more than \$900 per kilometre in 1970 to less than \$200 per kilometre in 1990.⁷ Better drilling techniques have allowed oil companies to increase the average drilling rate from 42 metres per day per rig (m/d/rig) in 1985 to more than 100 m/d/rig in 1990.⁸ The combination of three-dimensional modelling and horizontal drilling resulted in drilling fewer exploration wells without compromising the quality of exploration. Technology is also helping companies extend the life expectancy of older oilfields and develop oil from areas once considered inaccessible and from small oil accumulations thought uneconomic to exploit.

One consequence is that oil production in the North Sea, which was expected to fall steadily a decade ago, is now at a record high. In the North Sea, the average capital cost of developing an oilfield has fallen by nearly one third over the past 10 years. As a result, many oilfields, which were considered uneconomic to develop as recently as a decade ago, are today being developed on the basis of oil prices of less than \$10 a barrel. The restoration of profitability in many projects was also helped by the reduction in taxes. Nowhere is this more evident than in the Norwegian sector, where oil production has grown nearly fourfold over the past 10 years.

Refocusing of activities in large oil companies

Sustained profitability and higher productivity came about not only as a result of advances in technology and a reduction in the workforce, but also as a result of improved management and business practices. In a market place that is inherently volatile, most successful oil companies have reduced their bureaucracy and simplified management structures. Many firms also ceased operations or were merged.⁹

A number of oil companies have also divested non-core assets and focused on fundamental — that is, oil-related — activities where they have competitive advantage through established infrastructures and technical expertise.¹⁰ This strategy is very different from that of the 1970s and early 1980s, where major international oil companies acquired non-oil assets and diversified their business operations and activities.

At the same time, oil companies have begun to rely more on cooperation within their own organizations and with major participants in the oil market. Today, the trend in management is towards a growing use of multidisciplinary, team-based work with an emphasis on achieving performance targets and delivering value without unnecessary bureaucratic interference. Many oil companies have developed closer relationships with contractors and service companies to lower costs through innovative contractual and management arrangements. Some have also formed partnerships and established common services with other oil companies to share risks and improve the prospects of exploration and development activities.

⁹ In 1991, the Independent Petroleum Association of America (IPAA) had 8,000 member companies; by comparison, in 1985, it had 15,000 companies.

¹⁰ Between 1989 and 1993, British Petroleum, for example, sold more than \$4 billion worth of non-core assets, many of which had limited scope for growth and high operating expenses.

A world oil supply curve

The economist's supply curve is a hypothetical construction that shows how much of a product would be offered for sale at different prices by the sum of all producers. Such a supply curve can be derived for the world oil industry today based on data on crude oil production capacity and marginal production costs in different parts of the world (see table X.2). It is a rough approximation, but figure X.3 shows just such an oil supply curve. The data on production costs are only rough estimates based on a variety of industry sources. They include initial investment outlays or development costs as well as operating costs of current capacity. Because of the high element of inaccuracy of data on reserve additions from discoveries and development, few attempts have been made to estimate the true marginal costs and even fewer attempts have been made to estimate supply curves.¹¹

The main conclusion that can be drawn from the figure is that even at today's prices, a considerable amount of oil can still be produced with a large margin of profit. That is, at the 1994 average price of \$15.6 per barrel, world demand could have been met using oil that costs at most \$10 per barrel. Of course, 1994 oil demand was not met only from the lowest cost suppliers, as the market does not work that efficiently. Rather, OPEC withholds enough of the low-cost supply so that some higher-cost producers could still remain in business when the price of oil was almost \$16 per barrel.

Without OPEC output restraint, the price of oil could fall to \$10 a barrel without reducing production required to meet current world oil demand of 68 mbd. Of course, if the oil price fell to such a level, demand would increase and

¹¹ Michael C. Lynch, "The analysis and forecasting of petroleum supply sources of errors and bias", paper presented at the Eighth International Symposium on Energy Modelling, Atlanta, Georgia, 3-5 April 1995.

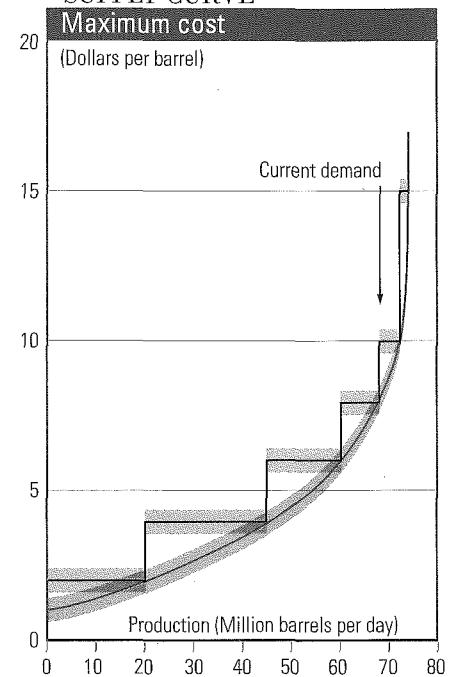
Table X.2.

ESTIMATED OIL PRODUCTION CAPACITIES AND PRODUCTION COSTS IN DIFFERENT GEOGRAPHICAL REGIONS

Producers	Production costs (Dollars per barrel)	Production capacity (Million barrels per day)
Middle East	Less than 2	20
Middle East, Africa, North Sea, Latin America, Asia, former Soviet Union	2- 4	25
North Sea, Africa, United States, Asia, Canada, Latin America	4 - 6	15
United States, Canada, North Sea, Europe, Latin America, Asia	6 - 8	8
United States, Canada, Asia, Latin America	8 -10	4
United States, Canada	10 -15	2

Source: UN/DESIPA, based on various industry sources.

Figure X.3.
A WORLD OIL SUPPLY CURVE



Source: UN/DE IPA.

the "equilibrium" output would be higher. If the demand were to rise above 72 mbd, however, the incremental supply could cost as much as \$15 per barrel. Moreover, because of the high level of utilization of existing production capacity, a large supply disruption could cause prices to rise sharply given the steepness of the supply curve at current output, the only counter to the price pressure being the expeditious release of the emergency stockpile.

The technological frontier and future oil supply

While the supply curve shows output possibilities at the current time, the entire curve can be thought of as having been lowered and displaced to the right from its position 10 years before. Further advances in technology would move the curve further to the right.

There are several potential sources of such a move. Offshore oil production is one. It has grown from almost nothing in the early 1960s to nearly one third of world oil production at the present time. Twenty years ago, offshore oil production was confined to water depths of less than 200 metres. At present, oil can be produced from subsea fields at depths of some 1,000 metres of water. This is opening up new frontier areas such as in the Gulf of Mexico and the Campos Basin offshore Brazil.¹² Until recently, most of the offshore oil platforms were placed on top of a set of very large concrete blocks and steel structures fixed to the ocean floor. But the volume and weight of these large-diameter legs were neither economic nor technically practical for use in deep waters (i.e., depths of more than 1,000 feet, or 300 metres). Deep-water exploration and development have gained momentum in recent years thanks to advances in subsea and floating production systems and especially tension-leg platforms (TLP). Tension-leg platforms, which can be anchored at depths of more than 1,000 metres of water, have begun to allow companies to venture into progressively deeper waters to explore for and produce oil. A TLP can be held floating in place like a giant ship by a number of flexible steel cables firmly attached to the seabed while allowing the platform to move in a restrained manner with the waves.

For depths of less than 300 metres of water, fixed platforms will continue to be used widely, but for depths exceeding 300 metres of water, floating systems and TLPs will be the most used. Progress in offshore technology has helped Brazil raise national oil production by nearly one third since the mid-1980s. It has also led to the sharp rise in output in the North Sea over the past few years. Deep-water exploration and development will likely result in additional oil production in a number of countries, most notably, the United States, Nigeria, the Philippines and Malaysia. It would also likely extend the life of many old offshore oilfields, including those in the North Sea. In the United States, oil companies are planning to explore beneath 7,000 feet (more than 2,000 metres) of water in the United States part of the Gulf of Mexico.¹³ It is believed that the new reserves that can be explored and developed in the Gulf of Mexico could slow down the overall decline in United States oil production.

While many of these technologies are proved and well established, new ones continue to appear at a fast rate. Recent developments, particularly in drilling, such as slimhole drilling and coiled-tubing will continue to reduce

¹² Shell Oil Company is currently producing oil from the Augur field in the Gulf of Mexico using a tension-leg platform anchored in water depths of 2,900 feet, or 885 metres. In the Campos Basin, offshore Brazil, Petrobras, the national oil company of Brazil, is producing oil at a depth of 3,130 feet, or 1,027 metres.

¹³ A joint venture involving Shell, Amoco, Mobil and Texaco plans to explore in more than 7,000 feet of water in the Baha prospect in the Gulf of Mexico.

costs and improve efficiency. Slimhole drilling and coiled-tubing enable operators to drill wells with much smaller diameters (as little as four inches) and in less drilling time than conventional drilling, resulting in savings of 20 to 35 per cent.¹⁴ In addition to the reduction in costs, this technique has environmental advantages over conventional drilling since it results in less volume of cutting and less waste of drilling fluid (mud).

Studies undertaken to assess the impact of technology on the oil and gas industry point to further room for technical progress and reduction of costs.¹⁵ The major oil companies¹⁶ currently spend more than \$3 billion per year on research and development. This represents only a fraction of the total industry investment in technology, which is aimed mainly at giving the oil industry the opportunity to bring more oil from high-cost and frontier areas at competitive prices. To accomplish this task, the industry continues to focus on reducing investment and operating costs, improving the drilling success ratio, increasing oil recovery (i.e., the ratio of cumulative oil recovered to the initial volume of oil-in-place) and reducing negative effects on the environment (see table X.3).

Research and development activities are being aimed at improving the technology for finding oil more accurately. This is being accomplished through a better understanding of the geological and physical processes that determine the migration and entrapment of hydrocarbons in the subsurface. Here the industry will continue to rely on 3 D technology, but with more sophisticated data processing and more compact on-board workstations that can analyse and

¹⁴ Jean-Luck Karnik and Jean Masseron, "The impact of technological progress on the oil and gas industry", paper presented at the Sixteenth Annual Meeting of the North American Association of Energy Economics and the International Association of Energy Economics, Dallas, Texas, 6-9 November 1994.

¹⁵ One of the pioneers in this field is the Institut français du pétrole. See, for example, Pierre Jacquard, "Impact of technological progress on oil supply", paper presented at the Centre de géopolitique de l'énergie et des matières premières, Université de Paris-Dauphine, Paris, 25-26 April 1990.

¹⁶ Amoco, British Petroleum, Exxon, Mobil, Shell and Texaco.

Table X.3.

OBJECTIVES OF THE OIL INDUSTRY FOR THE 1990S

Sector	Objectives	Methods and techniques
Exploration	Increase successful wildcats and appraisals from one out of six to one out of three	3-D seismic, integrated geological and geophysical approaches, basin modelling
Drilling	Reduce cost by 30 per cent, improve safety, increase well productivity by two to five times	Slimhole drilling, automation, MWD, instrumentation
Production	Improve oil recovery from 30 per cent average	Horizontal wells, geological reservoir description and simulation, enhanced oil recovery completion technology, fluid monitoring
Offshore fields	Reduce investment costs	Platform optimization, horizontal/extended reach wells, subsea completions, multiphase production logging
Workovers	Reduce cost by 50 per cent	Intelligent coiled tubing, multiphase production logging
Safety, environment	Minimize pollution/accident risks and exposure	Drilling fluids, continuous mix processes, environmentally compatible chemicals, automation of rigs and platforms, eliminate radioactive sources

Source: Schlumberger Ltd.; and Institut français du pétrole.

¹⁷ Shell International Petroleum Company Ltd., "Research and development in the oil industry", *Shell Briefing Services*, No. 4 (1991).

¹⁸ Proved reserves of oil are generally defined as those quantities that geological and engineering information indicate with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions. While the geological information of the current proved oil reserves are known with a high degree of certainty, future economic conditions are not known as they depend on both future levels of oil prices and operating costs. Therefore, if, for instance, an increase in oil prices or a reduction in operating costs makes horizontal drilling and tertiary recovery techniques more profitable, proved oil reserves would be increased accordingly since both techniques result in higher oil recovery.

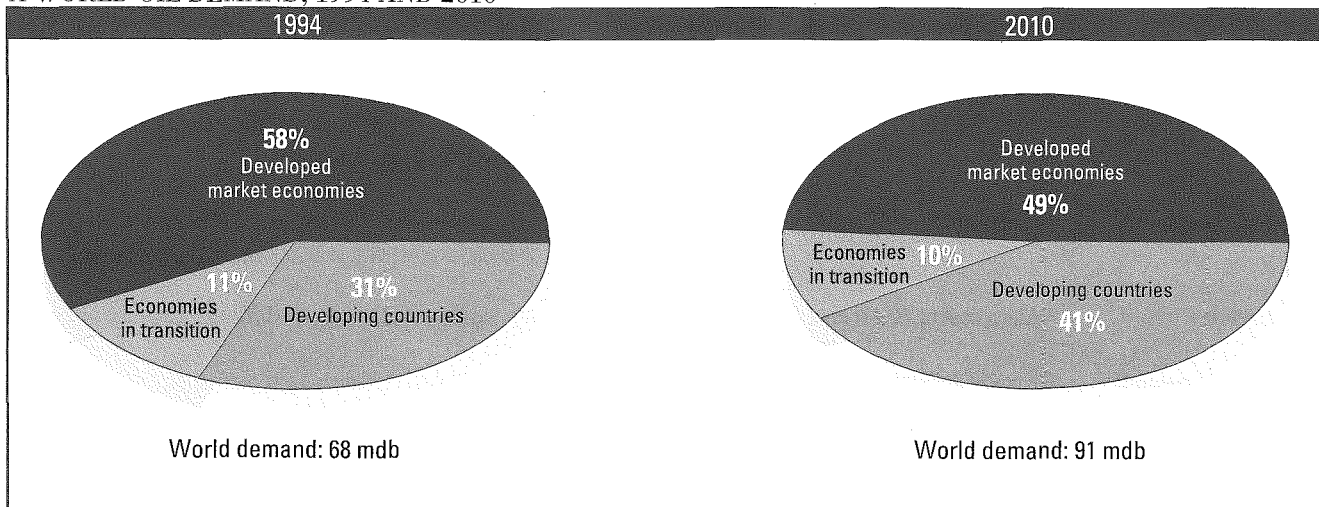
interpret the large amount of data more rapidly. The industry target is to improve the drilling success ratio from the current level of one out of six to one out of three, reducing the drilling cost by half and doubling the amount of oil reserves found per well drilled. Research is also directed at improving drilling techniques, including drill bits, drilling fluids and automated drilling rigs.¹⁷ These rigs can be smaller, more efficient and require less manpower to operate than conventional rigs. Further improvements in slimhole drilling are expected to result in savings of up to 40 per cent over conventional drilling. There is also a great potential for further reduction of offshore costs by using fewer, lighter and more efficient platforms, and drilling fewer, highly deviated wells. Lastly, a better understanding of fluid-rock interactions can make secondary and enhanced oil recovery techniques more efficient. Until recently, expected oil recovery ratios rarely exceeded 30 per cent of the original oil-in-place. With today's and tomorrow's technologies, those ratios may possibly rise to 40 or more, and thus raise proved reserves by up to one third.¹⁸

WILL THERE BE ENOUGH OIL IN 2010?

After several years of near stagnation brought about mainly by the sharp decline in the consumption of oil in eastern Europe and the former Soviet Union, world oil demand looks set to surge over the next 15 years. As economic activity in the former centrally planned economies rebounds, the need for more oil by these economies will be added to the rapidly growing demand in the developing countries. In all, the world may seek to consume an additional 23 mbd by the year 2010.

Figure X.4.

A WORLD OIL DEMAND, 1994 AND 2010



Source: UN/DESIPA.

The new oil demand, added to the 68 mbd demanded in 1994, would bring world oil consumption to about 91 mbd by the year 2010, for an average growth rate of 1.8 per cent a year, according to a model of world energy demand developed in UN/DESIPA (see figure X.4).¹⁹ The model assesses the demand for oil, simultaneously with that for gas, coal and primary electricity, in five regional groupings of countries, based largely on income and price relationships in the period 1980-1991. In the model's baseline scenario, oil prices are assumed to remain constant in real terms over the projection period and GDP growth rates are assumed to average 2.5 per cent annually in the developed market economies, 3.5 per cent a year in the transition economies and 5.0 per cent in the developing countries.

The growth rates of output that underlie the scenario were generated by the global econometric modelling system (Project LINK) that is used to prepare the forecasts discussed in this Survey. For the present exercise, however, the forecast was extended for a longer period than usual. The results entail, in effect, the "equilibrium solution" to which the global model tends. The scenario thus embodies the model's forecast from 1995 to 2000 and then an assumption that the model's growth rates of 2001-2002 will continue until 2010. To consider the possibility that this scenario might underestimate the actual growth of world output, and thus oil demand, a higher growth scenario was also tested. In that case, the rate of growth of output was set to average 3 per cent a year in the industrialized economies, 5 per cent annually in the transition economies and 5 per cent in the developing countries. In that scenario, world oil consumption in the year 2010 rises to 94 mbd.

The latter certainly seems to be an upper bound on oil demand in that year. Not only does it assume more rapid GDP growth than is expected, but it does not make allowances for changes in the structure of production that might be expected over such a long period, nor does it allow for any unusual technological development that might produce either a marked change in the energy efficiency of production or a sharp change in the cost of producing alternative fuels. Indeed, the actual demand for oil in 2010 might be considerably less than the baseline estimate of 91 mbd.

As world population is forecast by the Population Division of DESIPA to grow at an average rate of 1.4 per cent a year over the same period, world per capita oil consumption would still be rising under the baseline or higher growth scenarios. This is despite the expectation that the share of oil in primary energy consumption will continue to decline and despite the greater efforts directed at energy conservation and substitution. The growth in per capita energy use would largely result from rising living standards and urbanization, with greater use of motor vehicles accounting for much of the increase.

Developing countries, currently accounting for 31 per cent of world oil demand, are expected to produce nearly three quarters of the growth, with their share rising to 41 per cent by the year 2010. Oil demand is expected to grow in most developing countries, but much of the growth will be in the developing countries of Asia, where oil consumption in 1994 surpassed that of western Europe.

China, which in 1993 became a net oil importer and accounted for nearly one third of the growth in world oil demand outside the former Soviet Union, is widely expected to consume about 8 mbd by the year 2010, or nearly three

¹⁹ There is, of course, considerable uncertainty about any long-run projection and results will differ depending on assumptions made about key determinants of supply and demand. This Department's baseline scenario lies in a middle position among certain widely used international forecasts of oil demand. It thus compares with the low of 76 mbd as foreseen by OPEC and the high of 94 mbd projected by the International Energy Agency (IEA). A third well-known forecast is that of the United States Department of Energy (US/DOE), which is for 86.5 mbd in 2010 (see, respectively, "Major energy issues in the 1990s: an OPEC perspective", OPEC Bulletin (May 1993); IEA, *World Energy Outlook*, 1994 edition (Paris, 1994); and US/DOE, *Energy Information Administration, International Energy Outlook 1994* (Washington, D.C., 1994)).

times its present level of consumption. Although growth in the per capita consumption of oil in China has continued uninterrupted since the late 1970s, it is still far below the world average (see table X.4).

In 1994, per capita consumption in China was only 0.9 barrels per year. By comparison, it was 24 barrels per year in the United States and 14 barrels per year in the Republic of Korea. If China had reached the latter level by 1994, it would have needed 45 million barrels per day, or two thirds of world consumption in that year.

Taking these demand considerations together with the preceding discussion of oil production and technology, there is considerable reason for optimism that adequate supplies of oil will be forthcoming at current prices (albeit adjusted for inflation). Moreover, the projected growth in demand, coupled with the expected geographical distribution of production, points to a considerable expansion in international petroleum trade. While output in the North Sea and Canada will continue to increase, production in the United States is expected to continue to decline, although its extent will depend on the degree of exploration and development success offshore, particularly in the Gulf of Mexico and in Alaska. In the medium term, the rapid decline in output in the former Soviet Union is expected to be overcome and the region will remain a large net exporter in the time period envisaged. However, Saudi Arabia, the Islamic Republic of Iran, Iraq, the United Arab Emirates and Venezuela are expected to be the countries with production capacities far in excess of domestic demand. They are thus in a position to remain major suppliers over the long term.

Table X.4

PER CAPITA OIL CONSUMPTION IN SELECTED COUNTRIES, 1970-1994

Barrels per person per year				
	1970	1980	1990	1994 ^a
India	0.2	0.3	0.5	0.6
China	0.2	0.6	0.7	0.9
Republic of Korea	2.0	4.4	8.7	14.4
Japan	11.2	11.7	15.7	16.5
United States	21.6	21.6	23.9	24.0
World	3.9	4.1	4.4	4.5

Source: UN/DESIPA.

^a Estimate.

XI INTERNATIONAL TRADE IN "NEW" MANUFACTURED PRODUCTS

Economic and social analysts have been pointing for several years to the rapid pace of innovations in electronics and information technology and the revolution it seems to be engendering as regards the nature of production and work, as well as that of consumption and entertainment. If the changes are as profound as alleged, one should be able to observe multiple dimensions in these changes. This seems indeed to be the case in the realm of international trade. That is, an exercise to determine which categories of the manufactured exports of the world have been the most rapidly growing points decisively to the new, highly sophisticated, "information-age" goods, which for simplicity will be identified here as "new" products.

The goods in question include the major electronic products of automatic data-processing (ADP) equipment, parts and accessories, telecommunications equipment and parts, semiconductor devices and electronic microcircuits.¹ Together, these goods have become a major component of total manufactured exports, compared with a rather insignificant share of manufactures trade in 1980. In other words, the growth of exports of these goods over the past decade has been quite robust and has exceeded that of other major export groups, such as chemicals, automotive products, textiles and clothing. The emergence of this group of products can thus also be said to have boosted the growth of world trade in manufactures significantly, but although some developing countries have been able to benefit from the strong growth of trade in this sector, the major suppliers and beneficiaries of this growth have been in the industrialized economies.

TRENDS IN TRADE

World exports of new products reached over \$360 billion in 1993 compared with \$76 billion in 1980.² The average annual growth rate of the value of new product exports averaged nearly 13 per cent over this period, outpacing the 7 per cent annual growth of overall manufactured exports. In addition, exports of new products have been much less susceptible to slow downs in world economic activity. Export value of these new products was particularly strong between 1986 and 1990, a period when the world economy saw sustained and relatively robust growth (see table XI.1). However, the strength of new product exports exceeded that of overall world manufactured exports during this period.

¹ Throughout this discussion, the group of new products comprises goods classified in the following United Nations Standard International Trade Classifications, 1974 Revision SITC, Rev.2 divisions 75 (office machines and automatic data-processing equipment, parts and accessories), 76 (telecommunications and sound and television image recording equipment) and 77, group 776 (including transistors and other semiconductors and electronic microcircuits). See *Standard International Trade Classification Rev.2*, Statistical Papers, Series M, No. 34/Rev.2, (United Nations publication Sales No. E.75.XVII.6, pages xxxxx division codes 75-77).

² Statistics in this chapter are from the External Trade Statistics Database (COMTRADE) maintained by the Statistical Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat, unless otherwise stated.

Table XI.1.
TRENDS IN TOTAL EXPORTS OF "NEW" PRODUCTS, 1980-1993

Percentage				
Product	(a) Annual average growth			
	1981-1985	1986-1990	1991-1993	
Office machinery and data-processing equipment	13.8	18.2	7.0	
Telecommunications equipment	6.2	15.4	6.9	
Electronic components	9.1	21.9	14.4	
All new products	9.8	18.1	8.7	
Manufactured products	1.6	15.8	3.4	
Memo item: New products share of world manufactured export growth	48.6	13.7	36.2	
World output growth	2.7	3.8	0.8	
Product	(b) Share of world manufactured exports			
	1980	1985	1990	1993
Office machinery and data-processing equipment	2.8	4.9	5.4	6.1
Telecommunications equipment	3.5	4.3	4.2	4.8
Electronic components	1.4	1.9	2.5	3.5
All new products	7.8	11.1	12.1	14.3

Source: UN/DESIPA.

The substantial deceleration in world output growth between 1990 and 1993 slowed the expansion of world manufactured export value considerably to over 3 per cent annually, and manufactured exports, excluding new products, grew at only 2 per cent annually. In contrast, new product export growth continued to average a healthy 9 per cent. This strength in new product exports continued in 1994, based on the as-yet incomplete data reported for 1994.

The growth of these exports in volume terms has been even more dramatic, as their prices have declined significantly since the 1980s. In particular, prices of computers and semiconductors have fallen sharply. A reasonable range of the estimate of average annual decline appears to be 15-25 per cent,

although estimates vary substantially.³ This implies that the average annual growth of the volume of ADP equipment exports was as high as 30-40 per cent in the period 1986-1993 (in contrast to 5-6 per cent growth in the volume of overall manufactured exports).

The robust expansion of new-product exports has been an important component of the growth in manufactured exports. This is reflected in its large share of the increase in overall manufactured exports, particularly during periods of world economic slow downs. Between 1986 and 1990, new-product exports accounted for almost 14 per cent of the growth in overall manufactured exports (see table XI.1). In the early 1990s, new-product exports accounted for over 36 per cent of the growth in world manufactured exports (see table XI.1). The relative strength of new-product exports during economic downturns suggests that other factors, such as technological change and shifting location of production, have been significant in shaping export growth.

The strong performance of exports of new products raised their share of total world manufactured exports to 14 per cent in 1993 from 8 per cent in 1980 (see table XI.1). Leading the increases in the share of world exports were office machines and ADP equipment and electronic components (primarily semiconductors). The share of telecommunications equipment exports in world exports was unchanged between 1985 and 1990, but the share rose again after 1990.

Developed economies remain the major suppliers of new products to the world market; in 1993 they accounted for 72 per cent of world exports. The United States of America and Japan were key exporters, accounting for over 40 per cent of new-product exports that year, while western Europe accounted for 28 per cent. However, production was even more concentrated in those countries in the early 1980s. Since then, there has been a trend as regards the location of new-product export production away from the developed and towards the developing economies. In 1985, the share of all developing economies in world new-product exports (13 per cent) was less than their share in world manufactured exports (see table XI.2). By 1993, the developing economies' share in new-product exports had risen sharply (to over 28 per cent), and was significantly higher than their share in world manufactured exports (22 per cent).

³ See, for example, United States Department of Commerce, Bureau of Economic Analysis computer price deflator; E. Berndt and Z. Griliches, "Price indexes for microcomputers: an exploratory study", in *Price Measurements and Their Uses*, M. Foss and others, eds. Studies in Income and Wealth, vol. 57 (Chicago, University of Chicago Press, 1993), pp. 63-93; and E. Berndt and others, "Econometric estimates of price indexes for personal computers in the 1990s", National Bureau of Economic Research (NBER) Working Paper, No. 4549 (November 1993), pp. 21 and 23.

Table XI.2.

DEVELOPING ECONOMIES' SHARE OF TOTAL EXPORTS OF NEW PRODUCTS, 1980-1993

Percentage				
	1980	1985	1990	1993
Office machinery and data-processing equipment	2.7	6.3	14.7	21.9
Telecommunications equipment	10.7	11.6	24.1	32.9
Electronic components	23.6	24.3	27.7	32.2
All new products	11.5	12.5	22.0	28.2
Memo item: Share of total manufactured exports	12.0	16.1	18.5	22.0

Source: UN/DESIPA.

Gains by developing economies in their share of world exports of new products resulted from rapid growth in all three categories of new products, and in particular from the strong growth in ADP and telecommunications equipment. In 1993, developing economies supplied 22 per cent of world exports of office machinery and data-processing equipment, and 33 per cent of telecommunications equipment compared with 6 per cent and 12 per cent respectively in 1985. Moreover, the growth in the share of exports persisted even after the slow-down in world growth in 1990. A similar pattern reflecting a steadily increasing share of developing economies of semiconductors in world exports was seen between 1990 and 1993, even though developing economies had already held a sizeable share in world exports of semiconductors in 1985.

The increasing importance of developing economies as a source of supply of new products to the world market has been largely due to the success of three Asian economies, the Republic of Korea, Singapore and Taiwan Province of China, followed by Malaysia, Thailand and Hong Kong. In 1993, these six economies accounted for 65 per cent of developing-economy exports of new products, as they have been specializing increasingly in exporting new products since the 1980s. By 1993, these products accounted for an average of 32 per cent of manufactured exports of the four newly industrialized economies (NIEs) of Asia⁴ (see table XI.3); among them, Singapore was the most specialized with new products accounting for 56 per cent of its manufactured exports. The degree of concentration of Malaysia in new products has been similarly high, this country having based its rapid export expansion since the 1980s on the production of labour-intensive electronic goods. New products constituted 25 per cent of Thailand's manufactured exports in 1993, reflecting the country's later entry into the field because of greater reliance on other labour-intensive exports, such as textiles and garments.

⁴ For a discussion of the trend of specialization see P. Guerrieri and C. Millana, "Changes and trends in the world trade in high-technology products", *Cambridge Journal of Economics*, vol. 19, No. 1 (February 1995), pp. 236-237.

Table XI.3.

SHARE OF NEW PRODUCTS IN MANUFACTURED EXPORTS OF SELECTED COUNTRIES AND GROUPS OF COUNTRIES, 1980-1993

Percentage				
	1980	1985	1990	1993
Developing economies	13.7	12.6	18.3	22.9
Asian NIES	16.2	17.5	28.0	31.7
Hong Kong	13.2	14.3	17.4	19.3
Republic of Korea	10.8	13.3	23.7	24.4
Singapore	32.6	36.0	51.2	55.7
Taiwan Province of China	15.5	15.6	22.7	25.3
Malaysia	47.5	53.0	51.7	53.9
Thailand	0.7	2.2	24.2	24.7
Developed economies	7.6	11.2	11.3	12.6
United States	11.4	16.5	16.5	16.5
Japan	14.6	21.7	24.4	24.5

Source: UN/DESIPA.

The strong growth of export of new products from these Asian developing countries has been generated by the relocation of production, which has intensified since the mid-1980s. The pattern of this shift has been as follows: from Japan and the United States to the NIEs and from the Asian NIEs and Japan to Malaysia and Thailand. The large investment flows within Asia for this "off-shore" manufacturing of new products have generated rapid growth in intra-Asia flows in components and finished products. During the period 1986-1993, trade among the Asian NIEs expanded by 35 per cent annually and trade among the NIEs and Malaysia and Thailand grew at similarly high rates (see table XI.4). Trade between the NIEs and Japan increased in the 20-30 per cent range while trade between Malaysia and Thailand and Japan grew faster. As a result, there has been a significant shift in the destination of exports of the six Asian developing countries and Japan towards the NIEs instead of towards the United States. Intra-Asian exports rose to 30 per cent of total exports in 1993 from only 14 per cent in 1985; exports to the United States still constituted 36 per cent of total exports in 1993 but the figure had declined significantly, from 49 per cent in 1985 (see table XI.5).

Table XI.4.

AVERAGE ANNUAL GROWTH RATE OF EXPORTS OF NEW PRODUCTS
BY SOURCE AND DESTINATION, 1986 - 1993

Percentage							
From	To	World	United States	Japan	Asian NIES	Malaysia	Thailand
United States		11	—	14	16	13	9
Japan		11	8	—	21	28	29
Asian NIES		23	16	29	35	28	37
Malaysia		29	23	31	37	—	114
Thailand		80	65	96	138	106	—

Source: UN/DESIPA.

Table XI.5.

GEOGRAPHICAL DISTRIBUTION OF EXPORTS OF NEW PRODUCTS BY
SOURCE AND DESTINATION, 1985 - 1993

Percentage												
From	To	United States		Asia (7) ^a		Japan		Asian NIES		Malaysia and Thailand		World
		1985	1993	1985	1993	1985	1993	1985	1993	1985	1993	
USA		—	—	24.1	31.5	7.7	9.6	11.9	16.9	4.5	4.9	100.0
Asia (7) ^a		49.2	35.9	14.4	30.3	1.5	3.8	10.7	21.0	2.3	5.6	100.0
Japan		46.1	37.7	12.9	27.9	—	—	11.4	22.9	1.5	5.0	100.0
Asian NIES		56.5	34.6	16.8	29.5	4.4	6.4	7.7	15.9	4.7	7.3	100.0
Malaysia and Thailand		53.6	33.8	24.8	41.2	7.1	8.7	17.6	30.3	0.1	2.3	100.0

Source: UN/DESIPA.

^a Japan, Asian NIES, Malaysia and Thailand.

⁵ Apart from the increase in the United States' share of world computer imports and the increase in Europe's share of telecommunications imports, no other developed regions experienced an increase in world import shares of new products.

Import patterns of these new products have also shifted substantially since 1985. Although the United States and Europe are by far the most important world markets for imports in all categories of new products, between 1985 and 1993 the developing economies of Asia became significant importers of several new products, including computer peripherals, telecommunications equipment and semiconductors.⁵ The fact that the Asian developing economies are now the single largest market for electronic components (SITC, Rev.2, Group 776), accounting for 39 per cent of world imports in 1993, reflects their rapid development as manufacturers of new products. They also account for 34 per cent of world imports of telecommunications equipment (SITC, Rev.2, Group 764), resulting from demand for inputs as well as infrastructure investment. Their shares of imports of ADP and ADP parts and accessories (SITC, Rev.2, Groups 752 and 759) are significantly smaller at 10 per cent and 18 per cent respectively.

FACTORS UNDERLYING THE GROWTH OF TRADE IN NEW PRODUCTS

Rapid growth in demand for new products combined with a shift in production to developing economies has been the key factor leading to the sharply rising trend in world exports of new products. The growth in demand for computers and ADP equipment has been boosted by changing technology which has both lowered prices and created an increasing number of new business and consumer applications. Businesses have continued to invest heavily in computers as part of broader efforts to raise productivity. More recently, on the other hand, consumer use has grown and been shaped by the convergence of computer, communications and consumer electronics technologies, which can now provide consumers with access to a broad array of information and entertainment services.⁶ The increasing number of applications has also resulted in a switch to more powerful machines and a demand for newer and more powerful components and peripherals. While demand for computers slowed during the decline in world growth in the early 1990s, a strong rebound has resulted from the recovery of the world economy.

⁶ See United States Department of Commerce, *U. S. Industrial Outlook 1994* (Washington, D. C., 1994).

A number of features of the growth in demand for new products are seen in developments in the United States market, one of the largest markets for new products and the most important single market for computers.⁷ One such feature, the rapid recovery in demand after the last economic slow down, is reflected in the fact that United States purchases of computer systems increased substantially after the economy began to recover from the recession in 1991, as demand for computers rose to US\$ 65 billion in 1993 from less than US\$ 50 billion in 1991. Another feature, the slow growth in domestic output after the recession, resulted in computer production in 1993 at only about US\$ 55 billion, leaving the gap of over \$10 billion to be filled by imports. The bulk of this deficit is being filled by Asian imports, mainly from Japan, Singapore, Taiwan Province of China and the Republic of Korea. While a significant portion is from subsidiaries of United States multinationals, national manufacturers from Japan, The Republic of Korea and Taiwan Province of China are also important suppliers.

⁷ This section, on the United States market for computers, draws on United States Department of Commerce *U.S. Industrial Outlook 1994* (Washington, D.C., 1994).

Over one half of all United States imports of semiconductors now come from Asia. The growth in exports from these Asian economies reflects, in part, their

growing role as sites for offshore production facilities of United States and Japanese firms; Malaysia in particular, has, since 1987, become a leading site for the testing and assembly of semiconductors. At the same time, United States firms retained production of the more sophisticated types of semiconductors, particularly microprocessors, and still maintain an 80 per cent share in the world market.

In the area of telecommunications equipment, which includes the transmission systems purchased by public and private operators, as well as consumer equipment, such as telephones and facsimile machines, other countries besides the United States have also witnessed rapid import growth. Developing economies have embarked on broad-ranging programmes of upgrading their telecommunications infrastructure which have led to sharp increases in the demand for telecommunications equipment to be supplied from abroad. For example, China's imports of telecommunications equipment in 1993 constituted over 6 per cent of the world total, compared with a negligible share in 1985.

Another factor explaining the dynamism of new product exports is a growing worldwide specialization in production of new products since the 1980s. This has involved outsourcing of production of less technologically advanced components and products to lower-wage economies, with accompanying flows of investment, technology and inputs. Final output is exported to the economy where the investment originated and/or to third markets. The Asian developing economies in particular have been integrated into this process with rapid technological upgrading of exports.⁹ The fact that the more advanced developing economies, such as the Republic of Korea and Taiwan Province of China, have significantly improved their competitiveness in these products has made them major world producers in their own right of certain ADP equipment and parts and electronic components.⁹

In semiconductors, the annual growth of world exports at 17 per cent between 1985 and 1993 substantially outpaced that of world demand, which was only 11 per cent,¹⁰ reflecting the importance of supply rather than demand factors in export growth. Price competition has been extremely intense and different countries have found it efficient to specialize in particular product segments. The production of the more common types of memory chips (Display Random Access Memory (DRAMs)) has shifted from the United States to relatively low-wage countries and these products have been exported throughout the world. In this regard, the Republic of Korea has become a major supplier to the world market of commodity chips, with its semiconductor exports having grown at 24 per cent annually between 1986 and 1992. It now holds 25 per cent of the DRAM market worldwide.¹¹

⁸ See G. Adams, "Industrial structure, the new product cycle and economic development in East Asia", *East Asian Economic Perspectives*, vol. 4, No. 3 (September 1993), pp.1-9; and M. Hobday, "Export-led technology development in the four dragons: the case of electronics", *Development and Change*, vol. 25, No. 2 (April 1994), pp. 333-360.

⁹ Korea's semiconductor production constituted 12 per cent of the world market's in 1992 (see Moon Byun Byung "Growth and recent development of the Korean semiconductor industry", *Asian Survey*, vol. 34, No. 8 (August 1994), table XI.1). In 1993, Taiwan Province of China was the world's largest producer of mother boards, and second in the production of laptop computers; and it accounts for almost 3 per cent of the world's semiconductor output (see *Asian Wall Street Journal Weekly*, 19 December, 1994, pp. 16 and 18).

¹⁰ United States Department of Commerce, *U.S. Industrial Outlook 1994* (Washington, D.C., 1994); and Moon Byun Byung, "Growth and recent development of the Korean semiconductor industry", *Asian Survey*, vol.34, No.8 (August 1994), citing Dataquest.

¹¹ See Moon Byun Byung, "Growth and recent development of the Korean semiconductor industry", *Asian Survey*, vol.34, No.8 (August 1994), table XI.1.

CONCLUSION

The strong growth of new-product exports has been an important contributor to the expansion of world trade since the 1980s. It has also sustained manufactured export growth during the weakness in world economic activity in the 1990s, when world trade in manufactured goods excluding new products increased at just over 2 per cent annually. Rapid advances in micro-electronic/information technology have stimulated world demand for these products by reducing production costs and creating a wide variety of new applications. New-product export growth is, in addition, a result of changes in the organization of supply, namely, the large-scale relocation of production, which has resulted from the increasingly rapid technological innovations in these new products and the shifting of comparative advantage in production from developed to developing economies, especially in Asia. These Asian economies have become major exporters of new products with their exports in these products reflecting a high degree of specialization. While developed economies remain the major destination for exports, the developing economies of Asia have also become a significant market.

XII THE NEW-ERA SECONDARY MARKET FOR DEVELOPING AND TRANSITION ECONOMY DEBT

In the mid-1980s, a secondary market arose in the debt owed to commercial banks by the Governments of many developing countries in debt crisis.¹ By the late 1980s, prices quoted on that market became a widely cited indicator of financial market sentiment about the progress or difficulty those countries were having in emerging from their debt crises. What is called the secondary market today is a very different creature and although prices continue to reflect investor sentiment, movements in those prices reflect other factors as well (such as general interest rate levels). Moreover, even when the effect of investor sentiment can be isolated, it cannot be taken as an indicator of the underlying economic situation in the country concerned.

THE SECONDARY MARKET IN THE 1980S

The secondary market began soon after the interruption of the servicing of commercial bank debt by a certain number of developing and eastern European countries in the early 1980s. It initially served as a means for the commercial banks to swap problem loans among themselves. The loans were usually either non-performing or subject to rescheduling. The banks entered this market when they wanted to change the country or currency composition of their assets or the schedule of interest payments. Cash sales of loans at first were infrequent and even by 1990 were still intermittent. Nevertheless, by 1986, bid and asked prices for the debt were quoted on a regular basis by certain major investment banks, centred in New York.

Although each loan had its unique aspects as far as interest and repayment obligations were concerned, they were almost all similarly structured as syndicated commercial bank loans. Most significantly, interest was usually charged as a fixed percentage point spread over a changing market rate, usually the London interbank offered rate on six-month dollar deposits or the prime rate charged by United States banks. This simplified pricing in the secondary market. As the key feature of the loans was that their future servicing was uncertain, the loans sold at a discount from face value. Prices were quoted as a fraction of face value or as cents per dollar of face value. The greater the uncertainty, the lower the price.

For example, in January 1987, there were bids to buy Argentine debt at 64 per cent of face value, but only 8 per cent for Bolivian debt; Mexican debt was quoted at 56 "cents on the dollar", but Nicaraguan debt was only 4 cents. Although the bulk of trading was in Latin American debt, quotations were also

¹ This discussion is based in part on a series of interviews carried out in 1994 with market participants, the Federal Reserve Bank of New York and the Emerging Markets Traders Association, all of whose cooperation is gratefully acknowledged.

² Data of Salomon Brothers, Inc., New York.

³ For an elaboration of this analysis, see *World Economic Survey, 1987* (United Nations publication, Sales No. E.87.II.C.1 and corrigendum), pp. 97-100.

⁴ Estimate of the World Bank (see *Financial Flows to Developing Countries, Quarterly Review* (March 1991), p. 9).

made on several African, Asian and eastern European countries. Thus, for example, Côte d'Ivoire was quoted at 77 cents and Zaire at 26; the Philippines was 71 cents and Poland was 43.²

As the 1980s wore on and the resolution of the debt crisis continued to elude the grasp of policy makers and bankers, prices in the market for many loans fell severely. Prices had been held up at first by the fact that most of the debt was not put up for trade or sale. The debt was very highly concentrated—in particular, the nine “money centre” banks of the United States held more than 20 per cent of the total bank debt of the 15 major debtor countries and two thirds of the exposure of all United States banks to those countries—and if a large holder of the debt offered to sell it at a discount, it would signal the death of the international debt strategy. The core of the strategy at that time (the “Baker Plan”) had been to seek to reschedule debt-servicing obligations as often as necessary and lend new money to help pay interest on the belief that the debt problem was a liquidity crisis and that in time the countries would expand their foreign exchange earnings enough to once again fully service their debt. For the banks, the strategy meant that the loans could still be considered “good”. If the loans were acknowledged as “bad”, the banks would have had to take substantial accounting losses as they would no longer be allowed to carry them on their books at face value.³ The international strategy was, of course, not working. The fact that the banks with smaller exposures were exiting from the field and accepting losses was one indication. Weak equity share prices of the money centre banks in the United States was another. The build-up of reserves against loan losses by the banks, which began to gather momentum in 1987, was a third. By January 1990, bids on Argentine debt had fallen to only 12 cents, while Mexican bank loans slipped to 37 cents. Bids for the debt of Côte d'Ivoire fell to only 6 cents, for the Philippines 48 cents and for Poland 17 cents.

Cash sales, meanwhile, had become part of a mechanism by which several debtor countries retired significant portions of their debt, some of it through direct buy-backs, usually with donor countries providing funds for the purchase and others through various swap schemes. In some of the swaps, non-governmental organizations purchased debt instruments at a discount and gave them to the Government on condition that public spending on specified environmental or social activities would be strengthened. The largest of the swaps, however, were debt/equity swaps, in which investors purchased portions of the debt on the market and exchanged them at the central bank of the debtor country for local currency at an advantageous exchange rate; the proceeds were then to be used for direct investment or, in certain cases, local portfolio investment.

Secondary market prices became important as well in the final set of negotiations between the indebted countries and their commercial banks and helped shape several of the agreements. Indeed, with trading activity having risen to about \$65 billion by 1990,⁴ pricing in the market was taken by some to reflect the financial sector's assessment of the expected present value of future debt servicing. The key element of the new agreements, however, would dramatically change the secondary market itself.

THE SECONDARY MARKET IN THE 1990S

In response to the broadening realization that the international debt strategy had not been working effectively enough, the Secretary of the Treasury of the United States, Nicholas Brady, proposed a new approach in 1989. The most innovative element of the “Brady Plan” was to entice the commercial bank creditors to exchange their loans for bonds at a discount, either a smaller face value of bonds paying commercial interest rates (“discount bonds”) or the same face value as the original loans but paying a below-market interest rate that was roughly comparable to the discount on the other option (“par bonds”), or variations on these two approaches. The banks would thus not fully recover the original value of their loans, which matched the expectation of the secondary market of what would happen in the future. This also matched the assessment of the future by the regulatory authorities that governed the banks, as well as by the banks’ own shareholders. To encourage the banks to participate, the repayment of the principal on the bonds — which was not due for 30 years — was to be secured, as well as some of the interest payments in many cases.⁵

One attraction of the Brady Plan to the banks was that it provided a better means to move value-impaired debt off their loan books. Not only were bonds treated differently than loans by bank regulators for some purposes, but it was expected that the bonds would be more liquid, especially with their enhancements. Selling bank loans had always been a complicated operation, as they had mainly been restructured in syndications that sometimes involved 500 or more banks. These syndications resulted in various restrictions on the transferability of the loans. “Brady bonds” would be immediately and completely marketable instruments.

The first Brady Plan arrangements were completed in 1990 and as of early 1995, 13 developing or transition economies had reached agreements for converting substantial portions of their commercial-bank debt into Brady bonds (Argentina, Brazil, Bulgaria, Costa Rica, Dominican Republic, Ecuador, Jordan, Mexico, Nigeria, the Philippines, Poland, Uruguay and Venezuela). As of March 1995, \$142 billion in Brady bonds were outstanding, over 86 per cent of which were issues of Latin American and Caribbean countries.⁶

In fact, Brady bonds quickly became popular. Many of the buyers have been commercial banks, which is less surprising than it might at first seem, since they knew the debtors’ situation quite well. However, broker-dealers and aggressive fund managers have been quite active, while institutional investors such as insurance companies and pension funds entered the market relatively late and in a tentative way.⁷

The Emerging Markets Traders Association estimated that the trading volume in Brady bonds reached \$1.7 trillion in 1994, about 60 per cent of all trading activity in sovereign risk bonds and loans of emerging-market countries. Because of the size of the market, the number of institutions that trade the assets, and the narrow spread between bid and asked prices, market analysts indeed began to view the Brady bonds as fairly liquid investments.

The difference between the Brady bond market and the market for most of the remaining bank debt of debt-troubled countries could not be more stark. The market for “loan paper” has shrunk dramatically and is generally seen as the most speculative part of an already highly speculative market. In contrast to the active trading in Brady bonds, trading in loans was \$244 billion in 1994.

⁵ Progress in implementing the Brady Plan and assessments of the agreements negotiated under it have been reviewed annually since 1990 in the *World Economic Survey* and in the reports of the Secretary-General to the General Assembly on the external debt crisis and development.

⁶ Information supplied by Salomon Brothers, Inc.

⁷ Brady bonds are largely beyond the reach of individual investors, as they come in denominations of \$250,000 and brokers generally charge steep fees for amounts less than \$1 million. However, unit trusts (closed-end funds) have been formed to invest in Brady bonds.

Although impressions of the extent of activity in the market differ, it seems that most of the loans are seldom traded and a rather small number of traders still participate in what is now viewed as a very "exotic" market. When a price is quoted for such a loan, it is often a notional bid and sometimes a very dated one.

Table XII.1.

SECONDARY MARKET BIDS ON DEVELOPING AND TRANSITION ECONOMY DEBT, 1993-1995

	Average bid in quarter; percentage of face value									
	Quarter									
	1993				1994				1995	
	I	II	III	VI	I	II	III	IV	I	
Latin America and the Caribbean										
Argentina	45.9	49.4	57.7	64.4	64.4	53.6	51.0	45.9	39.7	
Bolivia	16.0	16.0								
Brazil	29.5	33.9	42.9	45.7		26.4	42.2	41.5	37.4	
Chile	91.0	91.1	91.6	92.1	95.4	94.9	95.0	95.0	95.0	
Colombia	75.0	75.0	75.0	82.3	87.5	90.0	90.0	90.0	90.0*	
Costa Rica	61.3	65.3	71.2	78.7	81.8	68.2	64.5	62.8	51.3	
Dominican Republic	29.7	37.7	47.3	53.7						
Ecuador	26.7	30.2	33.5	44.6	48.3	38.4	40.3	30.2	27.0	
Honduras	32.0	31.0	31.0	31.0	33.3	34.4	36.8	36.0	35.3*	
Jamaica	70.8	74.9	76.0	76.0	82.8	84.3	83.0	83.0	81.5*	
Mexico	68.3	70.8	75.3	80.0	77.7	66.3	65.8	62.8	48.9	
Nicaragua	7.5	8.5	9.5	10.3	14.2	8.7	7.6	6.1	4.9*	
Panama	28.5	32.2	36.6	49.2	69.6	49.9	52.9	55.7	43.6	
Peru	20.1	28.9	39.8	55.9	67.2	46.1	54.2	57.3	50.9	
Uruguay	72.5	67.9	77.3	80.0*						
Venezuela	57.5	63.8	69.5	71.7	65.2	52.8	47.3	47.4	42.5	
Africa										
Côte d'Ivoire	6.5	6.8	8.5	14.1	27.8	18.3	19.1	19.4	14.6	
Morocco	47.9	57.2	72.0	78.5	77.9	70.8	72.4	69.8	61.4	
Nigeria	40.4	43.4	50.3	59.1	55.3	43.6	39.1	39.3	37.0	
Senegal	38.0	38.0	38.0	38.0	38.0	36.0	36.0	36.0	30.8*	
Sudan	1.0	1.0	1.0	1.9	5.8	3.3	3.0	3.0	3.6*	
Zaire	9.0	9.0	9.0	9.0	10.8	12.0	12.0	12.0	12.0*	
Eastern Europe and former USSR										
Bulgaria	14.6	19.2	25.1	32.8	39.4	32.6	25.0*			
Poland	26.6	30.4	36.0	41.9	44.8	35.0	36.6	36.1	32.6	
Ex-USSR	15.2	18.3	32.6	43.6	36.1	29.4	31.4	32.1	22.0	
Other										
Philippines	59.0	63.5	71.3	79.6	78.0	65.2	65.0	62.0	59.4	
Yugoslavia	15.1	14.8	16.0	17.9						

Source: Data of Salomon Brothers, Inc. and Merrill Lynch, New York.

Note: Bids are on bank loans or par-value Brady bonds, as appropriate. When no bids are shown, none were listed by either source; an asterisk (*) indicates bids were discontinued within the quarter and the average for available monthly bids is shown.

PRICES IN THE NEW SECONDARY MARKET

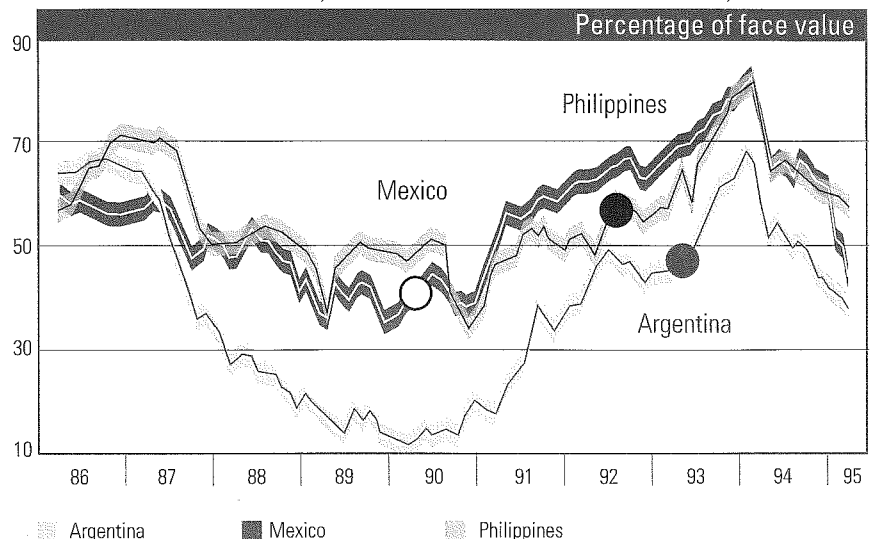
Once the Brady Plan began to be implemented, a “bull market” developed in the secondary market that lasted until early 1994. Of course, not all countries saw the valuation of their external obligations rise to the same degree, as countries differed in progress in economic adjustment and in negotiations with their commercial bankers. But the general trend in prices was upward and it largely continued after the bank loans were converted to Brady bonds, as may be seen in figure XII.1 for the illustrative cases of Argentina, Mexico and the Philippines.

The bull market reflected in part an optimism that the Brady Plan would finally end the commercial bank side of the debt crisis. But the prices of Brady bonds have moved for a variety of reasons, some of which had nothing to do with the market’s assessment of the debt situation in the Brady Plan countries. For example, the par bonds, whose prices are shown in figure XII.1, paid fixed interest rates and as interest rates fell in the major economies in the early 1990s, the interest rates paid by the par bonds became less unattractive; thus, prices of the bonds rose. By the same token, when interest rates in some major economies began to rise in 1994, the prices of Brady bonds fell.

As may be seen in the figure, however, the drop in price in early 1994 was rather sharp and seemed out of proportion to the interest rate changes that took place at that time. Market participants say that some of the purchases of Brady bonds had been financed with short-term borrowing by speculative investors and when short-term rates began to rise, the profits of these investors began to evaporate. Instead of purchasing Brady bonds, they began to sell them and the falling prices made the original speculation on the bonds even more costly, aggravating the decline.

Moreover, in some cases, the nature of the loans used to finance the bond purchases also pushed the prices down further. That is, some of the Brady bonds had been purchased “on margin”, as speculative investments, wherein the buyers paid their brokers a fraction of the cost of the bonds, the broker lending the rest, with the bonds themselves held by the brokers as collateral. When the prices of the bonds fell, the value of the collateral fell and the buyers needed to produce additional cash to meet the brokers’ “margin call”. When the cash was not paid promptly, the brokers sold the bonds into the falling market. The greater liquidity in the market also meant that there were buyers to take the bonds as their prices fell.

Figure XII.1.
SECONDARY MARKET BIDS ON BANK DEBT AND BRADY BONDS
OF ARGENTINA, MEXICO AND THE PHILIPPINES, 1993-1995



Source: Data of Chemical Bank, New York.

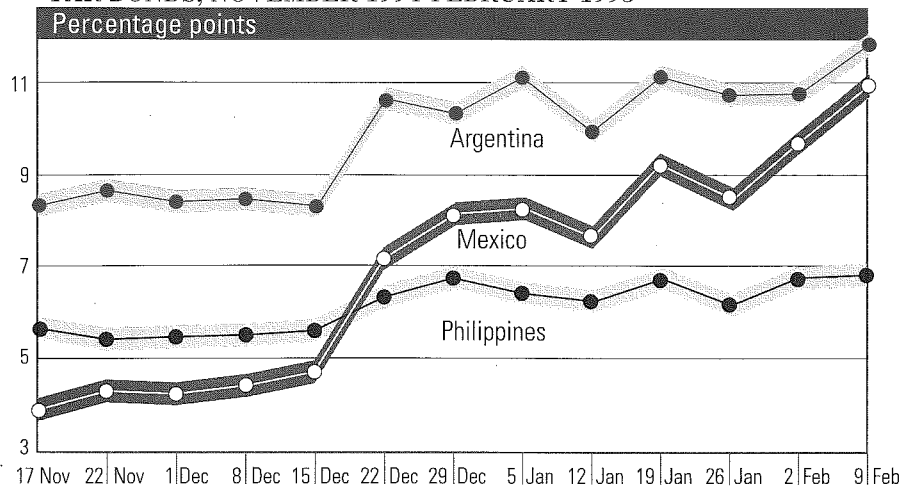
Another reason the prices of Brady bonds fell also has little to do with the economies of the countries directly concerned. That is, many institutions now hold portfolios of Brady bonds, both mutual funds that hold the bonds as investments and market makers that hold inventories of bonds to trade. When the Mexican currency crisis erupted in December 1994, the market's assessment of the riskiness of Mexican bonds shot up. Prices of Mexican bonds thus dropped and shareholders in "emerging market" mutual funds began to redeem their shares. The funds had to obtain cash to pay for these withdrawals, which in some cases meant that the funds sold some of their bond holdings, bringing bond prices down further (or weakening the prices of uninvolved bonds). By the same token, the institutions that actively traded Brady bonds found the value of their inventory dropping and to cover their losses they also sold a variety of their holdings.

It is necessary, in other words, to be quite cautious in drawing implications about market perceptions of a country's external financial situation from changes in prices in the secondary market.⁸ Analysts have nevertheless sought to disentangle the effects of various factors that influence the price in order to find the implicit country "risk premium" embodied in the bond price. Their approach was to separate the market value of a Brady bond into the present value of the risk-free principal and interest payments that are guaranteed by the "enhancements" and the remainder, which can be thought of as an unguaranteed bond. The yield on the latter, called the "stripped yield", can then be compared with the yield on a United States treasury bond of comparable maturity. The difference between the two yields, called the "stripped spread", would represent the risk premium embodied in the bond, part of which could be attributed to the structure of the bond itself and the rest to the implicit "sovereign risk".

⁸ Indeed, for the countries whose bank debt is still quoted in the market, but where trading is very low or absent, the robustness of the market assessment implied by the price should be considered quite low.

Figure XII.2.

STRIPPED SPREADS OVER TREASURIES FOR SELECTED BRADY PAR BONDS, NOVEMBER 1994-FEBRUARY 1995



Source: Data of Chemical Bank, New York.

Because the individual issues of Brady bonds arose from separate negotiations with each country, their financial characteristics differ. Thus, a bond that had a higher stripped spread over treasuries than another would not necessarily imply that the market perceived the first country as the riskier one. But movements over time in the stripped spread of a country's Brady bond could reflect changes in the market perception of the riskiness of the country.

As cases in point, the spreads over treasuries of the Argentine, Mexican and Philippine par bonds are shown in figure XII.2. The spreads of the Argentine and Philippine bonds were essentially constant from mid-November to mid-December 1994. The Mexican spread rose almost a full percentage point during this time, however, suggesting that the market was at least partly sensitive to the developments that were brewing. But after the Mexican crisis erupted, the spread on its par bond jumped and was 3.5 percentage points higher at the end of the year than on 15 December.

The crisis of confidence in Mexico worsened until an international rescue package was put in place in February 1995 and currency and financial markets more or less stabilized. During December and January the stripped spread on Mexico's par bonds had continued to rise as uncertainty mounted, as might be expected, ending on 9 February more than 5 percentage points higher than on 15 December. But the stripped spread on Argentina's par bond grew as well and so did that on the Philippine par bond. Indeed, the spreads on the three bonds rose and fell in tandem, if by quite different amounts. Thus, by 9 February, the Philippine spread was 1 percentage point higher than on 15 December, while that of the Argentine bond was almost 3.5 percentage points higher.

In this sense, it could be said that the Mexican crisis caused investors to increase their concern more about hemispheric neighbour Argentina and less about distant Philippines. The issue was more than geographical, however, as Argentina's "daring" strategy for stabilization through a firmly fixed exchange rate was now perceived as Argentina's "risky" strategy. The Philippines, meanwhile, was beginning to enjoy the fruits of earlier adjustment policies as energy bottlenecks, for example, began to ease (see chap. IV for a more detailed discussion of these two cases, as well as that of Mexico).

Most significantly, in neither Argentina nor the Philippines had the actual economic situation changed in a meaningful way between November 1994 and February 1995. The underlying creditworthiness of each country had not changed at all. Rather, investors, operating in a world of uncertainty and limited information, changed their minds and this change in perception — reflected in the higher spreads — raised the cost and limited the access of the countries to foreign finance.

PART FOUR

SUPPLEMENTAL REPORTS

XIII ASSESSING THE PEACE DIVIDEND RESULTING FROM THE END OF THE COLD WAR

The present chapter discusses the “peace dividend” that resulted from the end of the cold war. At the time, this was seen as providing a large volume of resources for greatly increasing social welfare. Six years after the fall of the Berlin Wall, there is considerable disillusion about the peace dividend.

With hindsight, it can be seen that some of the expectations were unrealistic and that the economic effects of the end of the cold war, in the short or medium term, would not be commensurate with its strategic and political importance. The historical circumstances, in particular the way the cold war ended, help explain the divergence between expectations and reality and will be discussed first.

Moreover, the way in which the peace dividend was used, although perhaps less dramatic than had been widely expected, had important and beneficial economic consequences, which will be examined by reviewing changes in government accounts and by looking at the results of global econometric models. Finally, perhaps the greatest peace dividend will eventually be the formation, in the economies in transition, of vibrant market economies that are fully integrated in the world economy. The last part of the chapter shows how reforms in the crucial defence industry could help achieve this goal.

HISTORICAL BACKGROUND TO THE PEACE DIVIDEND

After the Second World War, the United States of America, then the sole possessor of nuclear weapons, demobilized rapidly. However, in 1949, after the explosion of a nuclear device by the Soviet Union, and as a result of events in Europe, the United States of America and the other developed countries built up large nuclear and conventional forces to contain what they considered the threat from the Soviet Union and its allies. The Second World War was not followed by the same degree of disarmament as had been the First World War: instead there

- ¹ See, for instance, Sir John Hackett *The Third World War* (London, Sidgwick and Jackson, 1978) and *The Third World War: The Untold Story* (London, Sidgwick and Jackson, 1982), for a view, by a senior NATO commander, who was assisted by high-level collaborators, of what, at the end of the 1970s, was thought might possibly happen in the next decade: a conventional war in Europe followed by a nuclear exchange. For a discussion of contemporary thinking about the possibility of a violent end to the cold war, see R. Dugger "The President's favorite book: 'The Third World War'", *The Nation*, 27 October 1984.
- ² These data are from Stockholm International Peace Research Institute (SIPRI), *World Armaments and Disarmament*, 1994. The SIPRI data are often different from those given by the United States Arms Control and Disarmament Agency, which are also used in the present chapter.
- ³ Some of the main events that made the NATO countries revise their estimate of the threat posed by the Soviet Union were the following: in December 1987, the Soviet Union reached an agreement to eliminate the intermediate range missiles that appeared to threaten Europe and in May 1988, it began to withdraw its combat troops from Afghanistan. In 1989, the Soviet Union did not intervene to prevent, and even encouraged, the end of one-party rule in countries of Eastern Europe. The fall of the Berlin Wall took place in November 1989 and the end of the Soviet Union in December 1991.
- ⁴ See Serge Sur, "Avant-Propos", in *European Security in the 1990s: Challenges and Perspectives*, Victor-Yves Ghebal and Brigitte Sauerwein, eds. (United Nations publication, Sales No. GV.E.94.0.28), p.xiii.
- ⁵ The result of Sir John Hackett's imagined Third World War - the dissolution of the Soviet Union and of the Warsaw Pact - was, according to one reviewer, "just highly exhilarating as an exercise in fantasy. It is almost dizzying to contemplate a world in which the Soviet empire is no longer a threatening presence". See *The Nation*, 27 October 1984.
- ⁶ Data for the United Kingdom from the early 1700s to the First World War show a very close relationship between temporary military spending, incurred as a result of war, and the budget deficit. The wars included the War of the Spanish Succession (1702-1713), the War of the Austrian Succession and other wars (1740-1748), the Seven Years War (1756-1763), the American War of Independence (1775-1783), wars with France (1793-1815), the Crimean War (1854-1856), the Boer War (1899-1902) and the First World War (1914-1918). See Robert J. Barro, "Government spending, interest rates, prices and budget deficits in the United Kingdom, 1701-1918", *Journal of Monetary Economics*, vol. XX, 1987, figure 9, p. 240.

was rearmament and the development of ever more sophisticated weapons.

In the 1970s, especially after the Soviet invasion of Afghanistan, it seemed to many leaders in the developed market economies that the increasingly apparent failure of the Soviet economic and political system was escalating the danger that the leaders of the Soviet Union would stumble into war as a way of resolving that problem.¹ This fear of Soviet failure was quite different from the fear of the 1950s that the Soviet Union would be so economically successful as to overtake the developed market economies and be a model for other countries to follow. The NATO leaders were particularly concerned about the situation at the end of the 1970s, as it appeared that the Soviet Union had undertaken a large military build-up in the course of the decade, which could have put it in a position of military superiority.

The developed market economies, in particular the United States, accordingly embarked upon a massive build-up of conventional and nuclear arms: between 1979 and 1985, NATO's military expenditures increased by 38 per cent in real terms.² This build-up decelerated as events in the Soviet Union after Mikhail Gorbachev came to power in 1985 gradually dispelled Western fears that the economic and political problems of the Soviet Union could lead to war.³ The last step in this process was the dissolution of the Soviet Union and of the Warsaw Treaty Organization and the abandonment of the centrally planned economic system. Such a massive transformation was achieved without war and with relatively little domestic violence, unlike most other changes of similar historic magnitude.⁴ This relatively peaceful collapse was something that few had thought possible.⁵

There was considerable relief that the cold war ended the way it did, but economic analysis is unable to answer the question of what would have happened if it had ended in another way. Moreover, the economic benefits that have come about from its end cannot be equated with the much larger costs that would have been incurred if there had been hostilities: the avoidance of an expense does not add to present income.

Another explanation for the popular disillusion is that the reasons for the NATO arms build-up were not fully appreciated. It was undertaken to protect NATO countries during what they foresaw would be a very difficult time — the continuing deterioration of the Soviet economic system. It was, then, a temporary build-up, that, like most military build-ups was financed largely by borrowing.⁶ Governments did not treat the extra military effort as a permanent shift in their economies towards greater government spending.

The collapse of the Soviet economic system was unlike the destruction that the market economies of Europe suffered during the Second World War. These countries saw much of their infrastructure and industrial plant destroyed, yet had functioning economic systems, with property laws and institutions such as banks and exchanges, which, with an infusion of outside capital, could help them recover. In the case of the Soviet Union, those institutions, which could direct to civilian uses whatever resources were released by the reductions in military spending, were largely absent. Thus the reductions in military spending could not be expected to translate rapidly into a tangible peace dividend.

Another reason for disillusion stems from the fact that the peace dividend has usually been defined in terms of reductions in military spending. However, the full effects of the end of the cold war cannot be measured: they would have

to include not just reductions in military spending, but also the results of greater international cooperation in a range of economic, social and environmental matters that would not have taken place with such intensity if the ideological confrontation had continued. Investment and trade flows that were generated by a relaxation of world tensions are part of the peace dividend. On the other hand, the end of the cold war also involved a diminution of the interest that the participants had shown in certain areas of the world, and the lessening or removal of whatever restraining influence they had on domestic or external military activity of their former protégés. These negative effects would have to be included in any calculation of the results of the end of the cold war.

Methodological considerations prevent such a full calculation of the effects of the end of the cold war. It would be necessary to know what would have happened independently of its end. This involves judgements on historic causality that are beyond the scope of economic analysis. Moreover, to attribute all the changes that have taken place since 1989 to the end of the cold war would be erroneous.

The more narrow way of viewing the economic consequences of the end of the cold war as the effects of the reductions in military expenditures that it made possible also involves measurement problems. In the NATO countries and the former members of the Warsaw Treaty Organization, military expenditure undertaken to offset the threat posed by the other alliance constituted a large part of total military expenditure, and so it is not wholly unrealistic to attribute all of the fall in military expenditures to the end of the cold war. In the developing countries, however, the end of the cold war had many implications. Although it improved the overall international atmosphere, in many cases it led to the end of the financial and military support previously provided by the main antagonists of the cold war and made available for world markets at substantially lower prices part of the vast stock of weapons that were now surplus to the requirements of NATO and the economies in transition. Some of these factors could be expected to lead to a decline in military expenditures, while others could be expected to lead to a temporary, and perhaps reversible, increase. Even if all the necessary data for developing countries were available, it would be extremely difficult to attribute a specific part of the changes in military spending to the end of the cold war. To attribute all of them to the end of the cold war and characterize them as a peace dividend is not optimal but is common practice.⁷

RECENT TRENDS IN MILITARY SPENDING

For the world as a whole, and for almost all regions, the military burden, whether measured by the share of military spending in GNP or in central government expenditure, was considerably lower in 1993 than in 1983 (see table XIII.1).⁸ According to these estimates, in 1983 this burden was very heavy for the countries members of the Warsaw Treaty Organization: military spending absorbed 12 per cent of GNP and 44 per cent of central government expenditures. The comparable figures for NATO were 5 per cent and 15 per cent. For the world as a whole, military spending declined from 5.7 per cent of GNP in 1983 to 3.3 per cent in 1993. The decline was even greater in the developing countries - from 6.1 per cent to 3.1 per cent of GNP.

⁷ An example of how military spending can fall for a number of reasons, many unrelated or only partly related to the end of the cold war, was provided by Israel. A study of Israel's defence expenditure found that reasons for the decline in Israel's military expenditure (total defence consumption declined from 25 per cent of GNP in the early 1980s to less than 12 per cent in the early 1990s) were as follows: "the 1979 peace agreement with Egypt (and Egypt's declining military budgets from 18.1 per cent of GNP in 1972 to 10 per cent in 1984), the economic crisis of the mid-1980s that led to a realization that a strong economy is a vital component of national security; the defeat of Iraq by the U.S. lead coalition; the gradual phasing out of the Israel Defence Forces's active modernization which began in the mid-1970s. This perception was reinforced in the later 1980s when a militarily strong empire such as the Soviet Union collapsed due to severe economic problems". See Alex Mintz and Randolph T. Stevenson, "Global political change, defense spending and the peace dividend in Israel", paper prepared for the Project LINK/International Peace Research Institute of Oslo (LINK/PRIO) Meeting on the Wages of Peace - An International Project, United Nations, New York, March 1995, pp. 21-22.

⁸ These trends are derived from United States Arms Control and Disarmament Agency, *World Military Expenditure and Arms Transfers, 1993-1994* (Washington D. C., 1995). They use the statistical definitions, coverage and groups of countries as applied by that Agency.

Table XIII.1.

RATIOS OF MILITARY EXPENDITURE TO GNP AND CENTRAL GOVERNMENT EXPENDITURE, 1983 AND 1993

Percentage				
	Military expenditure/GNP		Military expenditure/central government expenditure	
	1983	1993	1983	1993
World	5.7	3.3	19.0	11.5
Developed countries	5.5	3.4	18.8	11.2
Developing countries	6.1	3.1	20.1	12.6
NATO	4.8	3.6	14.6	10.9
Former Warsaw Treaty Organization	12.1	7.6	43.5	15.0
North America	5.8	4.3	22.9	18.5
United States	6.3	4.7	25.5	20.1
Western Europe	3.4	2.6	8.4	6.1
Eastern Europe ^a	11.9	8.3	43.5	16.0
Oceania	2.5	2.5	8.5	8.9
Africa	5.4	3.1	16.6	10.1
Middle East ^b	17.1	9.0	31.2	24.9
East Asia	2.7	1.9	13.5	11.2
China	6.8	2.7	30.4	16.2
Japan	1.0	1.0	5.2	..
South Asia	3.4	3.2	17.9	17.0
India	3.5	3.3	18.6	18.8
Pakistan	6.2	6.4	29.0	26.3
South America	2.4	1.4	7.8	7.3

Source: United States Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers, 1993-1994* (Washington, D.C., 1995).

^a Including the Russian Federation and Ukraine and excluding the Central Asia Republics of the former Soviet Union.

^b Including Egypt.

Table XIII.2 shows the shares of global military spending accounted for by the different regions and average annual growth rates in real terms between 1988 and 1993. By 1983, the NATO build-up had resulted in its share of total world military spending exceeding that of the Warsaw Treaty Organization - 42 per cent as against 35 per cent. By 1993, after the sharp reductions in military expenditure between 1988 and 1993 in the former Warsaw Treaty Organization, the NATO share of world military expenditure was over three times greater - 55 per cent as against 15 per cent. The rate of decline in the developed market economies was moderate - 2.6 per cent for NATO as a whole, and 1.1 per cent for Western Europe. The United States, whose earlier build-up had been more rapid than that of Western Europe, saw a sharper decline.

Table XIII.2.

DISTRIBUTION AND GROWTH IN WORLD MILITARY EXPENDITURES, 1981-1991

Percentage	World share		Average annual real growth rate
	1983	1993	1988-1993
	World	100	100	-7.2
Developed countries	79.0	74.8	-9.3
Developing countries	21.0	25.2	1.0
NATO	41.5	55.5	-2.6
Former Warsaw Treaty Organization	35.1	15.4	-22.4
North America	26.7	35.8	-3.4
United States	25.8	34.3	-4.4
Western Europe	16.1	21.4	-1.1
Eastern Europe ^a	35.4	15.5	-22.5
Oceania	0.5	0.9	4.2
Africa	1.5	1.3	-5.7
Middle East ^b	7.8	5.7	-0.2
East Asia	9.5	15.8	2.3
China	4.4	6.5	1.6
Japan	2.4	4.8	2.9
South Asia	0.7	1.5	2.9
India	0.5	1.0	3.8
Pakistan	0.2	0.4	2.7
South America	1.5	1.7	-3.8

Source: United States Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers, 1993-1994* (Washington, D.C., 1995).

^a Including the Russian Federation and Ukraine and excluding the Central Asia Republics of the former Soviet Union.

^b Including Egypt.

Economic difficulties in Africa and the increasing democratization of South America help explain the declines in military expenditure in these regions. In the Middle East, the decrease in expenditure in real terms was moderate - 0.2 per cent a year. However, military expenditures in this region are subject to wide year-to-year changes. Military expenditures in East Asia and South Asia increased, yet the figures given in table XIII.1 for the burden that military expenditures placed on these economies, in terms of shares of GNP and central government expenditure, illustrate that, in general, rapid economic growth allowed them to increase their military spending and reduce the burden it placed on the economy. This was especially so for China.

**Trends in armed forces and their equipment
in the developed market economies and economies in transition,
1980-1995**

What is important for the individual country is the quality and quantity of the armed forces and the weapons deployed by its likely opponents, rather than their cost to them and, at least as far back as the Hague Conference of 1899, these issues, rather than the sums expended on military forces, have been the topic of disarmament negotiations.⁹ Accordingly, table XIII.3 gives indices for force levels and for two of the main weapons platforms - combat aircraft and main battle tanks - on the basis of 1980 levels.

⁹ See Jacques Fontanel and Michael D. Ward "Military expenditures, armament and disarmament", *Defence Economics*, vol. 4, No. 1, 1993, pp. 66-67.

Table XIII.3.

INDEXES FOR THE SIZE OF ARMED FORCES AND THEIR EQUIPMENT

	1986/87			1994/95		
	Active armed forces	Main battle tanks	Combat aircraft	Active armed forces	Main battle tanks	Combat Aircraft
World	105.0	112.4	108.4	95.1	93.4	101.1
Developed market economies	103.5	116.7	111.7	84.3	117.3	106.2
Developing countries	125.6	129.0	121.2	128.0	140.1	124.2
NATO	104.9	122.0	116.1	80.1	120.0	107.6
Former Warsaw Treaty Organization	102.4	103.9	98.8	74.2	67.2	82.9
United States	104.6	130.8	121.4	80.5	130.3	98.0
NATO Europe and Canada	105.2	115.2	107.8	79.9	112.0	122.6
Other Europe	90.1	75.6	90.9	119.9	91.7	93.3
Japan	100.8	144.6	85.9	98.6	156.8	112.1
Australia/New Zealand	99.3	114.4	101.8	85.6	114.4	113.6
USSR	100.0	106.0	98.2	70.5	63.3	81.6
Eastern Europe	111.3	93.5	101.3	75.4	66.1	75.3
Sub-Saharan Africa	104.4	138.7	171.6	127.0	92.2	134.2
North Africa ^a	162.4	107.8	149.5	141.3	123.2	108.5
Middle East	188.3	129.8	114.8	159.6	131.6	131.2
Egypt, Israel, Jordan and Syrian Arab Republic	124.1	133.3	129.1	131.4	156.1	152.0
Iran (Islamic Republic of) and Iraq	321.3	122.6	73.1	185.6	76.8	78.6
China	66.3	109.5	101.7	65.8	70.5	97.4
Other Asia	112.1	125.8	116.3	120.6	157.0	123.2
NICs ^b	106.7	184.6	134.9	108.6	248.8	138.7
Latin America	113.8	202.4	104.9	118.5	259.3	116.1

Source: International Institute for Strategic Studies, *The Military Balance*, various years.

^a Excluding Egypt

^b Newly industrializing countries

For NATO, the defence build-up was in military equipment rather than in the size of the armed services and was concentrated in the United States.¹⁰ This build-up was viewed in NATO primarily as an attempt to catch up with past increases in the size of the forces of the then Warsaw Treaty Organization, rather than to match current increases: in the same period, the size of the armed forces of the Warsaw Treaty Organization was practically stable.

After 1986/87, both NATO and the economies in transition cut the size of their armed services and military equipment. However, the cuts were much sharper in the latter: in 1994/95, the developed market economies still had about 17 per cent more tanks and 6 per cent more combat aircraft than in 1980/81, whereas the economies in transition had 36 per cent fewer tanks and 20 per cent fewer combat aircraft.¹¹

Military spending patterns outside the industrialized countries

The progress of the cold war largely determined the military spending of the NATO countries and the economies in transition. Yet, for many other countries, the main threat did not appear to come from either alliance, but from countries in the same region or domestic opponents. Relatively little direct relationship could, then, be expected between trends for military spending in the developing countries and those in the NATO and former Warsaw Treaty Organization countries. This was the case in recent years. Military spending in the developing countries as a whole reached a peak in real terms in 1983 and had declined 13 per cent by 1989. Between 1989 and 1992, it increased by 14 per cent in real terms and then fell by 11 per cent in 1993.¹²

The case of China has to be examined first.¹³ Its armed forces are probably the largest in the world and, according to one source, it is ranked third among military spenders.¹⁴ China is in the Asia region which, as shown in table XIII.2, has seen increases in military spending in recent years. Table XIII.3 shows that the size of China's armed services fell sharply between 1980/81 and 1986/87 and that after 1986, its stocks of tanks and aircraft fell. However, this decline was very different from that which occurred in the USSR and reflected a modernization rather than a shrinkage of the military establishment. The table also shows that in "Other Asia", which includes India, Pakistan and the group of newly industrializing economies, stocks of tank and aircrafts expanded rapidly. As with China, the ability to pay for extra military equipment out of rising incomes seems an important determinant of military expenditure for many developing countries.¹⁵

In general, the developing countries increased the size of their armed forces and their holdings between 1980 and 1986/87 and between 1986/87 and 1994/95. One exception was sub-Saharan Africa whose stocks of tanks and aircraft fell after 1986/87.

In the Middle East, the size of the armed forces shrank after 1986, but the stocks of equipment rose. The effects of hostilities on the stocks of weapons are seen from the trends in the combined total of the military establishments of the Islamic Republic of Iran and Iraq: by 1994/95, although they had larger armed forces than in 1980/81, they had fewer tanks and aircraft. The stocks of weapons held by the main participants in the peace process - Egypt,

¹⁰ Between 1980/81 and 1986/87, the number of the United States main battle tanks increased by 30 per cent and of its combat aircraft by 20 per cent, while the size of its armed forces increased by only 5 per cent.

¹¹ It should be noted that the then German Democratic Republic was included in the figures for Eastern Europe in 1980/81 and 1986/87. If it had been included in NATO, the decline in the military equipment of the economies in transition between 1987/86 and 1994/95 would have been slightly smaller, as would the increase in the military equipment held by NATO. Other problems with the data are how to count equipment put in storage and how to distinguish between the reduction in numbers resulting from the scrapping, without replacement, of viable equipment and from the upgrading of equipment by replacing obsolete equipment with fewer pieces of more effective modern equipment.

¹² Data from United States Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers 1993-1994* (Washington, D.C., 1995).

¹³ As in the case of many developing countries, the principal sources of international data on military expenditure enter reservations about the comparability of the data. See SIPRI Yearbook, 1994, p. 390, and United States Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers, 1993-1994* ..., p. 167: "Due to the exceptional difficulties in both estimating yuan costs and converting them to dollars, comparisons of Chinese military spending with other data should be treated as having a wide margin of error."

¹⁴ China's military expenditure, which had declined substantially after 1979, increased steadily after 1988. Its military budget rose by 13.8 per cent in 1992 and 15 per cent in 1993 and is expected to rise by a further 22.4 per cent in 1994. See June T. Dreyer, "The People's Army: serving whose interests?", *Current History*, September 1994, p. 267, and *SIPRI Yearbook*, 1994, p. 441.

¹⁵ China's aim was to strike a "reasonable balance of defence construction and economic reconstruction". For a fuller discussion of how this balance was struck, between the upper limit which "could not be exceeded while keeping the economy operating properly" and the lower limit "which keeps the army operating properly", see Zheng Kaizhao, "From national defense construction to economic reconstruction: a report from China", paper prepared for the LINK/PRIO Meeting on the Wages of Peace - An International Project, United Nations, New York, March 1995, pp. 21-22.

Israel, Jordan and the Syrian Arab Republic - increased over time, but as this process was initiated only in 1991, the figures cannot be expected to reflect fully recent positive developments.

MEASURING THE PEACE DIVIDEND AS A REDUCTION IN MILITARY EXPENDITURE

From the preceding discussion, it can be seen that, in absolute terms, the reduction in world military expenditures occurred in the developed market economies and the economies in transition rather than in the developing countries. One calculation was that if the developed market economies, the economies in transition and China had spent the same amount on defence in real terms in the years 1988 to 1994 as they had in 1987 they would have spent a total of \$807 billion more on defence in this period than they in fact did. The comparable figure for the developing countries was \$126 billion* (see box XIII.1 for a discussion of calculating the peace dividend as a reduction in military spending).

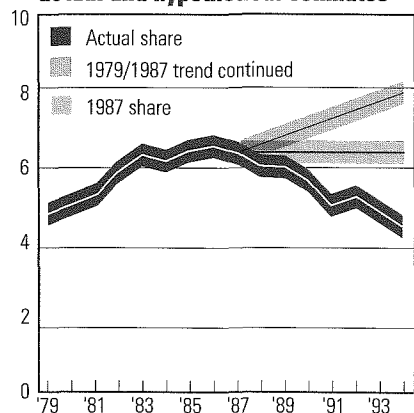
¹⁶ See United Nations Development Programme, *Human Development Report*, 1994 (New York and Oxford, Oxford University Press, 1994). The United Nations Development Programme does not give the source of its data in table 3.1, p. 48. These figures differ from those given by the United States Arms Control and Disarmament Agency. However, calculations based upon the Agency's data give a comparable result: the value of the peace dividend was about one year's military expenditure.

Box XIII.1.

MEASURING THE PEACE DIVIDEND

^a For the importance of discounting future flows to arrive at a figure for the net present value, see Tamin Bayoumi, Daniel Hewitt and Steven Symansky, "The impact of worldwide military spending cuts on developing countries", International Monetary Fund paper (WVP/93/86, November 1993), appendix.

United States: share of defence expenditures in GDP, 1979-1994; actual and hypothetical estimates



Source: Budget of the United States Government, Fiscal Year 1994, Historical Tables, and DESIPA calculations

ONE APPROACH TO MEASURING THE PEACE dividend is to estimate the reductions of military budgets. The peace dividend, in this approach, is either the accumulated reductions calculated against a base year or the sum of yearly changes over a series of years. These calculations are based on historical figures and projections for prospective reductions are made on the assumption that military expenditures will be reduced by a certain percentage each year over future years. The allocation of the presumably released resources is not an intrinsic part of the peace dividend in this approach and, when considered, is often restricted to a simple trade-off between military and social expenditures. Obviously, short-term adjustment costs and long-term benefits cannot be considered within this framework.

Moreover, such methods of calculating the peace dividend are heavily dependent on the base year chosen. A different base year would result in a totally different peace dividend. An attempt to avoid this problem could be made by applying a "trend" line, based on past expenditures, to determine what would have been military expenditures in a future period. The size of the peace dividend would then be the difference between projected and actual expenditures. This method is highly dependent on the time horizon used to fit "the trend". As the period 1980-1987 saw an expansion in military spending, calculating the peace dividend in this way for the years from 1988 would have resulted in an even greater figure than that derived from using 1987 as the base: a "trend" line would have shown military spending expanding steadily. In the case of the United States, for instance, in 1987 military spending absorbed 6.3 per cent of GDP. An extrapolation of the trend of military spending as a percentage of GDP, based on the period 1979-1987, would have resulted in military spending absorbing 7.8 per cent of GDP in 1994. In fact, in 1994, military spending was 4.3 per cent of GDP (see the figure). Similarly, choosing a period in which military expenditure was decreasing, as in the 1970s, in order to calculate "the trend", would have resulted in a much smaller peace dividend.

Finally, most calculations of the present value of a future income flow apply a discount factor, yet estimates of the peace dividend derived from future "savings", compared to a peak year or a trend line, in effect apply a discount rate of zero.^a

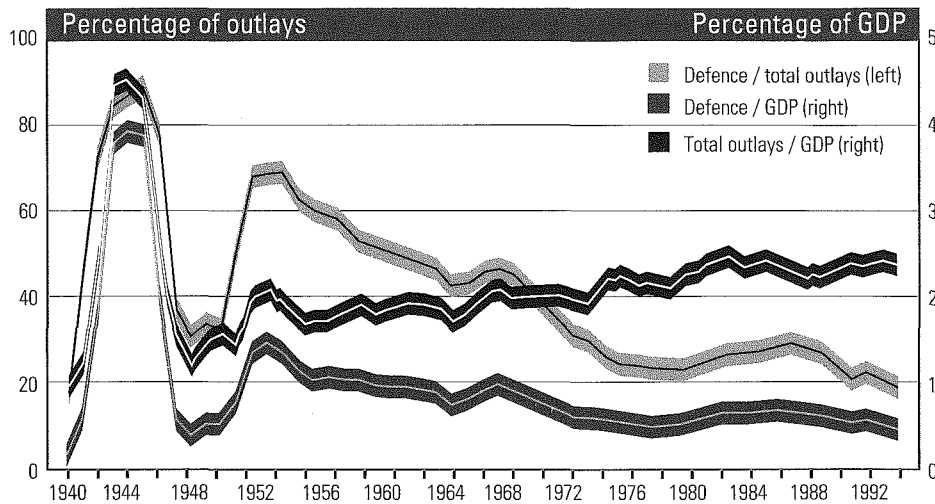


Figure XIII.1

UNITED STATES: SHARE OF NATIONAL DEFENSE EXPENDITURE IN FEDERAL OUTLAYS AND GDP, 1940-1994

Source: Budget of the United States Government, Fiscal year 1994, Historical Tables

It would be misleading, however, to view these reductions as wholly unanticipated savings that could be readily diverted to alternative uses. Military spending increases when there is, or appears to be, a threat, when hostilities actually break out and sometimes when overall economic conditions allow for an expansion in procurement. It decreases when the perceived threat diminishes or when economic conditions deteriorate.

Figures for the world's largest military power, the United States, illustrate this point. Defence expenditure was a small percentage of GDP before the Second World War - 1.7 per cent of GDP and 17.7 per cent of federal outlays in 1940, when the latter were only 10 per cent of GDP (see figure XIII.1). In the Second World War, defence expenditure reached nearly 40 per cent of GDP and 90 per cent of federal outlays, which were 45 per cent of GDP. They then declined to 3.7 per cent of GDP in 1948 as the United States demobilized. This was the lowest level they were to reach in the post-war period.

Subsequent peaks in military spending were at an increasingly smaller percentage of output and of government spending. Defence spending reached a maximum of 14.5 per cent of GDP during the Korean war and absorbed 69 per cent of federal outlays, which were themselves 21 per cent of GDP. In 1968, at the height of the Viet Nam war, defence spending reached 9.7 per cent of GDP and 46 per cent of federal outlays and, in 1986, during the last cold war arms build-up, 6.5 per cent of GDP and 23.5 per cent of federal outlays. By 1994, its share had declined to 4.3 per cent of GDP and, in 1996, it is expected to reach 3.7 per cent — the same amount as in 1948.

As defence as a percentage of GDP (and of federal outlays) declined, non-defence federal outlays increased: from 8.7 per cent of GDP in 1960 to 17.0 per cent in 1986 and 19.0 per cent in 1994. The increase, especially in the early years, can be partly attributed to military-strategic considerations. After the Soviet Union put the first satellite in space, the United States felt that it had fallen behind in technology and should catch up by devoting considerable resources to education. There was at that time a considerable constituency for increasing non-military spending, especially on education, but also in other social sectors, and the reductions over time in military spending helped pay for these added expenditures.

In the 1980s, however, the political mood was very different from that of the 1960s: a main objective was to reduce or at least stabilize the tax burden. Increases in federal expenditure, including that on defence, were not matched by increases in revenues and the deficit grew. Gross federal debt, which had declined from 57.6 per cent of GDP in 1960 to 33.5 per cent in 1981, grew to reach 71.5 per cent of GDP in 1993. Interest payments absorbed an increasing percentage of outlays. A major objective has therefore become the reduction of the budget deficit.

Because of a reluctance to increase tax rates or to reduce non-military spending by a compensating amount, the levels of military expenditure reached in 1987 can be viewed as unsustainable. One simulation by project LINK showed that, if the United States armed forces had remained at their 1987 level, defence expenditures would have stayed at around 6-6.5 per cent of GDP, then, under existing policies, the ratio of net federal debt to GDP would have increased by about 50 per cent between 1987 and 1997.¹⁷ The peace dividend, rather than being viewed as the release of considerable resources for alternative uses, should, in these circumstances, be viewed as the avoidance of what would have occurred if 1987 levels of military expenditure had continued. These alternatives depend upon the assumptions that are made about government and market behaviour and would include such possibilities as a reduction in non-defence spending, an increase in taxes or a financial crisis resulting from the market's loss of faith in the ability of the government to handle the situation in the face of mounting deficits.

THE BUDGETARY ALLOCATION OF THE PEACE DIVIDEND

The above considerations illustrate how, by apparently doing nothing when defence expenditure falls, a Government is in fact making a decision. If the United States, for example, had decided to increase federal spending on roads by the same amount as the reductions in federal spending on defence, the results, in terms of the budget deficit and long-term interest rates, would probably have been the same as if military spending had remained constant (although, by removing transport constraints, such federal spending might have led to higher long-term rates of economic growth). In this example, the alternative to an expanded federal highway network — and perhaps higher interest rates as a result of a larger budget deficit — would have been lower interest rates, which would have encouraged businesses to expand their capital equipment and made it easier for local governments to borrow to expand their own infrastructure, including roads. There is no single best government decision on how to reallocate the resources released by reduced military expenditure. Such analysis would require a country-specific analysis and a detailed examination of the long-run economic benefits of different types of expenditure — government investment in infrastructure, social spending or business investment.

One of the major concerns of Governments in recent years has been the size of their budget deficits and the overall level of their debt.¹⁸ The debate on the balanced budget amendment to the Constitution of the United States has helped highlight the importance of this issue on the Government's policy agenda. The Maastricht Treaty specified that accumulated debt levels in the countries of the European Union that wished to enter the monetary union should not

¹⁷ Hung-Yi Li and Peter Pauly, "Military expenditures and the United States Business Cycle", paper prepared for the LINK/PRIQ Meeting on the Wages of Peace - An International Project, United Nations, New York, March 1995.

¹⁸ For a fuller analysis, see chapter IV above.

exceed 60 per cent of GDP. If this is taken as a bench-mark figure for government debt, then few countries in the Union, or indeed in the developed market economies, could have met it. The Maastricht Treaty also specified that the budget deficit should not exceed 3 per cent of GDP. In 1985, most of the developed market economies, with the exception of Germany and some of the Nordic countries, had a deficit that was near to or in excess of this amount.

In the developing countries, the picture was considerably more varied, with several important regional military powers, including Egypt, India, Morocco and the Syrian Arab Republic, having deficits approaching 10 per cent of GDP in 1985. On the other hand, with the exception of Thailand, the newly industrializing countries — Indonesia, Malaysia, the Republic of Korea, and Singapore — had small budget deficits or even surpluses.

In sum, the starting position for the military build-down, in about 1985, was such that, for many countries, especially the developed market economies, much of any reductions in expenditure could have been expected to be used to reduce the budget deficit.

Reductions in military expenditures and changes in the government budgetary position

Tables XIII.4 and XIII.5 give figures for the countries for which data were available on the changes in the share of defence expenditure and of non-defence government expenditure and the budget position, as a percentage of GDP, between the years 1985 and 1990.¹⁹ Because of the problem of accounting for inflation, looking at these changes in shares is perhaps the most reliable way of seeing how Governments used the peace dividend.

This approach could be misleading because fast-growing countries, particularly those of Asia, often increased their military spending in real terms but saw it fall as a percentage of GDP. However, growing military spending that constitutes a declining share of a growing economy poses less of a burden than an increasing share of society's resources going to defence when the economy is declining or stagnant.

Defence spending is invariably a central government function and decisions on how to fund it, or how to use revenues for various purposes, are taken by the central Government. On the other hand, much of expenditure on the social sector, including roads, education and health, is undertaken and financed by local authorities, which enjoy varying degrees of autonomy from the central authority, including the right to raise revenues for their own purposes. A fall in one item of central government expenditure, then, does not automatically mean that matching funds are available for use by local governments on social services. On a broad level, however, the choices between spending on defence and on the social sector are made by society.

Finally, this way of looking at the budgetary allocation of the peace dividend compares two points in time and does not take into account the business cycle and therefore changes in the full employment budget position. A large deficit and a high level of non-defence government spending in one year could have been caused by a recession, bringing with it lower tax revenues and higher non-defence government spending, particularly on unemployment benefits. However, the data for many countries do not exist to calculate what would have

¹⁹ For the purpose of the analysis, the years 1985 to 1990 were chosen since the data set was more complete for those years. As the data for the countries of Africa were very limited, most of the figures for those countries were for different time periods.

Table XIII.4.
CHANGES IN THE PERCENTAGE SHARE OF GDP ACCOUNTED FOR BY DEFENCE
AND NON-DEFENCE CENTRAL GOVERNMENT EXPENDITURES, 1985-1990

Percentage					
Non-defence expenditure	Defence expenditure				
	-2+	-1 to -2	0 to -1	0 to 1	1 to 2
4 to 6			Costa Rica	Norway	Liberia
2 to 4				Czechoslovakia Lesotho	
0 to 2		Hungary Republic of Korea	Barbados Finland Spain Uruguay	Malaysia Nepal	Bahrain Togo
0 to -2		Iran (Islamic Republic of) Morocco Yugoslavia	Austria Canada Cyprus Denmark Germany, Federal Republic of India Malta United States	Myanmar Paraguay Turkey Zimbabwe	
-2 to -4		United Kingdom	Cameroon Dominican Republic France Sri Lanka Tunisia	Mauritius	
-4 to -6	Syrian Arab Republic	Thailand	Australia Netherlands Sweden		
-6 to -8	Egypt		Portugal		
-8 +	Israel	Chile	Ireland Mexico Singapore	Romania	

Source: DESIPA, based on International Monetary Fund, *Government Finance Statistics*.

Table XIII.5.
CHANGES IN THE PERCENTAGE SHARES OF GDP ACCOUNTED FOR
BY DEFENCE EXPENDITURE AND THE BUDGET POSITION, 1985-1990

Percentage					
Budget position	Defence expenditure				
8+	-2+ Syrian Arab Republic	-1 to -2 Thailand	0 to -1 Cameroon Ireland Mexico Portugal Singapore Sweden	0 to 1	1 to 2
6 to 8					
4 to 6		Morocco	Australia		
2 to 4	Egypt	Chile United Kingdom	Canada Cyprus Dominican Republic Spain Uruguay	Mauritius Paraguay Turkey	
0 to 2		Hungary Republic of Korea Yugoslavia	Austria Barbados Finland France India Iran (Islamic Republic of) Netherlands Sri Lanka United States	Czechoslovakia Malaysia	
0 to -2	Israel		Costa Rica Denmark Germany, Federal Republic of Malta Tunisia	Lesotho Nepal Romania	
-2 to -4				Norway	
-4 to -6				Myanmar Zimbabwe	Togo
-6 to -8					Bahrain
-8 +					Liberia

Source: DESIPA, based on International Monetary Fund, *Government Finance Statistics*.

been the budget deficit and non-defence expenditures at the same points in the business cycle. The data presented show what the actual changes were. As there are observations for a relatively large number of countries, which were at different points on their business cycle, it can be expected that, if a fairly consistent pattern emerges, this will reflect the overall choice made by Governments.

The tables indicate that restoring fiscal balance took precedence over using the peace dividend for increasing other government spending. For most of the countries in table XIII.4, the shares in GDP of both defence and non-defence central government expenditure fell between 1985 and 1990. The only developed market economy in which the shares of defence and non-defence expenditure both rose was Norway, which, as an oil-exporting country, has a relatively comfortable fiscal position.²⁰

For most countries in table XIII.5 the budget position improved. The broad picture, especially for the developed market economies, is that the shares in GDP of total government expenditure and its constituents, non-defence and defence, fell, and the deficit situation improved. However, in many countries, the fall in the share in GDP of total government expenditure was greater than the improvement in the budget position, reflecting a fall in the share of government revenue in GDP. This lightening of the tax burden, assisted by the reduction in the share of military expenditure in GDP, might have been an objective for Governments fearful of the electoral consequences of increasing taxes.²¹ The range over which the share of defence spending changed was much narrower than that for changes in non-defence spending and the budget position: only in the cases of Egypt, Israel and the Syrian Arab Republic did the share of defence spending in GDP fall by more than 2 per cent. In Israel, military and non-military government spending were claiming over 60 per cent of GDP; the reduction in military spending was accompanied by a reduction in non-military government expenditures, which brought the claim of government on output down to nearly 50 per cent. Revenues declined even further and the deficit actually widened. In the Syrian Arab Republic and Egypt, the shares of revenues also declined, but the reductions in the shares of military and non-military government expenditures enabled the fiscal balance to improve. In Chile, the fiscal position improved after a sharp reduction in non-defence expenditure. This reflected the policy to shrink the State: to remove government from the majority of people's lives while trying to maintain a safety net for the poorest.²² In Chile, defence spending by 1990 was just over 2 per cent of GNP. In that country, as in many other developing countries, where, as table XIII.1 shows, military spending had, by 1993, been reduced to a similarly small percentage of GNP, further reductions on the scale of the past cannot be expected.

The choice between military and social expenditures

There is considerable discussion at the international level of the need for Governments to increase social spending and to decrease military spending. Tables XIII.6 and XIII.7 give figures for changes in the combined share of GDP going to central government expenditure on health, education, social welfare and housing, which is taken as a measure of the social expenditure incurred by Governments. The changes in this total are compared with the changes in the total for defence. The periods examined are 1980-1985 and

²⁰ See Adne Cappelen, Nils Petter Gleditsch and Olav Bjerkholt, "The peace dividend in Norway: domestic or international", paper prepared for the LINK/PRIO Meeting on the Wages of Peace - An International Project", United Nations, New York, March 1995, pp. 21-22.

²¹ For instance, Hong Bai, Stephen Hall, James Nixon and Ron Smith argue that "given the narrowness of the Conservative victory in 1992, higher taxes could easily have lost them the election ... One might argue that the main economic effect of cutting military expenditure in the UK is that it allowed the Conservative Government to stay in power longer than it otherwise would". See "The macroeconomics of the peace dividend in the UK", paper prepared for the Project LINK Meeting, Salamanca, Spain, September 1994.

²² Angelo Codevilla, "Is Pinochet the model?", *Foreign Affairs*, November/December 1993, p. 133; in 1973, the Government of Chile had 650,000 employees and by 1989, 157,871 (p. 129).

1985 to the most recent year for which data are available. If there were to have been an immediate trade-off between military and social spending, the entries would have been clustered in the upper left and lower right quadrants. Instead, the entries were distributed in all four quadrants.

In the first period, when the share of military spending tended to rise, especially in the developed market economies, social spending also increased in many countries. In the second period, the share of military spending declined in most of the countries shown and the share of social spending also fell in a number of them. In this period, there was only one country that showed an increase in the share of defence expenditure and a decline in the share of social expenditure. Kuwait, a surplus energy exporter, was able to increase both military and social spending in both periods.

These data do not establish that there is no relationship between military and social spending. An almost instantaneous trade-off would, in any event, not have been expected. Moreover, changes in social spending are not just determined by the availability of resources released by a decrease in other items of government spending, including military spending, but by long-term factors, such as changes in the composition of the population. The political process also helps decide what role government can and should play in the area of social welfare. In order to examine the relationships between social spending and the availability of government resources, it would be necessary to develop a social welfare function. However, the limited number of developing countries in tables XIII.6 and XIII.7 highlights the weakness of the statistical basis for work in this field. The continent of Africa probably sees the starkest clashes between military expenditure and social spending, but the data required to examine the problem are not currently available on a timely and consistent basis. One effect of the growing international concern over military expenditure in developing countries has been to give greater urgency to the collection of relevant data on the military burden.

MODELLING THE EFFECTS OF ALLOCATING THE PEACE DIVIDEND

The above analysis, which looked at changes in the share of government expenditure going to the different items, cannot assess the total effects on economic growth and welfare of the decisions that Governments made.

However, it has been difficult to test the long-term effects of a switch from military to civilian expenditure. The benefits of disarmament are not instantaneous: disarmament should be seen as an investment process, where present costs have to be incurred in order to realize greater future gains.²³ Disarmament itself involves immediate costs — unemployment benefits must be paid to discharged members of the armed services and redundant workers in the defence industries and costs are incurred in the destruction of weapons and the verification of arms control agreements.²⁴ Developing alternative uses for government funds can itself entail an initial investment cost. For instance, in the case of education and health expenditures, schools, hospitals and clinics might have to be built and teachers, doctors and social workers trained in order for outlays to be raised permanently. In other words, spending the peace dividend is not simply a question of moving monies from one pocket to another.

²³ This approach is used in United Nations Institute for Disarmament Research (UNIDIR), *Disarmament as an Investment Process* (Geneva 1992) and Michael Intriligator, "Peace Dividend - myth or reality", paper prepared for the LINK/PRIOD Meeting on the Wages of Peace - An International Project", United Nations Headquarters, March 1995.

²⁴ For a fuller discussion of these issues, see *World Economic Survey*, 1992 (United Nations publication, Sales No. E.92.II.C.1 and corrigenda), chap. VI.

Table XIII.6
**CHANGES IN CENTRAL GOVERNMENT EXPENDITURES
 ON DEFENCE AND ON SOCIAL SECTORS, 1980-1985**

Percentage of GDP						
Social spending	Defence expenditure					
	-2+	-1 to -2	0 to -1	0 to 1	1 to 2	2+
4+				Malta		Kuwait
2 to 4	Zimbabwe	Tunisia	France	Chile Bahamas Cameroon Finland Italy Nepal Panama	Ethiopia Singapore	Guyana
1 to 2			Barbados	Australia Canada Spain Switzerland United Kingdom	Hungary	
0 to 1	Yemen		Belgium Ireland Myanmar Netherlands Paraguay Portugal Thailand Uruguay	Austria Colombia India		
0 to -1		Bahrain Indonesia Republic of Korea	Burkina Faso Cyprus Venezuela	Germany, Federal Republic of Liberia Mexico Norway	Egypt Romania United States	
-1 to -2	Israel	Senegal	Denmark Dominican Republic Luxembourg Morocco Sweden Turkey			
-2 to -4	Syrian Arab Republic		Costa Rica	Mauritius Togo United Republic of Tanzania		Sri Lanka
-4 +	Iran (Islamic Republic of)					

Source: DESIPA, based on International Monetary Fund, *Government Finance Statistics*.

Table XIII.7
**CHANGES IN CENTRAL GOVERNMENT EXPENDITURES
 ON DEFENCE AND ON SOCIAL SECTORS, 1985 TO LATEST AVAILABLE YEAR**

Percentage of GDP						
Social spending	Defence expenditure					
	-2+	-1 to -2	0 to -1	0 to 1	1 to 2	2+
4+	Israel	Hungary	Lesotho Luxembourg Romania Sweden Uruguay	Norway	Panama	Kuwait
2 to 4		Iran (Islamic Republic of) United Kingdom	Costa Rica Cyprus Malta	Italy Turkey Zimbabwe		
1 to 2			Australia Austria Barbados Canada	Paraguay Sri Lanka		
0 to 1		Republic of Korea United States	Denmark Finland India Indonesia Morocco Netherlands	Myanmar Portugal	Bahrain	
0 to -1		Thailand	Dominican Republic France Germany, Federal Republic of Nepal	Mauritius		
-1 to -2	Egypt	Singapore	Cameroon Tunisia Mexico			
-2 to -4	Syrian Arab Republic	Spain	Belgium Liberia			
-4		Chile	Ireland			

Source: DESIPA, based on International Monetary Fund, *Government Finance Statistics*.

²⁵ For a discussion of the importance of the underlying economic model and the expected reaction of the Government, see Robert M. Coen and Bert G. Hickman, "Macroeconomic impacts of disarmament and the peace dividend in the U.S. economy", and F. Gerard Adams, "Alternative approaches to modelling the macroeconomic impact of government (military) spending: an empirical example" (of the Philippines), papers prepared for the LINK/PRIIO Meeting on the Wages of Peace - An International Project, United Nations, New York, March 1995; and Hong Bai and others, *op. cit.*

²⁶ "While there is no clear consensus in the literature on the economic effects of military spending the most common finding is that military burden has either no significant effect, or a negative effect on economic growth." See J. Paul Dunne, "The economic effects of military expenditure in developing countries", paper prepared for the Project LINK Meeting, Salamanca, Spain, September 1994, p. 11.

²⁷ See, for instance, Coen and Hickman, *op. cit.*, p. 21: "Households and businesses are likely to sense the greatest gains from the peace dividend if it is devoted to tax reduction, because in that case the recovery of real output is largely accomplished by increases in domestic consumption and investment.... [Yet] we should bear in mind some important limitations of most macroeconomic models for studying the alternatives. In particular, a model such as ours does not do full justice to the potential impact of increased public investment on economic growth. Government investments in areas such as infrastructure, education, and scientific research are not separately accounted for, and their potential effects on aggregate output are not included in our production framework. Thus, we may be missing a significant channel by which the peace dividend could augment private consumption and investment in the long run".

Econometric models have been used to assess the effects of changes in military expenditure on other economic variables. They are themselves based on an underlying economic model, and on assumptions about the policy of the Government.²⁵ In the short term, the demand-depressing effects of reducing military expenditures tend to dominate the results produced by these models. In the longer term, assumptions have to be made about technological progress, without the spur of military research, and the volume and productivity of any new investment that would derive from a fall in military expenditure. Strong results that come from individual country studies are often not reflected in cross-country studies, especially ones that draw on a large and disparate sample. The causes of long-term economic growth are not fully understood. It is, then, unremarkable that long-term analyses of the effects on economic growth of changes in military expenditure have often not yielded strong results.²⁶

Using global econometric models

The way in which the peace dividend is used will have repercussions not just on the national economy but, in the case of an important player in the global economy, such as the United States, on the global economy.

However, it is difficult for many econometric models to calculate the effects of switching government expenditure from military to alternative expenditures. This involves distinguishing not only between private and government consumption and investment expenditures, but also between different items of government expenditure. In highly aggregated models, the reallocation of government expenditure from the military to the social sector, even if feasible, would alter the composition, but not the overall volume of GNP and so would not be fully reflected in short- to medium-term results. Moreover, unless a higher return were expected from the latter expenditure, long-term economic growth would not be markedly different. Assessing the effects of any tax cut that a reduction in military spending made possible would involve an analysis of the long-run effects of a switch towards private consumption and investment, which would in turn require a model of how economic growth is changed by particular investment outlays.²⁷

Macroeconomic models can, however, prove useful in showing the effects of a policy of not increasing government expenditure to compensate for the decline in defence expenditure. The primary and related effects will be on interest rates, through an improvement in the budget situation, and on the exchange rate. The exchange rate effect is also partly dependent on whether the country is a net importer or exporter of arms.

Global models can also bring out the international effects of reduced military expenditure on non-participating countries. These mirror the domestic adjustment process: initially, the contractionary effects of disarmament in reducing aggregate demand generate negative spill-overs as exports of third countries are reduced. In some models, the process is further exacerbated as the exchange rate of contracting countries depreciates. In the medium-term, however, many, especially developing, countries benefit from the reduction in interest rates brought about by deficit reductions in countries that are reducing their military outlays, in particular the United States. That effect is largest if the military expenditure reductions are used primarily for deficit reduction:

spending reallocations within public sectors will not generate that effect, even though they will also minimize the size of the initial negative shock on economic activity.

The results of global models

In an attempt to evaluate the orders of magnitude of the international economic effects of further military spending cuts, the LINK system was used to simulate coordinated multilateral military expenditure cuts in a large number of industrialized and developing countries. The case for multilateral action is that there exists a positive welfare effect as a result of potentially increased international security that could not be secured by unilateral disarmament. While unilateral efforts would likely have similar economic consequences, their effectiveness from the perspective of international security would not be so great.

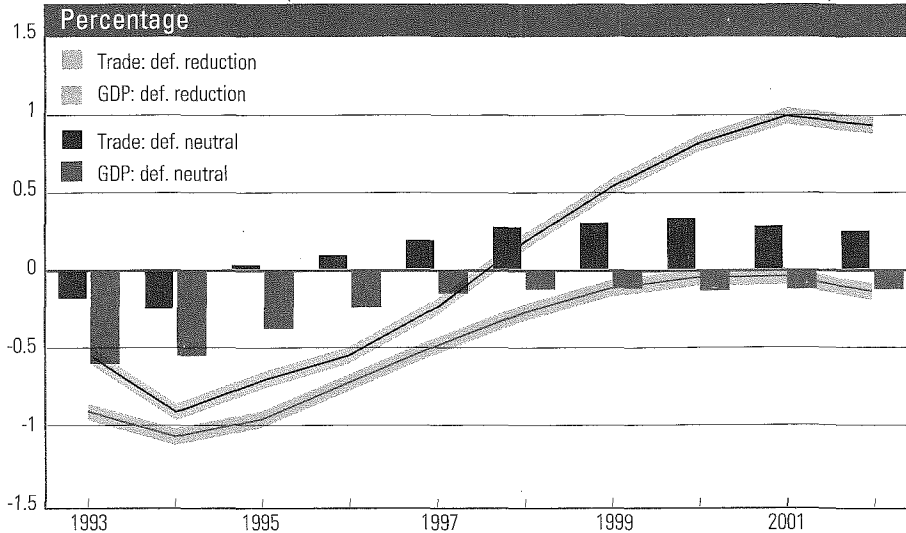
Specifically, the simulation envisaged cutbacks in 14 industrialized countries, in three developing countries, including China, and in the Russian Federation.²⁸ These countries include most of the large military spenders, which account for the overwhelming share of current military spending. In all countries the 1993 shares of military expenditures in GNP would be reduced by one quarter by the year 2002, beginning in 1994.²⁹ Those reductions were analysed under two alternative recycling assumptions: in one case, all spending reductions were used uniformly for deficit reductions; that is, they reduced the net claims of public sectors on capital markets, while in the second case, in the major industrialized countries (the Group of Seven), income tax reductions were used to recycle savings to private households: in this case the reductions in military spending were deficit neutral. In the first case, according to the assumptions behind the LINK model, large interest rate reductions could be expected, while in the second case private consumption spending would cushion the contractionary effects of reductions in government spending.

²⁸ The 18 countries were Belgium, Canada, China, Denmark, France, Germany, Greece, India, Italy, Japan, Norway, Pakistan, Portugal, the Russian Federation, Spain, Turkey, the United Kingdom and the United States.

²⁹ For example, in the case of the United States, the share would be reduced from 4.8 per cent to 3.6 per cent and, in the case of Italy, from 2.0 per cent to 1.5 per cent.

Figure XIII.2.

MULTILATERAL DISARMAMENT: EFFECTS ON WORLD GDP AND TRADE GROWTH (PERCENTAGE DEVIATION FROM BASELINE)



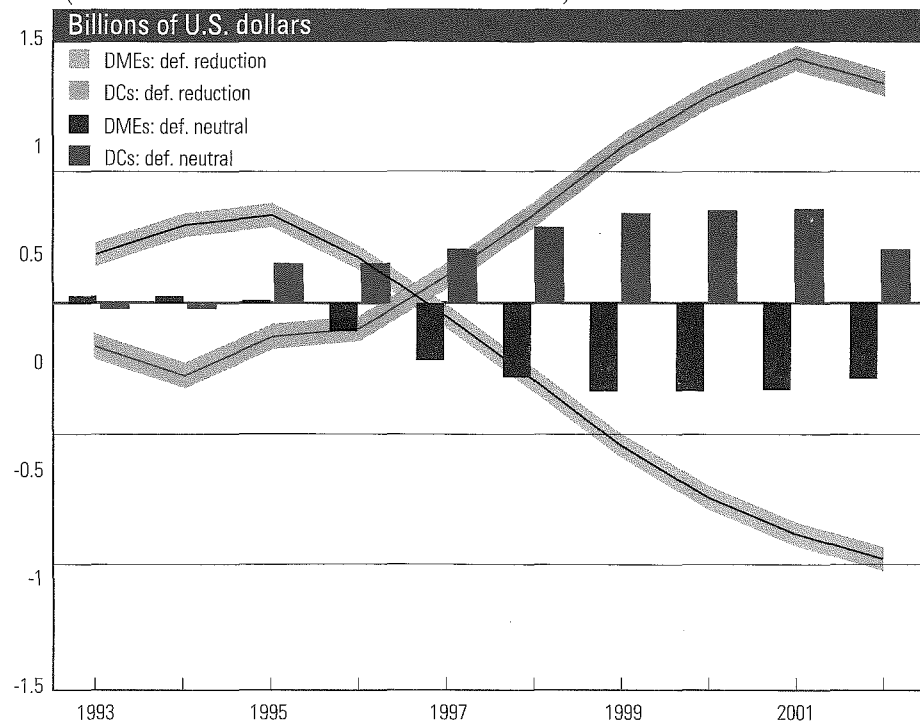
Source: Project LINK and U.N./DESIPA.

Figure XIII.2 shows the effects of multilateral disarmament on world trade and world GDP as deviations from the baseline growth trend. The orders of magnitude are smaller in the case of deficit neutrality than in that of deficit reduction. However, the adjustment paths are quite comparable. While over an initial period of about five years the negative effects on aggregate output growth dominate the picture, world GDP growth will return to its baseline path thereafter, led by an improvement in world trade. Reflecting the changes in GDP, unemployment is initially expected to rise in industrialized countries, in the range of 0.3 per cent to 0.7 per cent.³⁰ However, after the required adjustment, unemployment rates tend to be below the LINK baseline, as a result of the creation of additional jobs in non-defence sectors and fairly successful conversion.

³⁰ In a separate study, it was estimated that the reduction in military procurement spending in the United States was adding between 0.1 and 0.2 percentage points to unemployment between 1994 and 1995 and that, since procurement cuts constituted only about half of the current drawdown in military spending, the total decline in defence expenditures might contribute 0.2 to 0.4 percentage points to the national unemployment rate. See Mark Hooker and Michael Knetter, "Unemployment effects of military spending: evidence from a panel of states", Massachusetts, *National Bureau of Economic Research, Working Paper No. 4889* (Cambridge, Massachusetts, 1995).

Figure XIII.2 shows that world trade revives after two years in the case of a deficit neutral fall in military expenditures, although its subsequent growth is slower than under the scenario of deficit reduction. The effect on trade balances is greater under the scenario of deficit reduction. Figure XIII.3 shows that under both scenarios, the initial shock reduces the trade balances of the developing countries from the baseline as they export less to the more slowly growing developed market economies. Yet after three or five years, the trade balances of the developing countries are more favourable than under the baseline scenario, and those of the developed market economies less favourable.

Figure XIII.3.
MULTILATERAL DISARMAMENT: EFFECTS ON TRADE BALANCES
(DIFFERENCES FROM BASELINE TREND)



Source: Project LINK and U.N./DESIPA.

During the decade-long adjustment process, trade balances are likely to shift, both between developed and developing countries and within these larger groupings. In the long run, according to the LINK results, developing economies are likely to gain slightly, in the range of \$10-\$20 billion annually. Many industrialized countries gain slightly. For the most part this reflects the relatively rapid and successful turnaround in the United States. As the domestic economy is stimulated in the medium term, imports are increased; this effect is even stronger when private demand is stimulated additionally through tax reductions in response to cuts in defence expenditures.

The orders of magnitude for both the reduction in GDP and the changes in world trade are modest when compared to the historic importance of the end of the cold war. The reason is that, under this scenario, the shock to the world economy, in terms of the reduction in military spending, was about 0.6 per cent of global GDP. On top of this came cuts in military employment in some countries which added another small negative effect.

Yet over the longer run, and under slightly accommodating discretionary policies, econometric models indicate that the overall macroeconomic effects are unambiguously positive. In models that focus on important forward-looking elements of international capital markets both the turn-around and the long-run implications tend to be slightly more favourable.³¹ On average, global models indicate that the reduction in long-term interest rates as a result of cuts in military spending are between 60 and 180 basis points.

The main findings of econometric analyses are, therefore, that the short-run effects of military spending cuts are likely to be mildly contractionary, while in the medium-to-long term, supply improvements will dominate and lead to an increase in potential output, and its utilization, on a global scale.

Under all circumstances the spill-over effects on third countries appear extremely moderate, never exceeding two tenths of one per cent of GDP in the aggregate. None the less, the regional distribution of costs and benefits is diverse, reflecting the size of the initial shock, differences in domestic adjustment paths and, above all, substantial differences in the response to changes in international capital markets. The turnaround in the United States is much faster and more pronounced than in the other industrialized countries. The capital market effects in the United States, the country which undertook the largest military spending cuts and which is also central for global capital markets, are much more pronounced and direct. Similarly, there were substantial differences across developing countries, with debtor countries in Latin America benefiting, especially from the reduction in world interest rates, while South-East Asian economies were affected negatively by the trade effects. Furthermore, the results indicated that there would be considerable effects of the significant military spending cuts in eastern and central Europe and in the States of the former Soviet Union.

Yet the econometric results indicate that focusing on the direct benefits to developing countries as a result of the peace dividend could be misguided. The call for a direct transfer of parts of the "savings" generated by military spending reductions in mostly industrialized countries risks misinterpreting the nature of these "savings". No international reallocation can be without consequences in the source country of these funds. Global econometric studies of the peace dividend, including not just those undertaken by Project LINK but

³¹ For instance, the MULTIMOD model calculated the effects of a 20 per cent reduction in military expenditures achieved in equal increments over five years. By the second year, the output loss coming from the reduction in military spending was more than balanced by an increase in private spending. See International Monetary Fund, *World Economic Outlook*, October 1993, p. 109. A simulation by McKibbin also had output recovering very quickly from defence expenditure cuts between 1994 and 1997, and output was permanently higher by about 0.5 per cent by 2000. The reasons were that "the rise in government saving resulting from the lower path of military expenditure leads to a permanent fall in real interest rates relative to baseline. This lowers the marginal product of capital in all countries with open capital markets. Given full employment of labour in the long run this implies a rise in the capital-output ratio in all countries. As capital accumulates, output rises until the new capital-output ratio is reached ... This result about output and the capital stock in the long run has nothing to do with any assumption that might be made about how productive defence spending is relative to other government spending. It is purely the result of higher government saving". See Warwick J. McKibbin "Military spending cuts and the global economy", paper prepared for the LINK/PRIO Meeting on the Wages of Peace - An International Project", United Nations, New York, March 1995, pp. 19-23.

³² For the results of the MULTIMOD model, see International Monetary Fund, *World Economic Outlook*, October 1993, pp. 104-112.

³³ See McKibbin, *op. cit.* pp. 26-27.

³⁴ See, for instance, Paul Evans, "Is the dollar high because of large budget deficits?", *Journal of Monetary Economics*, vol. XVIII, 1986.

³⁵ In the case of Israel, high technology manufacturing now accounts for half of gross industrial product. Sixty per cent of Israel's industrial exports are high technology. It was thought that "Israel's military research has perhaps been the greatest single driving force for high-tech investment". See Julian Ozanne, "High-tech horizons", *Financial Times*, 24 February 1995. For a further discussion of Israel, see Alex Mintz and Randolph T. Stevenson, "Global political change, defense spending and the 'peace dividend' in Israel", paper prepared for the LINK/PRIIO Meeting on the Wages of Peace - An International Project", United Nations, New York, March 1995, pp. 19-23.

³⁶ For a recent discussion, see Alejandro Nadal Egea, "Military R&D: The economic implications of disarmament and conversion", *Defence and Peace Economics* vol. 5, No. 2 (1994).

also by the International Monetary Fund with its MULTIMOD, show that the main effect was on interest rates. These were lower in the developed market economies, and therefore globally, than they would otherwise have been.³² Investment and economic growth in the developed market economies were spurred by the lower interest rates, which led to greater demand for the exports of the developing countries. The lower interest rates were of major importance to the developing countries, allowing them to service their debts and to attract new capital more easily. According to this exercise, the size of these indirect benefits was much larger than the potential gains for the developing countries from any feasible increase in official development assistance.

Simulations have also illustrated the importance of policy credibility³³. If the market believes that there will be cuts in defence expenditure and that these are part of a credible budget reduction programme, the effect could be to lower interest rates. These effects could be annulled by a loss of confidence in the Government's management of the rest of the economy: the market might believe, for instance, that, although military expenditure might fall, other government actions would lead to the deficit widening. Empirical work on the connections between movements in interest rates and in budget deficits have often failed to produce strong results, as, clearly, many factors affect interest rates.³⁴ Credibility is a vital factor.

DIFFERENCES IN CONVERSION BETWEEN THE DEVELOPED MARKET ECONOMIES AND THE ECONOMIES IN TRANSITION

Conversion in the developed market economies

Most of the models used to predict the full impact of defence expenditure reductions cannot take into account the long-term effects of conversion — changing industries from military to civilian production. This is not to deny the immense potential benefits of such a reorientation.

As pointed out in the World Economic Survey, 1992, conversion in the developed market economies has largely been left to market forces, and defence firms have responded by mergers among themselves rather than by actually changing from military to civilian production. This continues to be the broad pattern. If there were attractive investment opportunities for defence firms before the end of the cold war, there was every reason for them to pursue them at that time rather than wait for a reduction in military orders before doing so.

The long-term effects of the down-sizing of the defence sector will largely depend on whether overall research and development will slow down now that the specific research and development that the military generated is smaller. Many of the advances in technology, such as computers, were spurred by the military, and some of the most technologically advanced of the developing countries — Israel, the Republic of Korea and the Taiwan Province of China — built up a domestic technological capacity for security reasons.³⁵ However, it now appears that there is a growing divergence between civilian and military research needs.³⁶ Moreover, it has frequently been pointed out that two countries which enjoyed easy access to the products of the United States military industry, Germany and Japan, were able to concentrate their research on civilian rather than military purposes and experienced higher rates of growth than a

country such as the United Kingdom, which had a relatively larger arms industry and so concentrated its research more on the military sector.

In the developed market economies, the question of converting military industries to civilian production has not normally been considered urgent by Governments. They have tended to view the matter as similar to the many changes in industrial structure, such as the run-down of the some smoke-stack industries, that take place in any economy. Given that the rest of the economy is growing, the labour shed by the military sector should be absorbed, although specific geographical localities and workers with skills of limited transferability will undoubtedly be adversely affected and might require government assistance in the transition.

Whereas it is possible for Governments of countries with developed market economies to leave matters to the operation of market forces, such an option is not possible in those countries that still do not have adequate market mechanisms. As discussed earlier, the end of the cold war was essentially the largely peaceful collapse of a failing economic system. Military spending was a very important part of the centrally planned economies (see table XIII.1). The success — and the potential costs of failure — of the move to a market system, of which the reduction in the military burden and the conversion effort are vital ingredients, is of crucial importance not just for the economies in transition but also for the global economy.

Specific features of conversion and restructuring in the economies in transition

In any circumstances, defence conversion, which involves the reallocation of military production capacities to the civilian sector is a very complex and costly process, rarely resulting in profitability.³⁷ However, the situation in the economies in transition constitutes a specific case, combining the worst possible conditions: by and large, their defence industry represented an extremely large sector in the economy, (see box XIII.2) and the conversion process is being executed in a particularly unfavourable social and economic domestic environment.

Although the situation varies according to each country, in most of the countries in transition, the transformation of the defence industries has reached crisis dimensions unparalleled in any part of the world. In the Russian Federation, for instance, defence procurement is currently one ninth of what it was in 1992, and spending on military research and development is one eighth. Drastic cutbacks in procurement, inadequate financing of the industries, low wages (approximately 60 per cent of those in the economy as a whole) caused a loss of about 2 million people in the defence complex, which still employs around 4.5 million people.³⁸ Enterprises have begun to shut down production: a 1993 study found that out of 1,500 defence-related enterprises in St. Petersburg, 300 were idle, 400 were working at significantly less than full capacity and 140 were close to terminating production.³⁹

Defence conversion can be viewed as just a part of the general restructuring process linked to the transition. Yet the similarities between this situation and that in the developed market economies after both the First and Second World Wars, when human and material resources were reallocated from one use to another, are probably fewer than the differences⁴⁰ (for a description of stages in the conversion process in the former Soviet Union, see box XIII.3).

³⁷ With very few notable exceptions, "the record of defense conversion is one unblemished by success", according to Ken Adelman and Norm Augustine, "Defense conversion: bulldozing the management", *Foreign Affairs*, spring 1992, p.1.

³⁸ V. Glukhikh, "Reform and stabilization of defense industry", *Conversion*, March 1994, p.17.

³⁹ A. Pierre and S. Conway-Lanz, "Desperate measures: arms producers in a buyers' market", *Harvard International Review*, vol XVII, No.1 (winter 1994-1995), p.15.

⁴⁰ D.C. Coddington and J.S. Gilmore, *Defense Industry Diversification: An Analysis With 12 Case Studies* (Washington, D.C., United States Arms Control and Disarmament Agency, 1966).

Box XIII.2.

THE SOVIET DEFENCE INDUSTRIAL SECTOR

^a These very high figures do not, however, mean that around one fourth of the Russian labour force was engaged in 1989 in arms production, since a considerable amount of civilian goods were being produced by the military-industrial sector.

^b The figures for the Soviet Union are for 1987 because of reliability problems with more recent data.

^c Even as late as 1989, Soviet leaders were told by the Intelligence Service that the United States could produce 50,000 tanks a year, and western European NATO countries another 25,000, in the year following the outbreak of a conflict. Mobilization capacities were therefore tailored to face such production levels.

The Soviet defence industrial sector was predominantly a Russian one: Russia accounted for not less than two thirds of its production. As a whole, the share of total industrial employment dependent upon the defence industry was around 25 per cent in Russia, 18.6 per cent in Ukraine and 17.4 per cent in Belarus.^a However, this did not preclude some extremely important links with other republics where the defence sector's share was quite small. As inter-republican trade was essential to the operation of the military-industrial sector, the collapse of the Soviet Union, and much more the collapse of inter-CIS trade, created especial economic and social difficulties.

Another important characteristic was that regional concentration of military-linked activities was quite high. In Russia, three regions had a very high percentage of defence industry controlled employment: the North-West (with the St. Petersburg industrial basin as well as military productions in Pskov and Narva), the Urals and Volga-Vyatka. In Ukraine too, some regions have a high concentration of defence industry controlled employment. The percentage went up to 72 per cent in Nikolaevsk, and was significantly above 30 per cent in such regions as Ivano-Frankovsk, Kiev, Crimea, L'vov, Kherson, Khmel'nitsk and Cherkassk.

Military enterprises were large compared with firms in other countries and even in Russia (see the tables).^b Their size was the product of both diversification and internalization; unable to obtain components of the required quality from the civilian industrial sector, defence-related enterprises frequently produced what they needed themselves. This internalization process contributed to the effectiveness of the enterprise in anticipation of shortages of inputs from outside suppliers. However, it contributed to low economic efficiency as a large number of internal shops were redundant or working at the lower end of the economies of scale. Their size was also the result of mobilization capacities. Defence-related enterprises were expected to be able to surge quickly to higher levels of production if an international crisis occurred. Overmanning and equipment redundancies were consciously organized to help produce this surge if and when needed.^c

In these circumstances, rigid conversion was likely to generate massive regional unemployment pockets, with severe social consequences. The very fact that part of the social support system was managed by enterprises and not through government agencies, whether federal or local, could only exacerbate this problem.

Comparison of average enterprise size between European Community and Soviet industries (number of employees)

	European Community	USSR, 1987
Ferrous metallurgy	517	3 833
Non-ferrous metallurgy	160	2 699
Machine building and metal working	196	1 731
of which electro-technical	299	1 645
Non-electric machinery	102	1 468
Motor vehicles	705	4 828
Chemicals	221	1 871
Construction materials	126	437
Light industry	102	650
Food-processing industry	183	289
Industry average	163	846

Source: *Economie Européenne*, n°45, December 1990, p.48.

Soviet defence industrial sector: distribution of industrial enterprises by size of labour force (Percentage)

	Number of employees					
	0-200	201-500	501-1000	1 001-5 000	5 001-10 000	1 000 and over
Average for industry	66.2	16.2	8.2	7.7	1.1	0.6
Defence industry	0.3	1.6	3.9	49.8	28.3	16.1

Source: *Rossija-1993; Ekonomicheskaya Konyunktura*, vol.1, p.157.

IN TERMS OF CONVERSION, the former Soviet Union is a case on its own, because of the very size of the defence-related sector and its impact on the economy.

Conversion was launched as a traditional administrative state programme in 1988 but its goals were never clearly defined (conversion or diversification? conversion or the improvement of civilian industry?) and its methods of implementation were clearly at odds with the systemic changes which had by then already begun in the former Soviet Union^a.

Uncertainties clouding conversion were linked to many factors. The Soviet leaders had some difficulties deciding about the role of the conversion process. It was first understood just as a means to channel more resources into civilian production. Then it was argued that the military-industrial sector could be an example for reorganizing civilian industry. Soviet economists argued that the defence industry could be used as a reserve of advanced technology to achieve the modernization of Soviet industry, enabling it to reach new levels of efficiency^b.

There was an obvious gap between the degree of understanding of the conversion process and the very fact that military spending was fast decreasing. It was urgent to develop a coherent policy since military contracts were vanishing. Instead, there were crude experiments, ranging from civilian projects in the aerospace industry (even if they were as impractical as the suggested 1,000 ton passenger aircraft) to the production of titanium saucepans.

With the breakdown of the Soviet Union, conversion was still thought of as important but was to be implemented "through market forces", mainly by reducing the defence budget and most of the subsidies and by liberalizing the economy. Defence contracts were cut by 68 per cent in 1992 alone^c. However, these cuts did not translate instantly into a commensurate reduction of production. Sometimes it was technically impossible to adjust instantly but sometimes, too, enterprises believed that orders would be reinstated later or that their products had huge export potential.

Contrary to what has been frequently argued, military-related enterprises genuinely tried to convert and implement some kind of financial discipline. However, by the end of 1992, conversion was being blocked by a lack of general vision and insufficient investment, not to mention the quickly declining market, which was making domestic civilian production increasingly less attractive. The Government and enterprise managers alike tried to find a temporary alternative to conversion by boosting arms exports. While arms exports have been extremely disappointing from a Russian point of view, raw and semi-processed materials produced in the military sectors have been widely exported. However Russian producers were soon confronted with declining prices and trade restrictions imposed by developed market economies. By mid-1993, it was clear that boosting exports would not be the solution, even on a temporary basis. Fluctuations and hesitations which characterized the conversion policy none the less led to more realistic assessments of what could be achieved in this field.

Recently, the practice of maintaining extensive mobilization capacities has been abandoned, enabling the Government to focus its efforts on a reduced number of pure military enterprises. The process of dismantling is seen as inevitable and the Government will try to concentrate orders on the most efficient producers^d.

There is also discussion of creating large industrial-financial conglomerates along the lines of the Chaebols of the Republic of Korea. Partial privatization would then be possible, even if the Government were to keep strict control over these groups. Cooperation with foreign companies is seen as extremely important for improving their technological abilities and gaining a foothold in foreign markets^e.

Military contracts will certainly be concentrated on research and development, with some small-scale production for test purposes keeping production facilities alive. But the technological potential of military-industrial companies is also to be used in rebuilding some civilian activities, such as transportation, energy, telecommunications and health.

There is probably now a large consensus that there is no alternative to conversion and restructuring. Yet the lack of a common approach within government is still one of the worst problems plaguing this process.

Box XIII.3.

STAGES IN THE CONVERSION PROCESS IN THE SOVIET UNION AND THE RUSSIAN FEDERATION

^a J. Cooper, *The Soviet Defence Industry: Conversion and Reform* (London, Royal Institute of International Affairs and Pinter Publishers, 1991), pp.37-41.

^b The debate can be read in V.K.Fal'tsman, "Konversiya i ekonomicheskaya reforma", MEiMO, n°10/1990, October; E.Rogovskiy, "Ekonomicheskaya orientatsiya konversii", *Ekonomicheskie Nauki*, n°8/1990, August; M.Spekler, A.Ozhegov and V.Malygin, "Konversiya oboronnykh predpriyatii: vybor strategii", *Voprosy Ekonomiki*, n°2/1991, February; A.Ozhegov, Ye.Rogovsky and Yu.Yaremenko, "Konversiya oboronnogo promishlennosti i preobrazovanie ekonomiki SSSR", *Kommunist*, n°1/1991. The most integrated understanding of what conversion could be in the 1989-1990 context is to be found in the economic programme published in *Problemy Prognozirovaniya*, n°2/1991.

^c See K.Gonchar, "Russian conversion at the enterprise level", *Russian Economic Barometer*, No.4, 1994.

^d A nucleus of 200 to 400 enterprises is to be preserved at any cost out of an initial population of 600 defense specialised enterprises, as they are seen as the core of the industrial-technological potential of the country. These enterprises would concentrate on military contracts but simultaneously maintain civilian production capacities. Such a policy would certainly entail production concentration on some areas and the closure of redundant facilities.

^e Some results have already been achieved in this regard, with the development of a new trainer aircraft by MIG in cooperation with the French aircraft industry, and extensive agreements between the Klimov jet engine company and United States and Canadian ones. See A. Martini, "La coopération franco-russe: l'hélicoptère Mi.38", *L'Armement: revue de la Délégation générale à l'Armement*, No 38, July-August 1993 and E. Kogan, "Is there a future for Russia's defence industry? Conversion in the aircraft industry", in *FOA (Forsvarets Forskningsanstalt) Lectures and Contributions*, No. 6, 25 July 1994 (Stockholm).

Conversion without government intervention

Shifting human and material resources from a defence-related to a civilian activity can be done either at the plant level or it can be achieved through the closure of former military related plants accompanied by the expansion of the civilian sector. In both cases, the main impetus is decreasing demand for military items combined with an increasing demand for consumer products. Down-sizing or closing military plants and selling part of their fixed capital would potentially free labour and capital for use in civilian activities. Once the economy had started to recover, the demand for civilian goods, which was suppressed for so long, would encourage enterprises to invest accordingly. Any rise of unemployment, as defence plants shed labour, could be expected to be temporary.

In theory, it would seem as if no government intervention should be needed to implement conversion. In other words, the same kind of policies advocated by some for developed market economies should be sufficient: the Government should assure flexibility in both labour and capital markets, institute training or retraining programmes and give transitory support to enterprises where necessary.

However, such a view implies some specific conditions that are largely absent in the economies in transition. First, growth in demand for civilian goods is needed. Second, the down-sizing or closing of plants should take place without inducing a depression, either at the national or local level, which in turn presupposes that unemployment benefits are high enough to cushion the income contraction from the massive scale of lay-offs that corresponds to the large size of the defence industry. Third, the closing of plants should not seriously affect non-military producers: subcontractors and suppliers should be able to switch quickly to new lines of production or to find new markets.

In the absence of these conditions, closing or down-sizing military plants could induce a domino effect, with the initial closings causing a depression at the national or local level, which would in turn reduce opportunities to engage in civilian production, and generate a chain of bankruptcies. Historical experience with some backward and redundant smoke-stack branches in developed market economies is indeed that direct State government intervention is needed.⁴¹

⁴¹ For a discussion of how the Government of Japan succeeded in converting some obsolescent industrial branches by devising specific policies, see D. Okimoto, T. Sugano and F.B. Weinstein, *Competitive Edge* (Stanford, California, Stanford University Press, 1984).

Microeconomics of conversion

An enterprise faces many threats in the transitory phase between the end of government military contracts and the development of new activities. The threat here is not necessarily insolvency, but illiquidity. Any delay in implementing the change to civilian production - for technical reasons or reasons not necessarily related to a specific enterprise - could create an illiquidity trap. Even an efficient enterprise with a backlog of orders could collapse.⁴² This is particularly true as the balance between internal and external financing would probably shift towards external financing. If financial markets are not yet well developed, specific arrangements have to be made with the banking sector. It is also extremely important to clear the enterprise balance sheet before beginning the conversion, as the financial burden of old accumulated debts could jeopardize the whole process.⁴³ Whatever the exact arrangements made to void old debts while still avoiding a moral hazard problem, they usually imply a good deal of state intervention.

⁴² Don L. Brown, *Miles Aircraft Since 1925* (London, Putnam and Company, 1970), pp. 42-43. This happened to the Rolls Royce company when unexpected difficulties arose with the development of a composite blade compressor for the RB211 jet engine (see S. Hooker, *Not Much of an Engineer* (Shrewsbury, Airlife Publishing Ltd., 1984).

⁴³ In Western economies, after the First and Second World Wars, military enterprises usually accumulated huge profits, whereas defence-related enterprises in the economies in transition have currently accumulated huge debts.

The potential for successful conversion would be enhanced if the technologies at hand are dual use or at least applicable to some civilian production lines. Lateral technological transfer, that is, diffusion of the technologies or knowledge between industrial branches or enterprises, can be effected through licensing, merger, take-over or joint-venture creation.⁴⁴ This, however, requires the existence of well-defined property rights. Conversion still needs investment in both human and material capital, through internal retraining programmes, modification of production lines and acquisition of new machine-tools. The firm's internal flexibility, its ability to achieve quickly and efficiently a reallocation of internal resources, is a decisive factor.

Searching for new partners and contracting to set up new production lines takes time. Prohibitive transaction costs could force the converting enterprise towards technical internalization, ultimately jeopardizing its competitiveness.

Specific features of the defence-related industries within the centrally planned economy

Defence-related enterprises in economies in transition enjoyed a higher position on priority lists than "pure" civilian enterprises. Even if in the former Soviet Union the defence sector was not completely insulated from deficiencies in the civilian one, its industrial equipment was of a higher quality and more modern.⁴⁵ However, these advantages do not translate automatically into greater flexibility. To be higher on a priority list of planners is equivalent to paying a lower price for a given resource, which in turn encourages wastage rather than productive efficiency.⁴⁶ Indeed, defence-related enterprises were certainly more capable than civilian ones, but not necessarily more efficient.⁴⁷

Industrial equipment that is highly specialized technologically, as in the Soviet defence industry, could be a liability as far as conversion towards completely different production lines is concerned. The technological basis matters only when civilian products are already technologically close to military ones, or if the enterprise was producing dual-use components.

The very nature of the technological culture that had developed in a particular defence enterprise also set it apart from other enterprises.⁴⁸ Technological culture describes here the core of tacit and collective knowledge accumulated through the life of the enterprise; it amounts mainly to an unwritten internal history of the enterprise's record of success and failure. More frequently than not, the Soviet technological culture in defence-related enterprises appears to be geared towards capabilities at any cost, or towards achievements in production not necessarily linked to achievements in efficiency.⁴⁹

As each enterprise can be summed up as an organization resulting from trade-offs between transaction and organizational costs, the very nature of the informational environment played a major role in the development of defence-related enterprises under centrally planning.⁵⁰ In an environment of shortages and quality deficiencies, they had to achieve levels of capability similar to those of enterprises in developed market economies. This situation led to the development of specific organizational skills that are probably redundant in a transition economy.⁵¹ Moreover, the culture of secrecy, which was so important in the defence sector, can put an enterprise at a disadvantage when openness and ability to develop relations with new partners is needed.

⁴⁴ This process is most efficient when the technologies are already quite close, as in car and aero engine production. Such was the situation for the Ufa based aero engine plant, converted to car engine production with technical assistance from the French firm Renault. See, "Reconversion industrielle?", in J. Sapir, Gen. R. Ernoult and D. Pineye, *La Décomposition de l'armée soviétique*, dossier No. 45 (Fondation pour les études de défense nationale, Paris, 1992), pp. 268-269.

⁴⁵ C. Davis, "Interdependence of the defense and civilian sectors in the contemporary Soviet economy", paper prepared for the Conference of the American Association for the Advancement of Slavic Studies, Chicago, 1989.

⁴⁶ J. Sapir, *Les bases futures de la puissance militaire russe*, Cahiers d'Études Stratégiques n°16 (Paris, École des hautes études en sciences sociales, 1993).

⁴⁷ See, L. Badgett, *Defeated by a Maze: the Soviet Economy and its Defense Sector* (N-2644-NA) (Santa Monica, California, the Rand Corporation, 1988); and T. Malleret, *Les transferts de technologie non négociés de l'ouest à destination de l'URSS et leur contribution au potentiel militaire soviétique* (Paris, École des hautes études en sciences sociales, 1992).

⁴⁸ J. Sapir, *La culture technologique: le cas des matériels militaires soviétiques*, Cahiers de Recherches No. 3 (Compiègne, Université de Technologie de Compiègne, 1990).

⁴⁹ More often than not, when touring defence-related enterprises, the foreign observer will hear about "what we can do"; it is extremely rare to hear about "what we can sell". This engineer-driven culture was certainly the key to some successes in the past, but it has to recede in order to allow the development of true entrepreneurial behaviour.

⁵⁰ E. Penrose, *The Growth of the Firm* (Oxford, Basil Blackwell, 1968). J. L. Ravix, "L'émergence de la firme et des coopérations inter-firmes dans la théorie de l'organisation industrielle", *Revue d'économie industrielle*, vol. 51, No. 1, 1990.

⁵¹ B. Hilton, *Defence Conversion or Diversification, East and West: An Overview of the Literature and the Arguments*, Management Research Papers, Templeton College, Oxford, 1992.

CONDITIONS FOR SUCCESSFUL CONVERSION

The conversion process is rarely pure conversion, meaning that a firm completely switches its production from one line to another, or pure diversification, meaning that two or more lines are pursued simultaneously.

The choice between conversion and diversification

Diversification allows for the retention of a secure technological and industrial basis, which could be used in the future for military production, while rigid conversion entails some measure of irreversibility, which would make a return to military production slower and more expensive. Rigid conversion would frequently mean a drastic reduction of military production capacities, with the survival of only a small nucleus. Thus it implies both a very strong political hand and the knowledge that the process would not have to be reversed in a short time. Diversification would certainly generate a reduction of military production capacities, but the nucleus would be much larger, and the potential for a future rise in military production (the so-called mobilization potential) would be both much better and much quicker. Diversification would be the better choice when political uncertainties are high.

Diversification would also probably reduce and smooth internal tensions in the converted firm, as accumulated knowledge is not instantly devalued. Status and occupations are less directly challenged by the diversification option than by rigid conversion. From a management point of view, the diversification option is certainly the one that can be implemented with a lower risk of internal conflicts as it allows workers and engineers alike to adjust progressively to new realities. On the other hand, it is clear that diversification could trap the conversion process in a conservative approach unable to produce results in the time needed.

But the mix is also influenced by economics. In a rigid conversion process, destruction of collective knowledge accumulated through productive organizations is taken for granted, even if it is hoped that new knowledge will be accumulated in new organizations. In diversification, what matters is the survival of some collective knowledge. The choice of conversion versus diversification implies that it is thought that a large part of formerly accumulated knowledge is no longer relevant in the new situation. This can be true when facing a major technological change. Diversification, on the other hand, makes it possible to reduce the risk level and soften the adaptation shock. It enables the enterprise to gradually implement an internal restructuring process, reducing somewhat the instantaneous demand for new investment. If some "efficiency" assets, such as marketing skills, are underdeveloped, a strategy of diversification allows for the progressive learning of such skills. However, to be a viable strategy, diversification implies a continued commitment to military demand.⁵² A diversification strategy could easily be jeopardized if the diversified sector were seen as a junior sector by the top management, while pure conversion would focus all energy on the conversion process by sending the message that there is no alternative.

Defence industries in the economies in transition share with the civilian sector low productivity by the standards of the developed market economies: they possess very little competitive advantage (except in a few technological niches),

⁵² This gradual phasing-out of military production was practised in the United States and the United Kingdom after the Second World War: some defence contracts were maintained even though the war had ended. In the aerospace sector, these contracts enabled the switch towards civilian production to be progressive and reduced some overhead or development costs, particularly for large transport planes which were related to military designs (C-54 and DC4, Constellation, and Boeing Stratocruiser and B50). However, if defence funds are to be quickly cut out (and this is the situation in the economies in transition), then diversification is frequently impossible. Exports are not always a viable option as, except in the case of a small producer, the world market is unable to absorb the part of the traditional production that is no longer sold to the internal market.

and they are notoriously overstaffed.⁵³ Low labour costs play a role only in a few labour-intensive industries.⁵⁴ By contrast, prospects for science-intensive sectors, even if more limited in scale, seem more promising. Yet even when state-of-the-art technologies are available, they are rarely applicable for civilian production. The complementary marketing skills necessary are often absent.⁵⁵

Although defence conversion undoubtedly represents a daunting challenge, it is by no means doomed to failure. The conditions for successful conversion already exist in many cases in the economies in transition, although not all of these conditions can be expected to be met at the same time. Nevertheless, for success in converting defence-related enterprises, a good deal of coordination is needed between traditional macroeconomic policies and the legislative framework, and between decisions made at the macro- and the micro-economic levels. For example, dilution of responsibilities and uncertainties about ownership can plague the conversion process.

The overall economic background for the defence sector's transformation

Recent developments have confirmed that, to be successful, the conversion process in the economies in transition depends critically on an increasing demand for civilian goods. As far as the Russian Federation is concerned, domestic demand would certainly play the major role as foreign markets cannot absorb a significant proportion of Russian defence-related production, even for raw materials such as metals. The relevance of domestic demand is certainly less acute for smaller countries and/or countries where the share of defence-related sector in industrial production has been significantly lower than in the Russian Federation.

Given these macroeconomic conditions, enterprises need a stable and robust financing system to prevent them from falling into illiquidity during the restructuring phase. Debt consolidation and long-term credits are required.

A stable system of rules, that is property rights definition and implementation, is even more important than the privatisation process itself. "Who owns what" and "who is in charge of what" are questions, the right answers to which are absolutely critical for developing economic incentives. From this point of view it is doubtful that the current stage of Russian privatization could give birth to the kind of corporate governance that is needed.⁵⁶

Enterprises that are to be maintained should be put on the same footing as potential competitors. They cannot expect to restructure and be competitive if they are burdened by providing social services, such as child care, health care, housing and so forth, as they did in the past. Finally, government has to produce the information needed for mid- to long-term corporate guidance. Here, a credible industrial policy can be a considerable asset, as demonstrated by historical experiences in Japan, the Republic of Korea and Western Europe.⁵⁷

The impact of progress in transition

In general, progress in defence conversion and diversification depends to a crucial extent on the stage of economic transition. In countries where transition

⁵³ According to fragmented evidence gathered by Western industrialists and consultants, the overall manufacturing productivity of the former command economies' defence plants corresponds to about 20-40 per cent - in the best cases - of that of highly industrialized countries.

⁵⁴ In these industries, however, some plants quite easily become subcontractors and suppliers to well established foreign firms pressed by low-cost competitors. This is due, in particular, to the fact that high-school education is reasonably good, measured by international standards.

⁵⁵ See the example of the toy made of titanium powder by a Perm enterprise in T. Cronberg, "Enterprise strategies to cope with reduced defense spending: the experience of the Perm region", in *Privatization, Conversion and Enterprise Reform in Russia*, Selected Conference Papers, M. McFaul and T. Perlmutter, eds. (Stanford, California, Center for International Security and Arms Control, Stanford University, 1994), pp.189-200.

⁵⁶ For a fuller discussion of the problems of enterprise adjustment in the economies in transition, see chapter VI above.

⁵⁷ See L. Taylor, "The market met its match: lessons for the future from transition's initial years", *Journal of Comparative Economics*, vol.19, No. 1/1994 (August), pp.64-87.

is the most advanced and where considerable progress has already been achieved in macroeconomic stabilization, the priority can be reoriented towards enterprise restructuring in general and defence conversion in particular. In turn, the ability to maintain and advance stabilization achievements enables these countries to pay more attention to the social consequences of conversion. In countries at an earlier stage of transition, where macroeconomic instability remains a severe problem, the priority is hardly on restructuring. Even if this issue appears to be high on the political agenda, there is very little these countries can currently achieve in this respect and institution-building is now emerging as a key point for any viable transition strategy.⁵⁸

If a quick move towards transition can be decisive for the conversion process, sticking to inflexible policies could lead to such high unemployment and social tensions as to jeopardize the transition itself⁵⁹.

Although the available indicators are by no means comprehensive and must be interpreted with caution, they show that countries that have made the most progress towards transition (namely the Czech Republic, Hungary, Poland and Slovakia) are more likely to embark upon conversion/restructuring with success than, for example, the Russian Federation, whose progress has been slower.⁶⁰ Similarly, the Russian Federation is more likely to make progress in the field of defence conversion than is a country such as Ukraine.

Two countries, the Russian Federation and Slovakia, which a few years ago faced almost identical conversion problems, now find themselves in radically different situations: the strong rebound in economic growth in Slovakia, which took place in 1994 (and which is likely to continue), has to some extent alleviated the pains of defence conversion. On the other hand, the conversion problems in Hungary and the Czech Republic were less acute than in Slovakia or the Russian Federation, not to mention Ukraine. Defence-related industrial sectors were relatively smaller in the first two countries and usually specialized in high-quality components. Moreover, Hungary was already engaged in a process of marketization well before its actual transition began.

Restructuring and privatization

To date, many defence enterprises have been privatized, but the privatization process can be effective only if it modifies the behaviour of the firm to make it compatible with the key features of the market economy.⁶¹

In the transition economies, defence conversion is frequently associated with financial restructuring (asset liquidation and recontracting of non-performing loans).⁶² Most of these enterprises would not survive if their fate were left to market forces. However, if they are not in too difficult a situation, they may prove viable when properly restructured. Strategies of diversification by way of integrating with civilian enterprises, as pursued in developed market economies, are rarely feasible in the countries in transition because of the lack of financial resources and the current structure of the market. Therefore, privatization that is not undertaken as an end in itself but rather to effect an improvement in the enterprise's efficiency is crucial for successful conversion.

Moreover, in most of the defence enterprises in the economies in transition the State is still a shareholder. If they are to be privatized, they must be

⁵⁸ The macroeconomic consequences of certain policies towards individual enterprises focus on the issue of sequencing (i.e., order of priority between stabilization, liberalization, privatization and restructuring). The debate is far from being resolved, in particular regarding the sequence in privatization-restructuring (should restructuring occur prior to privatization or the reverse?). However, it may be assumed that if macroeconomic stabilization does not constitute an absolute prerequisite for restructuring, it greatly facilitates it. The issue of transition strategies and sequencing is discussed at length in *Economic Transition in Eastern Europe and the former Soviet Union*, Transition Report (European Bank for Reconstruction and Development (EBRD), October 1994), pp. 45-48.

⁵⁹ P. Aghion and O. J. Blanchard, *On the Speed of Transition in Central Europe*, EBRD Working Paper, No. 6 (London, July 1993).

⁶⁰ See chapter II above for an assessment of the progress made towards the formation of market economies.

⁶¹ See Keith Bush, "Conversion and privatisation of defence enterprises in Russia", in *Privatisation Experiences and Policies in NACC Countries in the Field of Defense Industry*, NATO, Colloquium 1994 (June 1994), pp. 5-7. On the privatization process itself in the Russian defence industry, see Andrei Loginov, "Privatisation in Russia: results and prospects", in *Privatisation Experiences* ..., pp. 5-6.

⁶² This issue is of paramount importance in terms of corporate governance: an overhang of bad loans weakens the incentives for new and/or outside investment since the incremental returns would accrue first to the old creditors. The relation between debt and equity is analysed in *EBRD Annual Economic Outlook*, 1993, pp. 9-24.

restructured first. This raises the issue of who ought to perform the function of corporate governance during the transition period. State governance can be exercised through different institutions.⁶³ The Russian Federation, Ukraine and Slovakia assign control of defence industries to the sector ministry, Poland to the finance ministry and Hungary to a holding company. However, weak state authority and further weakening of state legitimacy through budget non-payments, critically undermine the processes of control and supervision. If ill-designed and ill-implemented, privatization could end in the creation of “nobody” enterprises linked to “nobody” banks, with an ownership overlap that makes any credit discipline difficult to enforce.⁶⁴

ELEMENTS OF A SUCCESSFUL CONVERSION STRATEGY

It is now obvious that the conversion process will not give birth to the peace dividend in a short time. Although protracted and painful, this process is an absolute necessity for the economic and social stability of the economies in transition. In spite of all the difficulties mentioned above, there are some successes, which show the importance of public policies for any conversion process. Macroeconomic conditions, including stable or increasing demand for civilian products, reliable, ready and cheap access to new markets and institutional conditions, such as stable rules and well-defined property rights are crucial. Success also depends on such microeconomic factors as internal flexibility, low transaction costs and an efficient financing system. Macroeconomic and institutional policies could create the right environment for microeconomic decision-making. Moreover, when markets are imperfect or temporarily unreliable, interventionist public policies are called for — through subsidies and budget policies which seek to channel microeconomic actions into specific directions.⁶⁵ In the conversion process, there will always be a mix between these two groups of policies.

Direct Western capital involvement

Most of the former defence enterprises are in urgent need of a strategic investor to supply working capital, help improve quality and provide a distribution and service network in export markets. More often than not, direct investment from Western companies seems to present a real chance that the most advanced areas of the defence enterprises of the economies in transition can develop without being strangled by international competition.

Nevertheless, direct investment is in essence opportunistic and very few areas are of real interest to companies from developed market economies. Its scope is quite limited because the former defence industry does not promise quick returns and high margins compared with, say, trading ventures or where substantial returns can be obtained from the capacity to charge high hard currency prices with low local costs, such as for hotels. Usually, those enterprises that decide to invest in the equity of the former defence enterprises are those that are prepared to incur a short-term sacrifice in the hope of a potential long-term gain. Foreign involvement, either through direct investment or other means, has been critical in the few success stories, particularly in the former Soviet Union (see box XIII.4).⁶⁶

⁶³ The main problem associated with the state governance of enterprises lies in the fact that the control is exercised ex-ante (leading to meddling) rather than ex-post (that is to say, judging results). Furthermore, it is also complicated by other factors, including (a) multiple objectives (i.e., non-commercial objectives such as employment with profit maximization); (b) multiple principals; and (c) lack of competition.

⁶⁴ The Saratov aviation plant in Russia is a good example of such a situation. See K. Hendley, *Steps on The Road of Privatization: A Preliminary Report on the Saratov Aviation Plant*, Project Status Report (Stanford, California, Center for International Security and Arms Control, Stanford University, 1992).

⁶⁵ Industrial policies implemented in East-Asian countries are the best example of this group of public policies. See R. Wade, *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*, (Princeton, Princeton University Press, 1990).

⁶⁶ J. Cooper, *The Conversion of the Former Soviet Defence Industry* (London, Royal Institute of International Affairs, 1993), p.36.

Box XIII.4.

JOINT VENTURES IN THE RUSSIAN FEDERATION'S DEFENSE INDUSTRY

^a J. Cooper, "Transformation of the Russian defence industry", *Jane's Intelligence Review*, October 1994, p. 447.

^b *Ekonomika i zhizn*, p.20

^c *The New York Times*, May 2, 1994, p.A13

^d K. Wittneben (1992), "The perspectives and roles of U.S. business in Russian defense conversion", Gateway Seminar Report (Geonomics Institute, October 1992), p.34.

FINANCING REMAINS ONE OF THE MOST DIFFICULT ASPECTS of conversion. State assistance in the form of direct financing and low-interest credits has not been at the level required and is not likely to be increased, owing to the financial difficulties facing the Russian Government. Arms exports, which nominally generated as much as \$30.8 billion for the Soviet Union in 1987, are not the solution. Because of the lack of a developed banking system in the Russian Federation, the ability of enterprises to obtain the required capital in the domestic market is still very limited. Even if the privatization of the military-industrial sector is completed, the newly created financial institutions will not invest much in the former defence enterprises. Therefore international private and public assistance is considered by some observers a crucial source of finance for the conversion and overall restructuring of the Russian defence industry, just as it is for the Russian Federation's transition to a market economy. In addition to being an important financing source, foreign partners bring technical expertise to such critical areas of a market economy as management, marketing, sales and distribution.

In 1993, more than 300 joint ventures involving Russian defence enterprises produced a total output of approximately \$500 million.^a The number of such projects is constantly growing. The largest and the most successful joint-venture projects are in the aerospace sector. In a highly publicized joint venture between Moscow's Khrunichev Enterprise and the United States-based Motorola, Khrunichev will provide launch services for communication satellites used in Iridium, Motorola's global telecommunications network. Smaller projects manufacture machine tools, medical instruments and diagnostic equipment and consumer electronics.

Until some time ago, a major obstacle to foreign investment was the state-owned status of most defence enterprises. The 1992 Defence Industry Conversion Act legalized the right of defence enterprises to actively participate "in foreign economic activities including joint ventures."^b Since 1993, the Russian Government has concentrated its efforts on accelerating the privatization of its military-industrial complex.

The sheer size of military enterprises has kept foreign investors away. The solution was to break up the enterprises. For example, the Polaroid Corporation's joint venture making circuit boards at the Signal plant in Obninsk employs only 120 of the enterprise's 5,000 workers.^c The social infrastructure of such enterprises, which includes housing, clinics and hospitals, as well as educational and recreational facilities, is still a liability for the Russian military-industrial complex. Divestiture of these social assets is beginning by transferring many of them to local authorities to operate. However, the lack of local funding needed to maintain the transferred assets hinders the success of the process.

At the enterprise level, it used to be a common belief among Russian defence experts and directors that the advanced technology and highly skilled labour force would attract developed market economy investors seeking investment opportunities in the Russian Federation. Most technologies, however, had no commercial application and the majority of Russian engineers were so narrowly specialized that they needed retraining with a focus on market-oriented practices. Contrary to Russian managers' hopes that their plants would serve as assets in negotiating joint ventures with foreign partners, most developed market economy experts regard these facilities as poorly laid out, with a disorganized manufacturing flow, and unsafe.^d Moreover, for many foreign business representatives it was better to start with a "green field" than to make the massive capital investment to update the existing plant.

The joint venture between the St. Petersburg Leninet factory, once a producer of radars and other military technology, and the Gillette company to make razor blades illustrates some of the points behind joint ventures. The Leninet factory was one of the first Russian defence enterprises to form a joint venture with a foreign partner. The contract was negotiated in 1991 and the first line of razor blades was produced in the spring of 1993.

What distinguishes this factory from other defence enterprises is its management's commitment to market reforms and its ability to adapt quickly to new economic conditions in the country. After the first defence cuts were announced in 1989, Leninets started looking for new opportunities. During the Soviet era all plants producing consumer goods were under the control of the Ministry of Light Industry. When this was dissolved, major factories across the Russian Federation were offered the chance to take over thousands of small enterprises. Many defence plants refused the offer but Leninets obtained dozens of enterprises. Leninets now controls 35 subsidiaries and 70 smaller cooperatives, which manufacture products from floor cleaners to radio sets and to a large extent now determine the company's future.^e

The management of the enterprise also understood very early in the process that joint ventures with foreign partners were crucial to obtaining the latest technology and also management and marketing skills, as well as to bringing their products to the international market. By the end of 1997, the new joint venture is expected to turn out up to 800 million razors and blades to sell abroad for hard currency and at home for roubles. Rouble-based sales will require some time to yield a profit for Gillette considering the limited purchasing power of Russian consumers at the present time; however, the United States company looks forward to long-term investment returns. Leninets has also formed joint ventures with companies in Finland, Hungary, India, Norway and Tunisia.

Similar selection criteria were used by the Caterpillar Company in its search for a Russian partner to jointly produce hydraulic excavators and tractors. After three years of exploring the Russian market, Caterpillar finally picked the St. Petersburg Kirov factory for its "excellent marketing program"^f and strong support system developed at the works for this joint venture.

Another factor which makes it much easier to invest in a Russian defence enterprise is the possibility of selling the joint venture's products internationally so as to generate a ready source of hard currency profits from the start. The Polaroid joint venture "Svetozor" was developed to assemble cameras to be sold on the international market. Although some of these Polaroid products are also sold within the Russian Federation, this has been a less active part of its operations and may change in the future. Some foreign companies find Western buyers for their Russian joint-venture products even prior to beginning production in the Russian Federation.^g

While the main role of government in facilitating joint ventures with foreign companies is to build an adequate economic and legislative environment, defence enterprises need to demonstrate the ability to adapt to the new economic conditions in the country. Enterprises must diversify production, eliminate or suspend idle capacity and start cooperating on the basis of mutual economic benefit. Changes in management thinking and behaviour are critical to the process of transformation to a market economy.

^e Statement by Mr. Y. Guriyanov, Vice-President of Leninets; see *Investor's Business Daily*, 28 September 1992.

^f *The New York Times*, 4 April 1994, p.37.

^g Wittneben, op. cit., p.34

Developing efficiency assets

The defence enterprises must achieve their "cultural revolution" because criteria that are absolutely essential in the civilian market are not determinant in the military market.⁶⁷ The problem is more acute in the economies in transition, since it was reinforced in the past by a general atmosphere of secrecy and the lack of rules that govern a market economy. If the former military enterprises follow their own way without any clear economic aim or sales possibilities, it could be economically disastrous. But still too often, they focus exclusively on the technical feasibility of conversion and less on marketability and economic

⁶⁷ The Grumman Corporation's inability to competently produce and market buses and the Boeing Corporation's demise in the trolley car market are two examples of the failures of defence firms in developed market economies to enter the civilian market. See Michael Renner, *Swords Into Plowshares: Converting to a Peace Economy*, Worldwatch Institute Paper Series, No. 96 (Washington, D.C., 1990), p. 50.

efficiency. Managers refer to the technical potential for conversion with an obvious lack of consumer-oriented thought and rarely perceive the fundamental differences between the military and civilian markets. However, this attitude is changing as reform progresses.

Developing and financing a new social safety net

In the former socialist countries — more than anywhere else — enterprises fulfilled an explicit social function, which was not in principle undertaken within Western commercial firms. As a result, they provided a wide range of non-monetary benefits to workers that would normally have been the responsibility of the local administration or the government in a market economy.⁶⁸ Social assets impose a tremendous financial burden on enterprises, especially in a situation in which they can barely survive. Therefore, enterprises need to transfer their social services in order to be able to compete efficiently in domestic or international markets. A few reasons justify this position. Social assets prevent potential investors, in particular foreign investors, from investing in equity because they fear the social liabilities. The burden represented by social assets distorts competition and hinders labour mobility, which is especially important in the current situation, where some of the mono-industrial regions are precisely those that offer the largest access to social benefits. This also deters effective restructuring since it absorbs resources which could be better used elsewhere.

The social assets give enterprises enormous bargaining power with central and local governments to obtain subsidies or credits. In other words, an attempt by government or local authorities to institute financial discipline may entail high social costs.

There is obviously no point in an enterprise divesting its social assets if it has to pay more in taxation to the municipality or the local government than it previously disbursed in direct costs. The absence of reform in housing or local administration systems would prevent enterprises from elaborating a strategy for divestment. Transferring services to local authorities if the closure of a company precipitates the collapse of tax revenues may well recreate the problem at the community level rather than at the enterprise level. Therefore, an effective tax system is necessary so that the cost of supporting social services may be borne by non-distorting taxes.

On the other side, taxes are needed to reduce the budget deficit and to allow for a dynamic public policy, especially for public investment in infrastructure such as transport and communications. Yet, there is a risk that a rise in the tax burden, together with high inflation, will drive enterprises out of the legal economy.⁶⁹ The mix of sources of revenue finally decided upon can have important consequences for economic growth and has been the subject of much discussion.⁷⁰

The creation of a social safety net, in particular a viable unemployment insurance programme, is of paramount importance for alleviating the burden currently borne by enterprises. Moreover, by disconnecting social protection from employment in a given enterprise, a social safety net would dramatically improve labour mobility.

⁶⁸ The types of benefits and services range widely across firms, although those enterprises which used to belong to the defence industry usually offer a wide range of social benefits because of their privileged status in the Soviet system. On average in Russia, non-monetary benefits and services may amount to something of the order of 35 per cent of total firm labour costs. See Simon Commander and Richard Jackman, *Providing Social Benefits in Russia: Redefining the Role of Firms and Government*, Working Paper, WPS 1984, Economic Development Institute of the World Bank, September 1993, pp. 3 and 7-10; and, Maxim Boycko and Andrei Shleifer, "The Russian restructuring and social assets", Russian Privatisation Centre and Harvard University, May 1994.

⁶⁹ In the Russian Federation, a growing number of economic transactions already occur in the so-called "shadow economy".

⁷⁰ For instance, it has been argued that import taxes could be an important form of taxation and help promote structural policies, since differentiated import taxes can be used to foster some imports needed for the conversion process as well as to protect the converting industry during restructuring. This argument is closely linked to the infant industry one. It has been pointed out that Taiwan Province of China and the Republic of Korea are good examples of the effective use of differentiated import taxes. See R.Wade, *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*

Using the border effect

The very size of the Russian Federation produces booming local economies in certain frontier zones, such as St Petersburg (with the Nordic countries), the far eastern part of Siberia (because of the proximity to China, Japan and the Republic of Korea) or the fast growing regions such as Moscow. Here the so-called border effect can mix with a capital-city effect, which is also apparent in Warsaw, Prague and Budapest.

Booming local economies contribute to the success of conversion by way of strong civilian demand. Economic boom also helps the divestment of social assets as local authorities collect more taxes and the boom in the property market constitutes a strong incentive for the local administration to take over housing from enterprises. Conversely, regions or cities dominated by declining mono-industries, which do not benefit from a "border effect", may face considerable problems. In such a situation, where the workforce and the population are virtually the same constituency, social services can be financed neither by the enterprise (through reduced wages) nor the local administration (through increased taxation). In that case, the consequences of divesting would be disastrous.

CONCLUSION

From one point of view, the end of the cold war can be seen as the peaceful end of completely one-sided competition — between the military-economic power of the United States and its allies, primarily the developed market economies, and the former Soviet Union and its allies. For example, the size of the Soviet Union's economy in 1983 was estimated at about a third of that of the United States, and that of the Soviet Union and its allies 16 per cent of that of the developed market economies.

The peaceful end of this competition was a good in itself. It would probably be over-optimistic to conclude that the lesson has finally been learned that strength does not come from the possession of weapons, but from a well-functioning socio-economic system. However, discussions of a peace dividend surely reflect the recognition that an opportunity is available to make more productive use of the resources that are released by disarmament. In many cases, this would indeed entail greater social spending.

For the Soviet Union to try to maintain a defence establishment that could compete with that of the United States and its friends and allies was to prove economically ruinous. The economy was simply too small. Reliance on exports to third countries to replace domestic orders was not a viable option in the long term. The shrinking of the Soviet defence establishment was inevitable. However, the Soviet defence industry had employed a number of highly skilled individuals who had helped it achieve some of its noted technical successes, especially in the field of space. Their release could only help the civilian economy. Moreover, the dismantling of the defence industry itself can be said to have helped cushion the negative impacts of the socio-economic transformation on the average citizen: the defence industries had excess stocks of raw materials that had been set aside for "surge capacity", and a foreign-exchange

income came partly from their sale and partly from savings in related industries. Finally, the continuance of the previous socio-economic system would have led to continued costs to the people of the economies in transition: wastage of raw materials and labour in the inefficient production of unwanted goods and greater pollution. The longer the inevitable adjustment was postponed, the greater the costs would have been.

The end of the cold war enabled the developed countries to effect a permanent reduction in their military forces and defence industries. This was not accompanied by a drastic reordering of the socio-economic system and the decision on how best to allocate the resources that were released was normally left to the market. Governments did not feel that the reduction in military spending gave them an opportunity to effect a permanent increase in the share of non-defence government spending. Their decisions on how to adjust to reduced military spending had implications for third countries, which global econometric models suggest will be favourable over the longer run.

For the developing countries, the end of the cold war had various implications. Some countries, without their traditional supporter, felt more vulnerable. Others found that cooperation between the United States and the successor States of the Soviet Union contributed to a reduction in regional tensions. Although the picture is mixed, there are encouraging developments at the international level.

The international community has become increasingly aware that military spending can harm the socio-economic welfare of developing countries, in the same way as it harmed the economic potential of the former Soviet Union. It has a clear interest in preventing regional arms build-ups, particularly if these involve the development or acquisition of weapons of mass destruction and their means of delivery. However, the costs and benefits of disarmament are not spread evenly and the international community could facilitate disarmament by helping spread them more evenly. Countries that do not have to go through prolonged structural adjustments to reallocate resources to non-military uses could alleviate similar problems in other countries and minimize the international adjustment costs by way of expansionary accommodating macroeconomic policies. Similarly, many suggestions have been made recently to provide stimuli to third countries, particularly in the developing world, to induce participation in coordinated reductions in military expenditure.

The end of the cold war means that these matters can now be tackled more easily, as the same eventual aim is accepted at the international level — the reduction of military budgets and the use of the resources released for socio-economic development in the context of a market economy that is more closely integrated in the world economy.

XIV SOME CAUSES AND CONSEQUENCES OF CHANGING METHODS OF PRODUCTION

The World Economic and Social Survey 1994 reviewed the problem of long-term unemployment in developed and developing economies, paying separate attention to issues facing transitional economies.¹ The passage of another year has done nothing to dispel the idea that unemployment is a serious problem in many countries. In a number of countries, problems of long-term unemployment and underemployment, stagnating real wages and deteriorating income distributions have become more serious.

An important issue in the ongoing debate on the causes of these problems is the role of technological change. Technological change is a major source of economic growth and development, a “lever of riches”² allowing resources to be used more productively and new products and processes to be developed. Technological progress, however, does not always occur smoothly, nor does it occur without cost. The introduction and rapid dissemination of new technologies are often associated with substantial disruptions in pre-existing economic arrangements. With technological change on the rise, possible links between problems of unemployment and slow wage growth and the introduction and spread of new technologies have to be explored.

The present chapter examines the impact of technological and organizational change on recent trends in labour and productivity, drawing conclusions that relate to policy debates in individual countries and internationally. The chapter concentrates on the largest developed market economies, which originate most technological innovations in the world and account for 95 per cent of global research and development (R&D) expenditures. Today, these nations are leading the world economy into a new technological era. A transformation in the technology embodied in physical capital, particularly information technology, is being ushered in alongside new skills embodied in human capital, and is affecting labour in nearly every economic sector.

At the same time, “disembodied technological change” is under way in the form of transformations in the organization of production, both within and between firms. At the societal level, most industrialized countries are grappling with inefficiencies in labour markets and in the institutions that support research and development, and are searching for new, more efficient arrangements.

In today’s increasingly globalized economy, the potential for economic prosperity depends on technological, organizational and human capital innovations that enhance the productivity of every factor of

¹ *World Economic and Social Survey 1994*. (United Nations publication, Sales No. E.94.II.C.1 and corrigendum), chap. VI.

² Joel Mokyr, *The Lever of Riches: Technological Creativity and Economic Progress* (New York and Oxford, Oxford University Press, 1990).

production. Driven by global competition, firms are utilizing new technologies and managerial methods to boost productivity and economize on labour and all forms of capital - machinery and equipment, inventories, and cash balances. Japan's successes, and those of the newly industrializing economies in Asia, indicate that both organizational and institutional factors and technological change are important to productivity and growth. Similarly, an examination of the automobile and data-processing industries demonstrates that both technological and organizational innovation can precipitate significant industrial transformations. These two industry studies also suggest that changes in methods of production affect where production is located internationally, and thus hold important implications for developing economies as well as for developed economies.

From a long-term perspective, today's technological and organizational developments have not advanced far enough to realize their full potential for growth and rising living standards. If history is any guide, the recent slow growth in productivity, output and incomes will be overcome only if greater labour productivity is complemented by increases in the productivity of capital, as the example of the long-term trends in the United States illustrates. This example also suggests that the restoration of profitability and improvement of living standards will require more than technological advances. The evolution of management within firms and socio-economic institutions is equally vital for long-term prosperity.

LABOUR AND TECHNOLOGY TODAY: THE DAWN OF A NEW ERA?

Today, all countries are undergoing striking technological shifts. Research and development (R&D) expenditures in the countries belonging to the Organisation for Economic Cooperation and Development (OECD) rose from less than 1.9 per cent of gross domestic product (GDP) in 1975 to 2.4 per cent of GDP during the late 1980s. Many developing countries are also increasing their R&D expenditures. For example, the Republic of Korea projected that it would devote 3.5 per cent of its GDP to science and technology in 1995.³ Technological innovations are evident in the historic shift from manufacturing towards a greater role for services. Service-sector growth reflects, in part, technological developments and related new products in information, communication and financial services. Technological advances are an important aspect of international competition in rapidly growing technology-intensive industries, such as the computer industry, as well as in older industries, such as automobiles, where the technological content in the production process is rising.

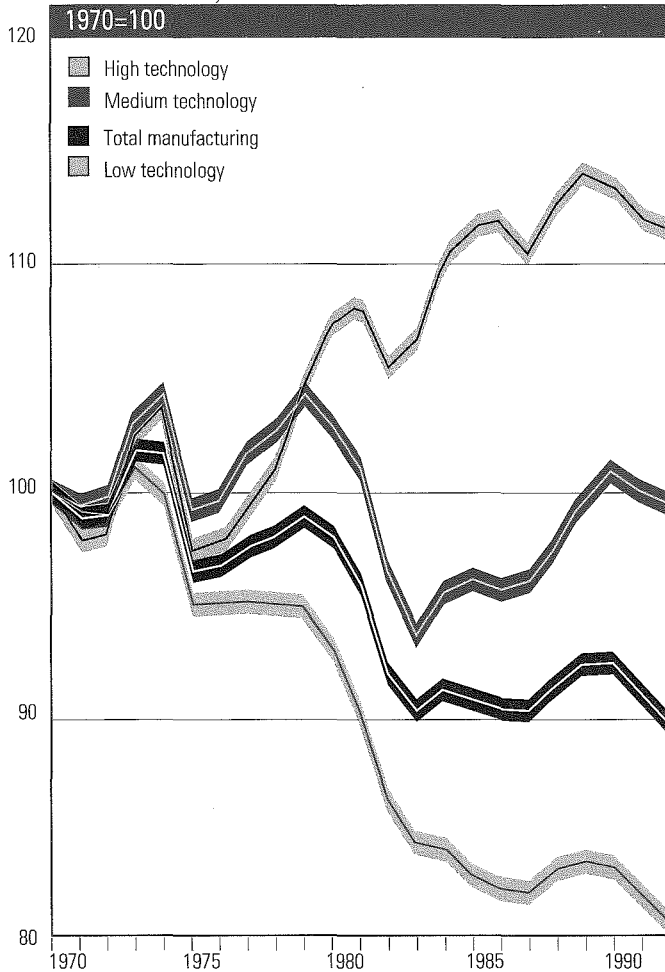
Industrial change has also shifted occupational structures in the developed economies towards higher technology industries (see figure XIV.1), increasing the knowledge and skill-based content of jobs. The largest increases in employment have occurred in professional, technical, administrative and managerial occupations, while production workers, transportation workers and labourers declined across the board.⁴ With these changes, high knowledge-content jobs, including for scientists and engineers, are becoming a larger percentage of the labour force (see figure XIV.2).⁵

³ The data on R&D expenditures in this paragraph come from *Science and Technology Policy: Review and Outlook 1991* (Paris, OECD, 1992), pp. 102-103 and 111-113.

⁴ McKinsey Global Institute, *Employment Performance* (Washington, D.C., McKinsey & Company, Inc., 1994), chap. 3, exhibit 8.

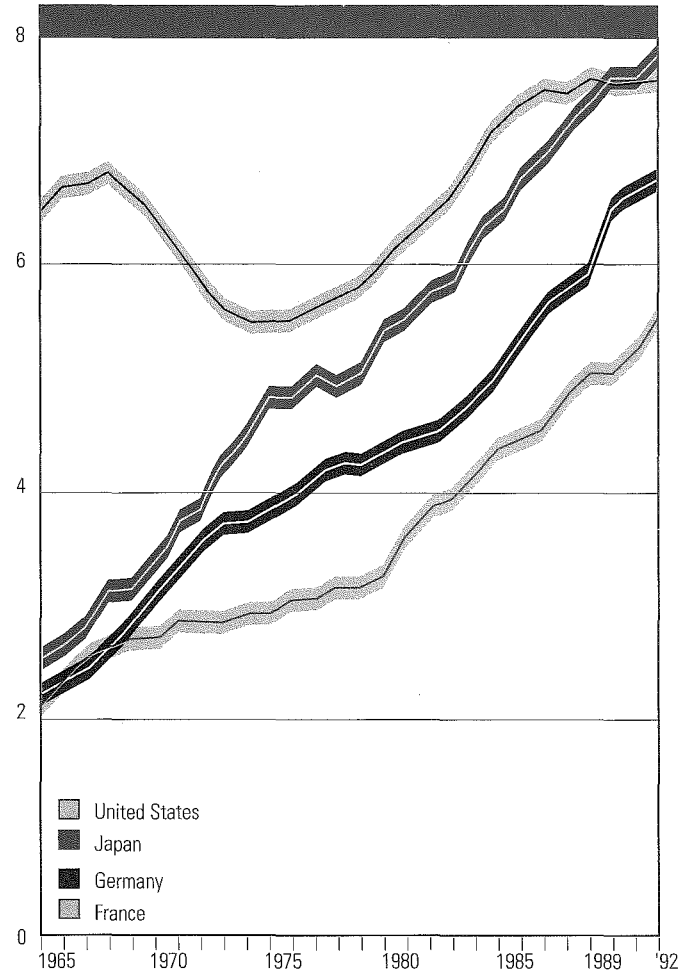
⁵ See, for example, Nuala Beck, *Shifting Gears: Thriving in the New Economy* (New York, Harper Collins Publishers Ltd., 1995).

Figure XIV.1.
**MANUFACTURING EMPLOYMENT
 BY TYPE OF TECHNOLOGY OF INDUSTRY,
 AGGREGATED FOR 17 DEVELOPED
 COUNTRIES,^a 1970-1992**



Source: UN/DESIPA, based on the OECD STAN database (March 1995)
Notes: For some countries, data for specific industries and years are UN/DESIPA estimates. Industry classification is based on *The OECD Jobs Study* (Paris, OECD, 1994).
^a The countries included are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, New Zealand, Portugal, Spain, Sweden, United Kingdom and the United States.

Figure XIV.2.
**TOTAL R&D SCIENTISTS AND ENGINEERS
 PER THOUSAND LABOUR FORCE, FRANCE,
 GERMANY, JAPAN AND THE UNITED STATES,
 1965-1992**



Source: UN/DESIPA, based on the OECD STAN database (1995) and National Science Foundation, *Science and Engineering Indicators* (Washington, D.C., 1993 and 1995).

Despite the signs of rapid technological change in the industrial mix of the economy, and in recent surges in R&D, a standard measure of key inputs to technological change, indicators of technological improvement for the economy as a whole, such as total factor productivity (TFP), as well as the productivity of labour and of capital (see box XIV.1), slowed markedly from the 1960s (see table XIV.1).

Box XIV.1.

**PRODUCTIVITY:
DEFINITIONS
AND MEASUREMENT
ISSUES**

PRODUCTIVITY MEASURES THE AMOUNT OF INPUTS that are needed to produce a given level of output, and thus reflects the efficiency with which inputs are used. Three measures of productivity are presented in this chapter.

Total factor productivity (TFP) measures the ratio of output to an index of both capital and labour inputs, and thus reflects the overall increase in productive efficiency. TFP is generally measured by the residual method — the difference between the rate of growth in output and the average rate of growth of inputs, weighted by shares of factor income.

TFP has been conventionally interpreted as a measure of the rate of technological change by assuming constant returns to scale — a doubling of capital and labour inputs doubles output. In other words, any increase in output greater than that projected by constant returns to scale represents technical progress. In fact, TFP reflects not only technological innovation in the narrow sense, but also improvements in skills and/or motivation of the workforce, in management and organization, and the existence of increasing returns to scale, when fixed plant or labour overhead costs such as marketing and R&D are spread over a larger output.^a

In contrast to TFP, the productivity of labour and the productivity of capital — commonly called single factor productivity measures — provide information on the use of each major input to production. The productivity of labour measures output per unit of labour input. Similarly, capital productivity is the ratio of output to capital inputs.

Because labour and capital productivity each concentrate on the productivity of one factor of production, these measures reflect changes in the amount of capital stock used by each worker (capital-labour ratio), as well as changes in overall productive efficiency. As seen in tables XIV.1 and XIV.2, increased labour productivity has often come about through increases in the capital-labour ratio. This substitution effect has simultaneously resulted in slower increases, and even declines, in the productivity of capital.

Measurement issues

Both the output and the input values used to calculate the productivity of labour, capital and TFP are subject to measurement and aggregation problems, which have generated a large literature and intensive debate.^b

Two general problems in measuring output are, first, the difficulty that results from changes in the quality of output and, second, complications involved in measuring services. In some services, where output is difficult to measure, labour input data serve as a proxy for output, constraining changes in labour productivity to zero.

Labour input can be measured by employment or by the number of hours worked, to incorporate differences in the number of hours for full-time employees and the use of part-time workers. The number of worker hours provides a more precise measure of labour input. TFP and labour productivity trends do not change significantly when productivity is adjusted for labour hours. However, there are often differences in the size of the productivity gap between the United States and other developed countries, depending on whether labour input is measured by employees or hours.

Capital input can be calculated using a measure that is gross or net of the depreciation of the stock of fixed capital. Net fixed capital more accurately represents the amount of capital in use. Gross fixed capital measures were used in this chapter for comparisons among countries since net measures are not available in the database used. The trend in the productivity of capital in the current period is negative based on both net and gross measures of capital stock analysed in this chapter for the United States (see tables XIV.1 and XIV.2).

Comparisons of the level of productivity among countries can reflect differences in measurement conventions, as well as differences owing to the exchange rate used to convert inputs and outputs from different currencies into a common currency. Thus, for example, differences between some studies are due to the method used to calculate purchasing power parities.^c

^a For a discussion of the measurement and interpretation of TFP, see J. W. Kendrick, "Total factor productivity - what it does and does not measure", in *Technology and Productivity: The Challenge for Economic Policy* (Paris, OECD, 1991).

^b See *Technology and Productivity...*, pp. 133-148.

^c See, for example, McKinsey Global Institute, *Manufacturing Productivity* (Washington, D.C., McKinsey & Company, Inc., October 1993).

Table XIV.1.

LABOUR, CAPITAL AND TOTAL FACTOR PRODUCTIVITY GROWTH, G-7 COUNTRIES, 1961-1992

Average annual growth rates, per cent

Period	United States	Japan	Germany	France	Italy	United Kingdom	Canada
A. Labour productivity growth^a							
1961-1973 ^b	1.9	6.3	4.1	4.8	6.0	3.0	2.8
1974-1978	0.2	2.5	2.8	2.5	2.1	1.4	0.8
1979-1987	0.7	3.3	1.4	2.0	1.7	1.9	1.0
1988-1992 ^c	0.6	2.4	2.0	1.9	2.1	0.4	0.7
B. Capital productivity growth^d							
1961-1973 ^e	0.2	-4.4	-1.1	0.4	0.0	-0.6	1.8
1974-1978	-0.7	-4.8	-1.5	-1.1	-0.2	-1.6	-1.0
1979-1987	-0.3	-1.5	-1.0	-0.5	0.0	-0.4	-0.7
1988-1992 ^f	-0.5	-1.7	1.1	-0.2	-0.2	-0.9	-2.3
C. Total factor productivity growth^g							
1961-1973 ^h	1.4	3.0	2.5	3.3	2.5	1.9	2.5
1974-1978	-0.1	0.2	1.5	1.4	1.4	0.5	0.2
1979-1987	0.4	1.9	0.6	1.3	1.2	1.2	0.5
1988-1992 ⁱ	0.2	1.2	1.7	1.3	1.3	-0.2	-0.2

Source: UN/DESIPA, based on the OECD international sectoral database; and F. J. M. Meyer zu Schlochtern and J. L. Meyer zu Schlochtern, "An international sectoral database for fourteen OECD countries" (second edition), Working Papers, No. 145 (Paris, OECD, Economics Department, 1994).

Notes:

- a GDP per total employment (constant 1985 dollars).
b The period for Canada is 1962-1973, and for Japan, 1971-1973.
c The period for the United States and the United Kingdom is 1988-1991, and for Italy, 1988-1993.
d GDP per gross capital stock (constant 1985 dollars). Capital productivity growth is negative due in part to the substitution of capital for labour; see discussion in box XIV.1.
e The period for Japan, France, Italy and Canada is 1971-1973.
f The period for the United States is 1988-1991.
g Total factor productivity (TFP) growth was calculated as the difference between output growth and the weighted growth of factor inputs. The factor inputs in this estimation are labour (measured as total employment) and capital (gross capital stock). For simplicity, a fixed weight of 75 per cent was given to labour as a share in total value added across all countries. An index of TFP, from which the TFP growth rates were derived, was then calculated, utilizing a Cobb-Douglas production function:

$$TFP = [VA/(ET^w * GCS^{1-w})]/TFP_0$$

where:

- TFP = Total factor productivity index
VA = Value added
ET = Total employment
GCS = Gross capital stock
w = Standardized labour share weights (fixed at 0.7)
TFP₀ = Total factor productivity, base year value

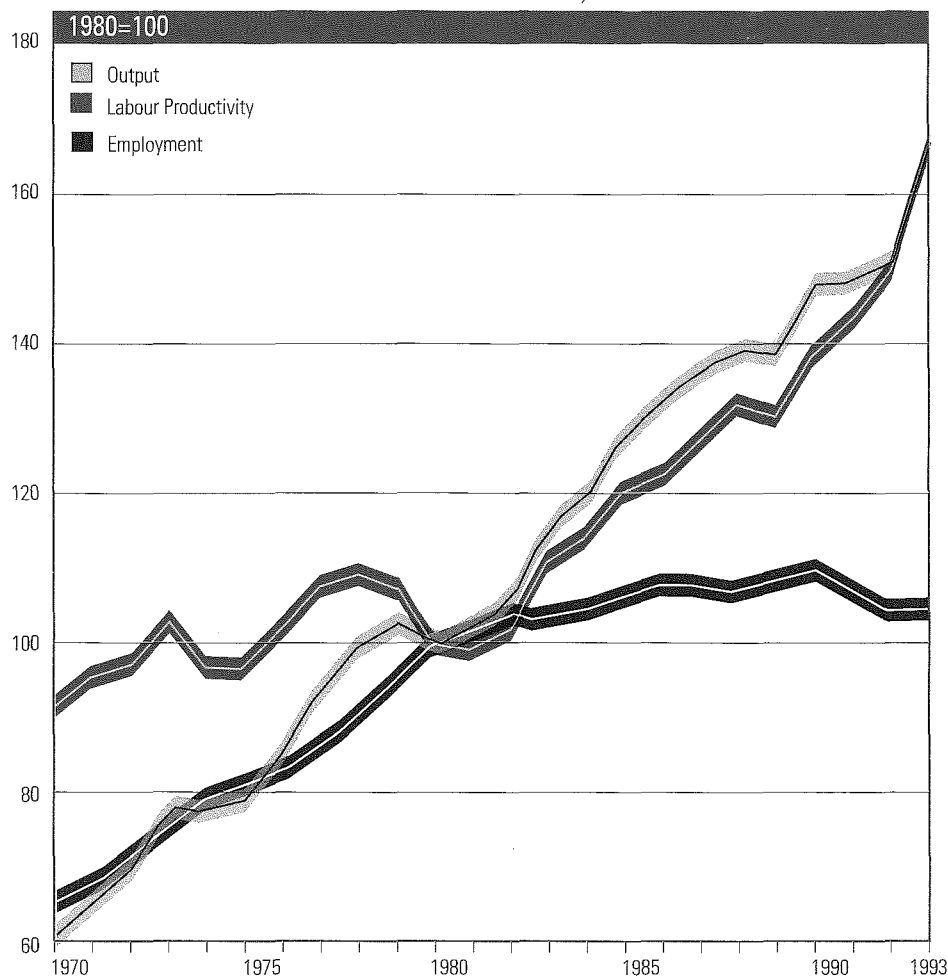
^h For Japan, France, Italy and Canada the period is 1971-1973.

ⁱ For the United States and the United Kingdom, the period is 1988-1991.

⁶ *Technology and the Economy: The Key Relationships* (Paris, OECD, 1992), p. 177.

The productivity of labour grew, but at a slower pace than during the early post-war era, only beginning to improve moderately in the 1980s and 1990s (see table XIV.1). During this period, labour productivity in manufacturing recovered somewhat, while the productivity of labour in services did not.⁶ Recorded productivity in the service sector has historically lagged behind manufacturing, owing in part to measurement difficulties. Where productivity can be measured, gains frequently reflect the spread of new information technologies and product innovations. For example, labour productivity in United States commercial banking, as measured by the number of transactions per hours worked, has grown substantially since 1980, registering a 4.4 per cent annual average growth rate between 1980 and 1993, as compared with 0.8 per cent annual growth from 1970 to 1980 (see figure XIV.3).

Figure XIV.3.
LABOUR PRODUCTIVITY,^a OUTPUT^b AND EMPLOYMENT
IN UNITED STATES COMMERCIAL BANKS, 1970-1993



At the same time, growth in the productivity of capital for the OECD area was negative over the past 25 years, with the worst performance during the period 1973-1978. The productivity of capital recovered somewhat in the 1980s. However, by 1992, growth in the productivity of capital had not yet turned positive.

Recently, many analysts have attempted to resolve the apparent paradox between the everyday perception of rapid technical change in the economy that is evident in data on industrial change and R&D activity and the slow progress indicated by productivity statistics.⁷ A longer-term economic framework provides a useful context for interpreting current productivity trends in relation to technological and organizational change and analyzing their relation to labour trends.

When the post-war era is viewed from the standpoint of long-term change, a periodization emerges that has led some observers to conclude that the late 1980s and early 1990s may herald the initial stages of a new technological and organizational era.⁸

Data on total factor productivity for the United States suggest that three periods can be distinguished during the past 120 years.⁹ During the late nineteenth and early twentieth centuries, TFP growth was slow. This flat trend was followed by a long-term rise from the 1920s through the 1950s. During this period, TFP growth was faster than in the 1950s and 1960s, a period that is often described as a "golden era" of higher-than-average productivity growth. The third period, beginning in the post- Second World War era, returns to a slow, flat trend much like the one observed in the early twentieth century.

As shown in table XIV.2, a similar periodization can be seen in other key economic variables that affect technical change and the distribution of income — the profit rate, labour cost (real wage rate), the productivity of capital, the productivity of labour and the capital-labour ratio.¹⁰

Table XIV.2.

UNITED STATES AVERAGE ANNUAL GROWTH RATE
OF THE PROFIT RATE, CAPITAL PRODUCTIVITY, REAL WAGE,
LABOUR PRODUCTIVITY AND CAPITAL-LABOUR RATIO, 1869-1989

Percentage	Period			Long-term trend
	1869-1912	1912-1951	1951-1989	1869-1989
	Profit rate ^a	-1.60	1.44	-0.84	0.09
Capital productivity ^b	-1.15	1.45	-0.82	0.09
Real wage ^c	1.47	2.32	1.53	1.95
Labour productivity ^d	1.22	2.32	1.52	1.94
Capital-labour ratio ^e	2.06	0.29	2.19	1.45

⁷ For a useful survey of the competing explanations of this paradox, see *Technology and Productivity: The Challenge for Economic Policy* (Paris, OECD, 1991).

⁸ *Technology and Productivity...*, p. 9.

⁹ Robert J. Gordon, *Macroeconomics* (New York, Harper Collins College Publishers, 1993), pp. 363-367.

¹⁰ The long-term analysis of the United States economy that is presented in this section summarizes the work of Gérard Duménil and Dominique Lévy, *The Economics of the Profit Rate: Competition, Crises and Historical Tendencies in Capitalism* (Aldershot, England, and Brookfield, Vermont, Edward Elgar Publishing Ltd., 1993).

Source: Gérard Duménil and Dominique Lévy, *The Economics of the Profit Rate: Competition, Crises and Historical Tendencies in Capitalism* (Aldershot, England, and Brookfield, Vermont, Edward Elgar Publishing Ltd., 1993), p. 264.

Notes:

- ^a Total profits per net fixed capital stock.
- ^b Net national product (NNP) per net fixed capital stock.
- ^c Nominal hourly wage deflated by the NNP deflator in constant dollars.
- ^d NNP in constant dollars per hours worked by employees and self-employed persons.
- ^e Net stock of fixed capital, deflated by the NNP deflator, per hours worked by employees and self-employed persons.

There is a striking similarity between the behaviour of the five variables set forth in table XIV.2 above at the end of the nineteenth century and at the end of the twentieth century. During the first stage, which begins in 1869 (the first year for which data are available after the Civil War) and extends through 1912, and the third stage (1951-1989), profitability declined, as did the productivity of capital. Meanwhile, real wage rates and labour productivity grew at a pace below their long-term (1869-1989) trend. In both periods, the profit rate sank to historic lows.

During the first stage, declining profitability had two consequences. First, a high degree of instability was created in the economy in the late nineteenth century (as can be seen in the movements of the capacity utilization rate), while the institutional ability to manage the economy was primitive. Secondly, increases in labour costs were maintained at a rate below their historical trend, as firms sought to reduce costs to improve profitability. The pace of the increase in labour costs was still sufficient to induce some labour-saving technological change and thereby increase the capital-labour ratio. During this period, the technical and managerial progress that did occur manifested itself in increases in the productivity of labour below its long-term trend. The slow rate of increase in labour productivity, combined with declines in the productivity of capital, did not yield improvements sufficient to offset the decline in the rate of profit.

The declining profitability in the first period ultimately exerted pressure for significant technological and managerial transformations, ushering in the second stage (1912-1951). During this second period, in contrast to the first and third periods, a strong acceleration of technical progress was combined with major transformations in the management of firms and of the economy as a whole, which allowed for an exceptionally rapid growth of the productivity of both labour and capital.

The sweeping acceleration of technological and organizational change during this period was by no means a smooth process, and it took some 40 years to complete. The acceleration of technological change began in the 1910s and 1920s and resulted in great heterogeneity in technology among firms, rendering large fractions of the capital stock obsolete. At the same time, important modifications in organization occurred. They included the introduction of mass production, the rise of managerial and clerical personnel, greater autonomy of management from owners in operations and technology, and the separation of many traditional finance functions from the management of the firm. This managerial transformation was paralleled by the gradual emergence of new institutions designed to exert control over macroeconomic instability, including new centralized procedures for the issuance of money. The separation of financial management from firm management led to the erection of a new financial structure connected to the stock market and to a new banking system.

This heterogeneity of technology, coupled with the emergence of a new financial structure, added considerable fragility to the economy, which was not sufficiently offset by economic policy, and culminated dramatically in the Great Depression.¹¹ During the Great Depression, a sizable fraction of outdated capital stock was written off. The combined experience of the New Deal and the Second World War confirmed the need for better regulation of the economy, undermined and then thoroughly transformed the old institutional framework.

¹¹ This section concentrates on long-term economic movements, to highlight key elements of the long-term transformations under way. It does not present a detailed analysis and discussion of critical fluctuations such as the Great Depression, nor does it fully analyse the many theories of the Depression or the economic effects of two World Wars.

The second stage indicates that the dynamics between profitability and productivity go both ways. Stimulated by the low profitability at the end of the first stage, technological and organizational innovation led to joint increases in capital and labour productivity which, in turn, restored profitability in the subsequent era and “relaxed” the antagonism between labour costs and the profit rate, allowing for profit rates and wages to increase simultaneously. In this period, wage rates increased at a rate faster than the long-term average.

The United States economy emerged from the Second World War with a historically high profit rate, which was the result of two equally striking movements: (a) a major transformation in technology and organization, and (b) an exceptionally large fluctuation in the capacity utilization rate from the Great Depression through the Second World War. The United States had also gained experience in economic stabilization. By the 1950s, freed from the burden of obsolete capital, the United States harvested the benefits of the transformations in technology, management and economic stabilization that had taken place over a 40-year period. After the Second World War, investment surged and marginal innovations in technology and management and economies of scale realized the potential of the new methods of production.

As the wave of fundamental technical progress and of transformations in management that characterized the second era came to fruition, international competition began to increase, initiating a new downward trend in the profit rate, and the beginning of a third period (1951-1989). Declining profit rates continued despite the 1960s bulge that mirrors the high rates of capacity utilization of those years. International competition played an important role in the decline as other countries became more competitive with the United States and international trade and investment barriers fell. The oil shocks of the 1970s came during a period when profitability was already trending downward.

As during the first period, the return to a downward historical trend in profitability was painful. By the 1970s, greater economic instability than in the prior two decades was observed. Low levels of profitability led firms to adopt price responses that were reflected in a new type of inflation, which persisted even with low levels of growth (“stagflation”), and to exert downward pressure on labour costs. An inability to finance state expenditures and balance the budget became entrenched by the 1980s, as the Government relaxed the tax burden it had earlier imposed on firms. United States firms adopted low-wage strategies to increase profitability and face international competition. Slower increases in labour costs reduced the pressure on companies to substitute capital for labour and a new slow-down in labour productivity growth began in the 1970s. Signs of recovery were still weak in the 1980s.

The current period appears reminiscent of the transition between the first and second stages, when declining returns ultimately brought forth a new technical and institutional era. By the late 1980s and early 1990s, there were some indications of a recovery in technological change, productivity picked up somewhat and profitability improved significantly. There are also many indications that long-term changes in institutions are still under way, as the institutions that came to fruition in the post-war era are being dismantled. However, the downward pressure on labour costs is still strong and new institutions have not fully emerged.

Although this long-term portrait has been constructed from United States data, similar patterns since the Second World War are apparent across the developed countries. Since the 1960s, profitability declined in the developed countries, although there were some significant improvements in the late 1980s and early 1990s. The productivity growth of all factors of production also slowed and many countries experienced a period of slow growth. Over the past 15 years, many developed countries underwent recessions more wrenching than any experienced since the Great Depression. Even Japan is coping with the longest recession of its post-war history.

During this period of macroeconomic instability and globalization, international competition among firms became more intense and fuelled the introduction of new technological innovations. New technologies have, on balance, created jobs and enhanced the standard of living. Modifications of the organization of work towards flexible specialization have also come about. At the level of the economy, established methods for organizing and regulating markets are being questioned in many countries.

From the long-term perspective, these dynamics suggest that a new era of technological and institutional change may have begun in the world economy. In this context, recent surges in R&D may have not yet realized their full potential because they have not been fully generalized and new information technologies have yet to realize full economies of scale. Moreover, these new technologies are still being employed within traditional managerial and institutional relations.

Although the overall trends among the developed economies are similar, there have been important differences among countries in the outcomes for labour. The next section describes the results for labour in Japan, the United States and western Europe and then looks at some of the reasons underlying the differing results — comparative productivity patterns, investment, labour market organization, both within and between firms, and product market regulations.¹²

¹² For a discussion of the labour market organizational issues that have influenced the particular patterns of unemployment and inactivity in individual countries, see *Oxford Review of Economic Policy*, vol. 11, No. 1 (spring 1995); and *World Economic and Social Survey 1994...*

COMPARATIVE DYNAMICS: JAPAN, THE UNITED STATES AND WESTERN EUROPE

Global economic changes have produced markedly different labour outcomes in different countries and regions during the 1980s and 1990s (see table XIV.3). Japan maintained unemployment rates below 3 per cent (though they rose throughout the period), while real compensation increased at an average annual rate of nearly 2 per cent from 1974 to 1994. Wage dispersion, measured by the ratio of the wage of the ninetieth percentile earner to the bottom tenth percentile earner, increased only slightly during the 1980s.

In contrast, the United States maintained unemployment rates that were higher than Japan's. Unemployment in the United States averaged 4.9 per cent during the period 1960-1973, increased in the 1970s and 1980s before declining to an average rate of 6.2 per cent in the late 1980s and early 1990s and dropping below 6 per cent in 1994. More telling, the growth of total compensation per employee in real terms stagnated in the United States, rising a mere 0.3 per cent from the 1970s to the present. By 1992, the median weekly wage was still below its 1972 level (in 1992 dollars) even in the service sector,

Table XIV.3.

UNEMPLOYMENT RATES, GROWTH OF REAL TOTAL COMPENSATION PER EMPLOYEE AND WAGE INEQUALITY OF FULL-TIME WORKERS, G-7 COUNTRIES

Percentage							
Period	United States	Japan	Germany ^a	France	Italy	United Kingdom	Canada
A. Unemployment rates, 1960-1994							
1960-1973	4.9	1.3	0.8	2.0	5.4	2.0	5.3
1974-1978	7.0	1.9	3.5	4.3	6.5	4.1	7.2
1979-1987	7.5	2.5	6.3	8.5	9.6	8.9	9.5
1988-1994	6.2	2.4	6.8	10.4	11.4	8.2	9.5
B. Real growth rates of total compensation per employee, 1961-1994^b							
1961-1973	2.1	8.3	5.6	4.4	6.6	3.4	2.5
1974-1978	0.4	2.8	3.0	3.5	3.3	1.4	2.5
1979-1987	0.1	1.4	1.3	1.2	1.2	2.2	0.4
1988-1994	0.5	1.6	0.1	1.1	1.0	1.9	1.0
C. Wage inequality of full-time workers, 1979 to 1990^c (Ratio of wage of 90th to 10th percentile male wage-earner)							
1979	3.42	2.59	2.18	3.29	2.10	2.41	3.42
1984	3.90	2.77	2.23	3.25	1.99	2.83	..
1987	3.97	2.75	2.48	3.39	2.08	3.00	4.22
1990	4.06	2.83	..	..	..	3.19	..
Change							
1979-1987	16.2	6.2	13.9	3.0	-1.0	24.6	23.4
1979-1990	18.5	9.4	..	..	..	32.3	..

Source: A and B: UN/DESIPA, based on OECD, *Economic Outlook*, No. 56 and Reference Supplement (December 1994), on diskettes.

C: UN/DESIPA, based on Richard B. Freeman and Lawrence F. Katz, "Rising wage inequality: the United States vs. other advanced countries", in *Working Under Different Rules*, Richard B. Freeman, ed. (New York, Russell Sage Foundation, 1994), p. 40.

Notes:

^a West Germany.

^b For Canada, the period is 1967-1973; for France, 1964-1973; United Kingdom, 1962-1973; and Japan, 1966-1973.

^c The data underlying the calculations are based on full-time workers, with the exception of Japan, which covers regular workers.

Wages are measured by hourly earnings for the United States, the United Kingdom and France; weekly earnings for workers covered by the social security system for Germany. For Italy, the data for 1984 and 1987 are from 1985 and 1989.

The data for Canada for 1979 and 1987 are from 1981 and 1985. The 1987 data for Germany are based on gross average monthly earnings plus holiday allowances.

¹³ See *Employment Performance...*, chap. 2, exhibit 7.

¹⁴ See, for example, Lawrence Mishel and Jared Bernstein, *The State of Working America: 1994-1995* (Armonk, New York, and London, England, M. E. Sharpe, 1994), chaps. 1 and 3.

¹⁵ *The OECD Jobs Study: Evidence and Explanations* (Paris, OECD, 1994), part II, p. 3.

which has grown rapidly.¹³ In addition, United States wage equality deteriorated. Wage dispersion as defined above was higher than in the other six major industrialized countries in 1979, and escalated in the 1980s, thereby reversing a trend towards greater equality experienced in earlier decades.¹⁴

Western Europe suffered more severe unemployment than the United States. Unemployment rates doubled from the 1970s to the 1980s, then continued to rise to an average 9.4 per cent in the 1990s. However, real total compensation rates in most western European countries rose much faster than in the United States, although these gains were on average smaller than in Japan. For example, Germany posted an average annual growth rate of 1.3 per cent in real total compensation rates per employee (compared to 0.3 per cent in the United States and 1.8 per cent in Japan). On the whole, western European countries also maintained a more narrow wage dispersion than the United States, with little erosion in the 1980s. In some countries, including France, Germany and Italy, the dispersion between the wage rate of the ninetieth percentile and the tenth percentile earner actually shrank during the 1980s.¹⁵

Productivity growth

Productivity growth fell throughout the developed economies beginning in the 1960s (see table XIV.3). However, Japan and western Europe maintained higher labour productivity growth overall than did the United States from the 1970s until the present.

These economy-wide differences in labour productivity growth reflect the differences in labour cost increases. Thus, the substantial slow-down in the growth of labour costs in the United States resulted in less cost pressure to move towards labour-saving technological change, and labour productivity increased slowly. The relative inability of the United States to make gains in labour productivity in turn resulted in continued pressure by firms to keep compensation costs from rising. In contrast, Japan's faster increases in wage rates maintained pressure for labour-saving technical change and resulted in greater labour productivity gains, allowing firms to continue granting wage increases.

Because labour productivity increased in Japan and western Europe more rapidly than in the United States, they achieved significant catch-up to the United States level of labour productivity for the total economy and for manufacturing.¹⁶ Some productivity measures show other countries completely caught up to the United States overall, and find that labour productivity in Japan is now higher than that of the United States in a number of manufacturing industries such as cars, auto parts, consumer electronics and steel.¹⁷ However, as in other countries, Japan's gains did not take place equally across the economy. For example, in food processing, Japan lags far behind the United States, with labour productivity only 33 per cent of the United States level. Japan's productivity in services has grown slowly, resulting in much less catch-up to United States levels in industries such as general merchandise retailing and telecommunications.

Western European economies made substantial gains relative to the United States in labour productivity.¹⁸ Germany, for example, reached 96 per cent of the United States manufacturing productivity level by 1979 and 70 per cent for the total economy. By 1990, the labour productivity gap between Germany and

¹⁶ UN/DESIPA calculations from OECD international sectoral database, 1994; see also, Edward N. Wolff, "Productivity growth and capital intensity on the sector and industry level: specialisation among OECD countries, 1970-1988", in *The Economics of Growth and Technical Change: Technologies, Nations, Agents*, Gerald Silverberg and Luc Soete, eds. (Aldershot, England, and Brookfield, Vermont, Edward Elgar Publishing Ltd., 1994), pp. 185-211.

¹⁷ The information in this paragraph is documented in McKinsey Global Institute, *Manufacturing Productivity* (Washington, D.C., McKinsey & Company, Inc., October 1993), introduction, exhibit S-1, and chap. 1, exhibit 1-6; see also, Wolff, op. cit.

¹⁸ The data on manufacturing productivity in this paragraph can be found in Bart van Ark and Dirk Pilat, "Productivity levels in Germany, Japan, and the United States: differences and causes", *Brookings Papers on Economic Activity, Microeconomics*, No. 2 (Washington, D.C., The Brookings Institution, 1993), p. 20; for comparison, see also, Wolff, op. cit.

the United States for the total economy was even smaller — 75.2 per cent. However, the manufacturing productivity gap widened over the 1980s, making the 1980s the first post-war decade in which Germany's manufacturing productivity did not improve relative to that of the United States.

Western Europe's productivity performance for the total economy in relation to its employment record reveals a major difference between the United States and western European mechanisms for coping with intensified competition. Because western Europe increased labour productivity for the total economy relative to the United States, and just about matched United States GDP growth rates, western Europe created less new employment than the United States. This held true even during the 1980s, when the growth of productivity in western European countries slowed further while in the United States and Japan it picked up.

The comparative pattern of the productivity of capital among developed countries was the reverse of that observed for labour productivity growth (see table XIV.1). Instead of being the laggard, the United States maintained a lead over both Japan and western Europe in the growth of the productivity of capital for each period. From 1960 to 1973, the average annual growth in the productivity of capital for the United States was slightly positive (0.2 per cent) while it was clearly negative for both Japan and Germany. Capital productivity turned negative in the United States in the 1970s and 1980s.

Thus, although capital was substituted for labour in Japan and western Europe at a faster rate than in the United States, producing better growth in the productivity of labour, both Japan and western Europe registered stronger declines in the productivity of capital than did the United States.

The combined effect of changes in the productivity of labour and of capital resulted in Japan and western Europe outpacing the United States rates of TFP growth throughout the past three decades. The relatively more positive result (slower decline) in United States capital productivity growth did not offset the poorer performance of the United States in labour productivity. As a result, United States TFP growth has remained below the OECD average and below its major competitors.

During the 1980s, the improvements in labour and capital productivity in Japan and the United States resulted in stronger TFP growth. The slow-down in the productivity of labour in western Europe during the 1980s was not offset sufficiently by its slight improvement in capital productivity, and thus TFP in western Europe dropped slightly from the 1970s to the 1980s.

The role of investment

The higher rates of labour productivity in Japan and western Europe were in part due to differences in investment in fixed capital, allowing those countries to upgrade their stock of buildings and equipment and to increase the amount of capital per worker.

From 1974 to 1992, net investment in fixed capital as a share of GDP declined in all countries from their 1960s levels.¹⁹ However, net investment in Japan averaged 18.9 per cent of GDP on an annual average basis. This investment rate was consistently higher than that maintained by other developed countries, and helped ensure that Japan made greater gains in productivity.

¹⁹ OECD international sectoral database, 1994.

²⁰ See *Employment Performance...*, chap. 2, exhibit 12.

²¹ The statistics in this paragraph were calculated by UN/DESIPA from the OECD international sectoral database, 1994; see, also, Wolff, *op. cit.*

²² See *Employment Performance...*, chap. 2, exhibit 21.

²³ Documentation for the information in this paragraph can be found in *Science and Technology Policy...*

In comparison, the net investment rate in the United States was 10.6 per cent of GDP, down from 12.8 per cent in the 1960s. Firms in the United States often sought to increase labour productivity by reducing employment rather than investing in new buildings and equipment. One study found that “successful” downsizers, that is, companies that reduced employment and increased productivity, contributed as much to manufacturing-sector productivity during the 1980s as plants that increased employment and productivity.²⁰

The slow-down in western European labour productivity growth from the 1960s was due almost entirely to a pronounced slackening in the pace of capital investment. In major western European countries, net investment as a share of GDP was lower than in Japan during the period 1960-1973, and then fell sharply during the 1974-1992 period. For example, net investment in Germany declined from 16.9 per cent of GDP during the period 1960-1973 to 11.0 per cent in 1974-1992.

The relatively low United States investment rate resulted in increases in the amount of capital used per worker in Japan and western Europe in comparison with the United States. For the total economy, Japan moved from just 22 per cent of the United States capital-labour ratio in 1970 to 66 per cent by 1992. Japan’s capital-labour ratio for the manufacturing sector also sustained the most rapid growth among the OECD countries, rising from 39 per cent of the United States level in 1970 to 69 per cent in 1988. Germany’s capital-labour ratio for the total economy moved from 55 per cent in 1970 to the 1989 peak of 82 per cent of the United States level.²¹

Japan’s concentration on investment also contributed to growth in GDP, thereby helping to maintain employment. In the 1980s, gross fixed capital formation made up 43 per cent of Japan’s GDP growth.²² In the United States, investment demand only contributed 21 per cent to GDP growth. The share of GDP growth accounted for by investment in western Europe was also much lower than in Japan — 20 per cent in France, 21 per cent in Germany and 11 per cent in Italy. Spain invested heavily, and 40 per cent of GDP growth was attributed to investment. However, in contrast to Japan, much of this demand was met through imports rather than through domestic production and, thus, Spain generated less domestic employment from investment than did Japan.

As with physical capital investment, Japan increased total public and private investment in R&D more rapidly than other developed countries during the 1980s, and now leads the world in the share of GDP devoted to R&D. The United States is second, as private sector civilian R&D has been growing rapidly while government expenditures have declined, and Germany is third. During the 1980s, patent applications in Japan also increased much faster than in other major OECD countries.²³

Differences in the amount of expenditures that countries devote to military R&D have further influenced the relative commercial results from R&D expenditures. The United States has consistently devoted greater resources to military R&D than other developed countries. United States commercial results from R&D expenditures have been held back because of the high percentage of government spending on R&D devoted to military applications. The negative impact on the United States has grown because the spillover from military R&D into civilian technology has declined since the 1970s, as the nature of military demands seems to have shifted away from areas that have strong

civilian applications. However, companies and Governments are increasingly investing in large-scale projects without the traditional military rationale.²⁴ Perhaps as important as the increased expenditures on R&D, developed market economies are fundamentally transforming the organization of R&D.²⁵

Over the past century, technical progress has been transformed from a process achieved mainly by individual inventors who gained their skills largely through practical experience, into a professionalized process that takes place within an elaborate network of scientific and technical societies, universities, industrial research laboratories and government research labs. Today, collaboration between firms and between universities, government research institutes and industry is rising markedly through the establishment of new networks where, previously, relatively few existed. Funding for university research is becoming increasingly tied to partnerships with business. Cooperative industry-university centres, technology transfer centres and interdisciplinary centres are proliferating in every country. Equally important, collaboration between firms is undergoing substantial growth, particularly in leading R&D countries, as well as internationally. At the international level alone, inter-firm agreements for technology cooperation increased from 153 in the period 1973-1976 to 1,936 by 1985-1988. Moreover, joint ventures and joint R&D projects, which require the greatest degree of collaboration, accounted for more than 50 per cent of the agreements made in the late 1980s.

The R&D developments in Japan, the United States and western Europe reflect the different weaknesses that each seek to address within this general trend. Throughout the post-Second World War period, Japan concentrated on applying Western technology to industry and prospered from high within-firm R&D that is in part spurred by inter-firm no-poaching regulations.²⁶ However, firms, and universities, undertook relatively little basic scientific research. Today, Japan is seeking to promote basic research, increase cooperation between university and industry by means of competitive grants to joint teams, and become more integrated into international R&D networks. For example, between 1987 and 1990, 21 Japanese electronic firms established 33 new R&D centres outside Japan, of which 21 were located in the United States.

The United States is the major world scientific and technological power and leads in basic scientific research overall. However, United States firms have not been as successful in matching the ability of competitors to apply basic research to commercial products. Since the 1980s, the United States has begun to actively address this problem. Networks between universities and industry have been promoted and antitrust laws were liberalized to allow new consortia between firms to develop while financial support for civilian technologies (semiconductors, high-definition television, superconductivity, energy efficiency) grew. State Governments actively created new R&D centres and spawned venture funds to support high-technology companies. Thus, in 1980, 10 States sponsored programmes to stimulate innovation. By the late 1980s, 45 States had implemented a total of 270 programmes in technology development.²⁷

The main obstacle facing western European countries is the relatively small size of each country's R&D capacity as compared with the United States and Japan. To address this problem, western European countries have vastly increased international cooperation, in addition to promoting domestic linkages between academic research centres and firms and inter-firm cooperation.

²⁴ Richard Nelson, "U.S. technological leadership: where did it come from and where did it go?", *Research Policy*, No. 19 (1990), pp. 117-132.

²⁵ For data and discussion of current changes see *Science and Technology Policy...*, part I, chap. 2, and part II, chaps. 3 and 4; for a historical comparison of national economic systems for innovation, see Richard R. Nelson, ed., *National Innovation Systems: A Comparative Analysis* (New York and Oxford, Oxford University Press, 1993) and Sylvia Ostry and Richard R. Nelson, *Techno-Nationalism and Techno-Globalism: Conflict and Cooperation* (Washington, D.C., The Brookings Institution, 1995).

²⁶ See, for example, Eamonn Fingleton, *Why Japan is Still on Track to Overtake the U.S. by the Year 2000* (New York, Houghton Mifflin Co., 1995).

²⁷ See *Science and Technology Policy...*, p.17.

²⁸ *Ibid.*, p. 87.

The number of cooperative agreements between firms of different European countries has grown substantially in the past 15 years and is supported by European Union policy.²⁸ For example, efforts such as JESSI and the EUREKA programme have established many new collaborations. In addition, hundreds of new programmes in information technology and biotechnology and new materials have been launched by European Commission programmes in these areas.

Labour market organization within and between firms

Alongside investment, the organization of labour markets has played an important role in Japan's relative growth and productivity success and has contributed to the United States meagre wage performance and to western Europe's employment problems. The inflexibility of labour markets in western Europe is a focal point of concern in addressing long-term unemployment in western Europe,²⁹ while flexibility in labour markets is often hailed as central to the ability of the United States to avoid the high long-term unemployment in western Europe. However, the problem is not one of general inflexibility or flexibility. Indeed, Japan's labour markets are more inflexible than those of western European countries in some respects. The following sections describe some key differences in labour market organization among Japan, the United States and western Europe that affect relative productivity, growth and stability.

²⁹ See, for example, *The OECD Jobs Study...*

Labour markets in Japan

The organization of labour markets in Japan, both within and between firms, has enhanced Japanese productivity and added to growth. A critical reason for this success has been that Japan's labour markets seem to be able to better align workers' interests with employers' interests than in the United States or western Europe. Three distinct factors provide the foundations for this system.

First, lifetime employment, which is supported by regulations and court cases, makes it difficult to fire workers. Japan is more inflexible than western Europe in this respect. However, as discussed below, Japan is more flexible in adjusting total wage bills. Lifetime employment is enforced by the ability of the Government to require firms that involuntarily terminate employees to pay stiff financial compensation packages to laid-off employees, as happened to Japan Airlines.³⁰ The system does not cover all firms. It applies primarily to large firms and, by one estimate, directly covers only 25 per cent of the total labour force, including Japan's relatively small public sector.³¹ However, lifetime employment seems to be granted to a broad percentage of the workforce. In the non-agricultural sector, more than 40 per cent of male workers between the ages of 50 and 54 have had more than 30 years of service with the same firm, suggesting the existence of a substantial de facto lifetime employment system that includes companies of all sizes.

When firing restrictions were established in Japan, starting after the Second World War, hiring practices were also put in place that limit the mobility of workers between firms. For example, firms are discouraged from advertising jobs and from hiring employees that will have to change their residence.

³⁰ See Eamonn Fingleton, "Jobs for life: why Japan won't give them up", *Fortune* (20 March 1995), pp. 120-125.

³¹ The statistical information in this paragraph can be found in Hiroshi Kawamura, "Lifetime employment in Japan: economic rationale and future prospects", Working Paper Series, No. 5 (UN/DESIPA, 1994); as noted in this working paper, public sector employment in Japan is approximately 6 per cent of the total Japanese workforce.

A second aspect of Japan's labour markets that makes them inflexible in comparison with western models is the seniority pay system, which rewards tenure rather than merit. The pay system begins with top managers, who are salaried and are not granted stock options. The after-tax salary of the average chief executive officer (CEO) in Japan is approximately 10 times the earnings of the lowest paid employee, as compared with the United States where the average gap is 100 times that of the most junior staff member.³² The seniority pay system limits destructive competition among employees who cannot increase their individual wages through merit raises. More positively, the system bolsters cooperation between management and workers because the compensation discrepancies are relatively minor, and because managers take pay cuts alongside workers in downturns. Seniority pay also reduces employee resistance to moving to different jobs as their pay is not affected by such moves. It also lowers the administrative costs of setting salaries on an individual basis.

Japan's union structure differs from those prevalent in western Europe and the United States. In Japan, company unions (rather than industry-wide unions) further bolster cooperation of labour with management. With the job security of lifetime employment, Japan's company unions rarely strike, and demands for better wages and working conditions are tied to the performance of the firm.³³

Japan's current labour market system only came into existence around the late 1950s, when Japan explicitly rejected the "western" model of labour markets.³⁴ Prior to this evolution, Japan experienced bitter strikes and high absenteeism. In the 1920s, Japan endured strikes in steel, shipbuilding and mining, and labour turnover in some industries climbed as high as 100 per cent. Similarly, in the early years following the Second World War, Japan again faced major strikes and confrontations.

These three components of Japan's labour market system mutually reinforce one another to promote cooperation. They also undergird important elements of flexibility that are not enjoyed in western Europe or the United States and that have contributed to Japan's comparative economic success.

With the lifetime employment system, Japanese firms adjust salaries and hours to absorb fluctuations in demand, without having to hire and fire as much as in other OECD countries, and without labour strife. Salary adjustments can be easily accomplished through overtime and the payment system. The latter includes twice yearly bonuses, tied to corporate performance, which comprise an important part of compensation for the majority of employees. In downturns, corporations can reduce annual pay levels by as much as 40 per cent without losing employees and consequently have more flexibility to reduce prices in order to maintain output. Employees also share in the upside gains during periods of growth. Within this labour market system, many Japanese industrial firms have adopted flexible specialization in the workplace as an alternative to mass production. Based on teamwork and participatory management, workers in Japanese corporations typically function as part of a clearly identified team, in which assignments and salary bonuses are given to the group. The adoption of this type of workplace management has increased productivity and improved the ability to transfer individual workers to different product lines as dictated by changes in demand.

³² See Fingleton, *op. cit.*, p. 122.

³³ See Kawamura, *op. cit.*

³⁴ See Fingleton, *op. cit.*, p. 120.

The lifetime employment system also allows Japanese workers and firms to be flexible in their adoption of new technologies. The restrictions on inter-firm hiring provides large firms in Japan with a substantial incentive to offer retraining because firms can retain much of the benefits that flow from such activities. As a result, Japanese firms engage in substantial amounts of on-the-job training. Efforts to retrain workers and generate skills consistent with new technologies usually accompany technical and organizational changes. There is also less fear of displacement by labour-saving technology on the part of workers because of the job security they enjoy. This has facilitated the introduction of robots into manufacturing processes, such that Japan has three times as many robots in operation as the United States, with a workforce that is only half the size.

Alongside industrial and workplace relations, social insurance systems in Japan include a strong national health-care system, unemployment and welfare benefits and statutory minimum wages. However, minimum wages and unemployment benefits are low, and the duration of benefit payments is short in comparison with western European countries. Instead, firms are required to retain a percentage of earnings in unemployment savings pools, thus ensuring that unemployment problems are, to some degree, addressed at the microeconomic level. Japan also provides government support to industries that are in decline to keep more of the workforce employed rather than collecting unemployment benefits.

Thus, the organization of labour markets in Japan has fostered productivity advances. As productivity progressed from investments and from successful labour market practices, markets grew and real wages increased. Japan's relatively high real wage rate growth contributed to domestic demand growth.

Whether the Japanese system will be as successful in the future as it has been during the past 30 years in preserving lifetime employment is not clear. In some industries, Japanese firms are beginning to face the prospect of layoffs. For example, in May 1995, a number of Japanese automakers announced that they may have to close factories and idle production workers, a step which, for example, Toyota has not taken since 1951.³⁵

³⁵ *The Wall Street Journal*, 12 May 1995, p. A5.

Labour markets in the United States

As noted above, one of the most striking features of the United States labour performance has been its high wage dispersion. Unlike other countries, the growing wage gap in the United States has been closely associated with education levels. For example, between 1973 and 1993, real hourly wages fell by 22.5 per cent for high school dropouts in the United States. In comparison, real wages for employees with six years or more of college declined by only 4.7 per cent.³⁶ The dramatic correlations between wage trends and educational achievement have sparked considerable debate in the United States over the consequences of technological change for labour. The fact that, in Japan, the dispersion of wages by educational levels did not increase with technological change suggests that such change per se cannot explain the increased wage dispersion in the United States.³⁷

³⁶ Mishel and Bernstein, *op. cit.*, p. 140.

³⁷ See Hiroshi Kawamura, "Japanese labour and technology trends" (UN/DESIPA, 28 February 1995).

Evidence suggests that emerging employment practices impart a more significant impact on wage levels in the United States than do skill differentials

alone.³⁸ In contrast to Japan, United States firms in large part sought increased competitiveness through increased downward flexibility in wages, job security and taxes that help finance social insurance expenditures. The institutions and regulations that govern labour markets in the United States in many ways encourage such strategies rather than provide support for the adoption of new systems of employment.

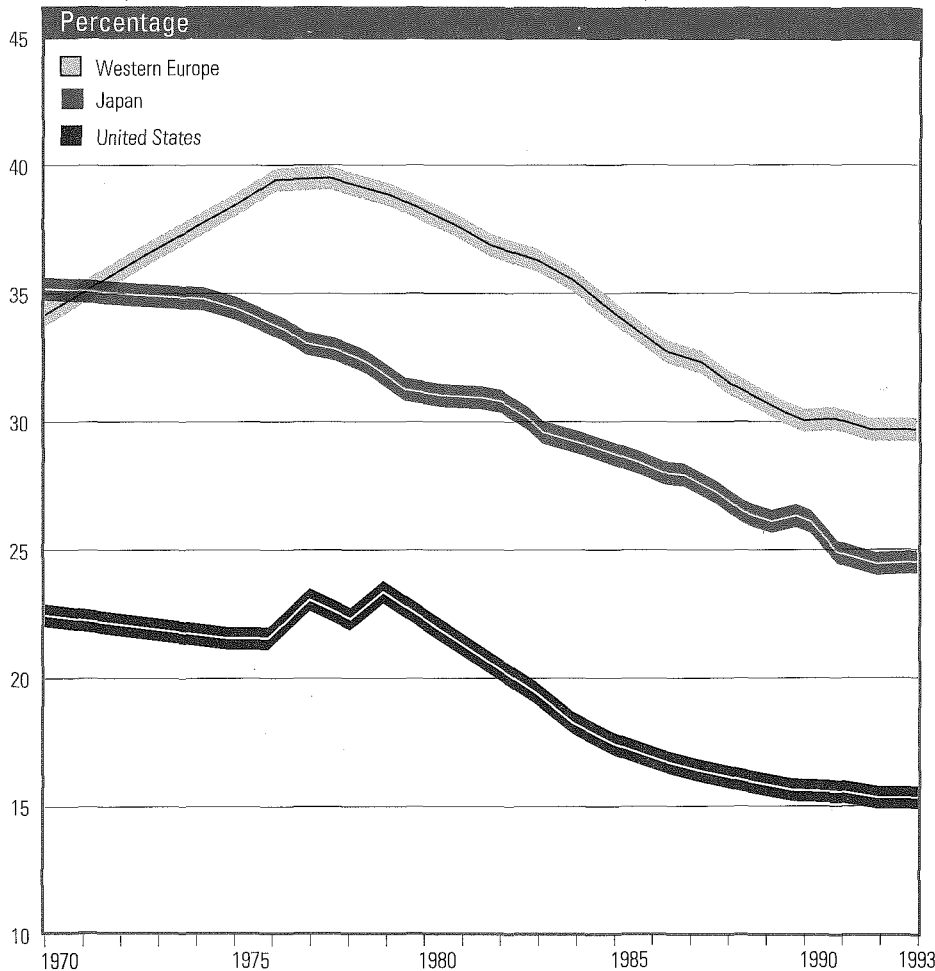
Downward trends in unionization were stronger in the United States than in Japan or western Europe (see figure XIV.4) as employment in manufacturing industries that were well-unionized declined and non-union service sectors grew. The weakening of unions was not simply an outcome of shifts in the mix of industries, but extended to industries such as airlines as the enforcement of current labour laws became weaker.³⁹ By 1990, only 18 per cent of the United States workforce was covered by a collective bargaining agreement, the lowest coverage rate of 17 OECD countries.⁴⁰

³⁸ See, for example, Richard B. Freeman, ed. *Working under Different Rules*, (New York, Russell Sage Foundation, 1994); and David Howell, "The skills myth", *The American Prospect*, No. 18 (summer, 1994), pp. 81-90.

³⁹ See Eileen Appelbaum and Rosemary Batt, *The New American Workplace: Transforming Work Systems in the United States* (Ithaca, New York, ILR Press, 1994), p. 164.

⁴⁰ OECD, *Employment Outlook* (Paris, July 1994), p. 172.

Figure XIV.4.
UNION MEMBERSHIP^a AS PERCENTAGE OF THE LABOUR FORCE,
JAPAN, UNITED STATES AND WESTERN EUROPE,^b 1970-1993



Source: UN/DESIPA, based on data from United States Bureau of Labor Statistics, Division of Foreign Labor Statistics.

Notes:

^a Annual union membership figures are adjusted to exclude retired members and retain employed members.

^b Western Europe includes France, Germany, Italy and United Kingdom.

⁴¹ See Mishel and Bernstein, *op. cit.*, chap. 4.

⁴² There is a growing literature on the relation between worker motivation and the intensity of supervision. One recent cross-national analysis provides evidence that economies in which workers have relatively less income and job security and relatively less coordinated bargaining power, such as the United States, rely much more heavily on high ratios of supervisory to clerical, service and production workers to enhance labour effort; see David M. Gordon, "Bosses of different stripes: a cross-national perspective on monitoring and supervision", *AEA Papers and Proceedings*, vol. 84 No. 2 (May 1994), pp. 375-379.

⁴³ See Appelbaum and Batt, *op. cit.*, p. 164; see, also, Howard Wiefel, "Rethinking the microfoundations of worker representation and its legal regulation: from asset-specificity to collective goods" (Washington, D.C., United States Department of Labor, January 1995).

⁴⁴ William McDonald Wallace, "The great depression reconsidered: implications for today", *Contemporary Economic Policy*, vol. XIII, No. 2 (April 1995), p. 14.

⁴⁵ Daniel J.B. Mitchell, "Profit sharing and employee ownership: policy implications", *Contemporary Economic Policy*, vol. XIII, No. 2 (April 1995), pp. 17-18.

As United States firms downsized and restructured to reduce employment costs, they increased part-time work and reduced job security even in growth periods.⁴¹ United States policy encourages part-time work because it does not require companies to pro-rate pension, vacation and other benefits for part-time workers, or to provide portable benefits for temporary workers. The United States is also the only industrialized country in which employers may hire and fire "at will". In addition, because the United States, unlike other developed economies, lacks a national health-care system, United States firms often cut labour costs by reducing health benefits.

Although the United States pioneered mass production at the beginning of the century, United States companies have been slow to adopt today's flexible specialization methods and terms of employment that promote cooperation between workers and management, in part because the institutional environment that encourages a low-wage, high job-insecurity strategy discourages changes based on cooperation between workers and management.⁴² Job insecurity is itself a strong deterrent to employee participation, insofar as it undermines cooperation. Organized participation is also discouraged by existing United States labour law, which outlaws company unions and provides no mechanism for creating alternatives within firms, such as the employee councils found in European countries.⁴³ Good information on how to implement comprehensive change is often scarce, and managers are frequently reluctant to relinquish decision-making power.

However, within an institutional environment that discourages change, a growing minority of firms are experimenting with efforts to create high performance, team-based work systems. For example, total quality management (TQM) programmes are now widespread. Yet, by some estimates, 70 per cent of these reform efforts fail, in part because the reforms threaten employment under traditional terms of employment.⁴⁴

Firms that have implemented versions of flexible specialization have often achieved significant productivity gains and saved jobs in situations where they faced the prospect of shutting down (see auto industry example below). Individual firms are experimenting with other forms of employee participation and compensation systems that make labour costs more variable with business upturns and downturns and improve job security. Profit-sharing plans and employee stock ownership plans (ESOPs) have grown, but are not widespread, by one estimate, accounting respectively for 16 per cent and 3 per cent of full-time employees in medium-sized and large firms.⁴⁵ A number of large companies faced with restructuring to survive have created new labour-management relations that exchange financial returns and governance participation (such as employee stock ownership in the company and representation on the corporate board of directors) for wage and work-rule concessions. These changes have required new roles for unions. Steel, airline and paper companies provide notable examples.

The low-cost strategy extends beyond wages and employment security to training issues, discouraging on-the-job training because firms cannot retain the benefits of these investments as easily as in Japan. Nor has the United States established vocational training programmes at the societal level, as in many western European countries. These shortcomings mattered less when long-term employment was an expected and normal part of the conditions of

employment as established in the post-war period and lasting through the 1960s. Training problems, combined with the problems of high drop-out rates and poor educational achievement, lower United States productivity growth.

An institutional vacuum regarding training at the national level has prompted many state and local efforts to improve schooling and vocational training. For example, the city of Austin, Texas, initiated a local private-public partnership to improve the school-to-work transition, based on the German apprenticeship system.⁴⁶ The education problem has even provoked companies to launch individual efforts at private-public partnerships in order to improve productivity and quality and, hence, profitability. For example, in 1985, the new CEO of the Will-Burt Company, an Ohio metal fabricator, found that "many employees couldn't read the scales or blueprints they were using; some were illiterate. Customers were rejecting 35 per cent of the products the company was turning out; redoing them cost \$800,000 a year. Along with a local university, the company developed a training program. Classes were mandatory, on company time. The state of Ohio paid for the teachers and the books; Will-Burt provided the facility. Local high-school and college teachers taught employees blueprint reading, statistical analysis, business principles and basic math. The time spent reworking defective parts fell to about 300 hours a month from 2,000 hours before. The company's profitability improved."⁴⁷

Overall, the approach to labour markets in the United States helped increase cost competitiveness and profitability, but at the expense of greater productivity gains. The slow-down in wage growth dampened domestic consumption and growth. The flexibility of labour markets in the United States is often viewed as a key reason for the stronger record of employment that the United States maintained as compared to Europe. However, United States labour markets currently discourage the creation of the types of flexible employment and work systems that can increase productivity and job security simultaneously.

Western European labour markets

Many recent studies link western Europe's high structural unemployment to rigidities built into labour market institutions, from wage-setting practices to high expenditures on unemployment insurance and other social insurance mechanisms. Three general arguments are cited regarding the problems in western European labour markets and their effect on employment and growth. First, high wages and inflexible work rules produced by collective bargaining, and high statutory minimum wages, discourage firms from investing, growing and hiring more workers. Secondly, high social wages, such as unemployment benefits, act as a disincentive for unemployed workers to enter the workforce. Thirdly, the social costs of high social wages are a drain on the economy and a burden on firms, particularly when growth is slow and unemployment is high.

Macroeconomic data suggest that the organization of labour markets in western Europe does not limit employment flexibility to the extent commonly believed.⁴⁸ Western European employment rates rose and fell with economic growth rates during the 1980s and 1990s, and exhibited relative inelasticity with respect to changes in real wage rates.⁴⁹ Data for the 1980s on gross job creation and gross job destruction indicate that during this growth period job

⁴⁶ See Robert Glover, "Learning from the German apprenticeship system to improve the school-to-work transition in Austin, Texas", paper prepared for the annual meeting of the Industrial Relations Research Association, Washington, D.C., 6 January 1995 (Austin, University of Texas, Center for the Study of Human Resources).

⁴⁷ *The Wall Street Journal*, 21 March 1995, p. B1.

⁴⁸ See, for example, *World Employment 1995: An ILO Report* (Geneva, International Labour Organization, 1995), part IV; and *Unemployment: Choices for Europe* (London, Centre for Economic Policy Research, April 1995).

⁴⁹ *World Employment 1995...*

⁵⁰ See *Employment Outlook...*, p. 106.

⁵¹ See *Employment Performance...*, chap. 2, p. 6.

⁵² See *Employment Outlook...*, p. 106.

⁵³ See *Employment Performance...*, chap. 2, p. 6.

⁵⁴ See *The OECD Jobs Study...*, part II, pp. 46-50.

⁵⁵ See Edmund S. Phelps, *Structural Slumps: The Modern Equilibrium Theory of Unemployment, Interest, and Assets* (Cambridge, Massachusetts, Harvard University Press, 1994).

⁵⁶ One important exception may be the United Kingdom. For an overview of the issues facing the vocational training and schooling system in the United Kingdom see Andrew Britton, "Full employment in a market economy", *National Institute Economic Review*, No. 150 (London, National Institute of Economic and Social Research, November 1994), pp. 62-72.

⁵⁷ See *Employment Performance...*, chap. 2, p. 16.

⁵⁸ The information in this paragraph is drawn from Appelbaum and Batt, *op. cit.*, chap. 3.

creation was extensive. France and Italy, as well as a number of Nordic countries, maintained gross job creation rates equal to that of the United States.⁵⁰ The data also suggest that managers in western Europe have more flexibility to lay off workers than is commonly assumed,⁵¹ as gross job destruction rates, through closures of plants and contractions, were greater than in the United States.⁵² One study suggests that, while western European firms reduce work-hours as the first response to a decline in output, rather than use short-term layoffs as in the United States, western European companies will not hold workers for long.⁵³

Although labour-market factors cannot fully explain high unemployment in western Europe, they have played a role in the region's slow growth. High social wages probably hindered the growth of employment in low-wage industries such as retailing. For example, unemployed workers from industries with high wages, such as the auto industry, may be more reluctant to seek employment in industries such as retail because their unemployment benefits nearly equal the wages they would receive in a lower-wage industry. Moreover, if they do take a job in a lower-wage industry and then get laid off again, their subsequent unemployment benefits would be based on the lower-wage rate, rather than on the higher wage that they had received working in the auto industry.

Thus, the duration and amount of unemployment benefits has probably affected the level of unemployment. However, at current levels, statutory minimum wages in western Europe are not a strong impediment to the growth of employment, although they are higher on average than in Japan or the United States.⁵⁴

In contrast to the United States, western Europe has maintained higher corporate and payroll taxes that primarily finance welfare state provisions such as unemployment insurance. One study finds that payroll taxes have had a strong and statistically significant impact on employment.⁵⁵

Labour training and education vary widely among western European countries, but do not appear to be a great barrier to growth in key countries.⁵⁶ For example, Germany's training system is looked upon as a model internationally. The availability of skilled workers from the apprenticeship programme has not prevented an employment problem; almost half (43 per cent) of the unemployed in western Germany have been through such a programme (compared to 57 per cent of all employees).⁵⁷

Labour market organization probably directly contributed to productivity increases more in western Europe than in the United States, but less than in Japan. Unlike the United States, western European unions and labour-management organizations have supported strong training programmes and provided for employee participation in corporate decision-making.

The existence of strong labour unions and regulatory rigidities in western European labour markets have not prevented European firms from experimenting with new methods for organizing production.⁵⁸ For example, in Sweden, attempts at work reorganization during the 1980s resulted in an emphasis on teamwork, on a more flexible and decentralized organization of production and on total quality control techniques. However, although design quality and job satisfaction improved, productivity, overall, did not. A notable exception was Volvo's Uddevalla plant, which became highly productive by international standards. In Germany, some high-volume producers have pursued a quality-

conscious, high value-added strategy to compete, in which workers are paid based on value added. They have been able to introduce a high degree of flexibility on the shop floor within a context of extensive legal regulations and strong unions. Since wages are paid out of value added, they were able to remain competitive in a high-wage economy. Italy has developed its own version of flexible specialization.

Thus, some European countries have in place labour relations and social training institutions that ease the adoption of new technologies and new production methods to a greater degree than in the United States. For example, since the 1950s, German laws have required a workers' council in every substantial workplace and representation for workers on corporate boards.⁵⁹ Today, German companies use inter-industry works councils and other joint labour-management institutions to facilitate adjustments to new technology and changing markets. However, there is less cyclical flexibility in labour markets in western European countries than in Japan, and the adoption of flexible methods for the organization of work that increase productivity are not as widespread as in Japan.

Product market effects on growth and innovation

The regulation of product markets and relations among economic agents within markets have been important, although too often ignored, factors in slowing growth in new sectors in western Europe as compared with Japan and the United States. Most telling, some internationally fast-growing service sectors make up the majority of the difference in employment growth between western Europe and the United States.⁶⁰ Thus, while both western Europe and the United States restructured their manufacturing sectors, the employment declines in western Europe were not offset by increases in new services industries.

Western European markets face greater fragmentation than those in Japan or the United States, which is a principal obstacle to growth in industries such as telecommunications. The absence of telecommunications operators for western Europe as a whole and the current limits to basic services covering western Europe (electronic mail and file transfer, remote access to databases and interactive image transmission service) have slowed growth in this industry and prompted policy initiatives to create a strong western European telecommunications system.⁶¹

In addition, growth in some of these activities has been held back by less new product and process development and greater product market restrictions. Innovations that made major differences between United States growth and western European growth were securitization and derivatives in banking; specialty retailing formats in general merchandise retailing; and new films, cable television channels and video rental formats in the film/TV/video industry. These differences were in part due to product prohibitions and lack of transparency in banking; zoning laws and controls on the forms of competition in retailing; and a series of constraints in various segments of film/TV/video.

United States product market regulations have had positive and negative effects on employment and wages, depending on the industry. Some industries that deregulated domestically in the 1980s, such as banking, have been able to increase employment primarily through the introduction of new

⁵⁹ See Freeman, *op. cit.*, chap. 4, and Roger T. Kaufman and Raymond Russell, "Government support for profit sharing, gainsharing, ESOPS, and TQM", *Contemporary Economic Policy*, vol. XIII, No. 2 (April 1995), p. 38.

⁶⁰ See *Employment Performance...*, chap. 2.

⁶¹ See, for example, Commission of the European Communities, *Growth, Competitiveness, Employment — The Challenges and Ways Forward into the 21st Century: White Paper* (Brussels and Luxembourg, Office for Official Publications of the European Communities, 1993).

products even as traditional employment was cut back through the introduction of new processes.

United States markets are more open in general than those of other developed countries, with a relative lack of restrictions on international trade and foreign investment. The openness of the United States economy has been blamed for stagnating wage rates and declines in blue-collar jobs because increased low-wage imports have shifted jobs to low-wage countries. However, imports still account for a relatively small share of domestic consumption in the United States (and western Europe and Japan), and thus should not be highlighted as a central cause of unemployment increases or wage-rate declines.⁶²

Product market regulations have not barred Japanese productivity and growth overall. However, in a few industries (e.g., retailing, food and construction), traditional industrial organization has been relatively protected. Japan's distribution system is also complex, and relatively unproductive, with products moving through many intermediaries before being sold. Because of such complexities, these Japanese industries have not yet had productivity growth, investments and work reorganization equal to those in the rest of the economy. In some Japanese industries, such as banking and telecommunications, regulations that inhibit new products may have affected employment in both positive and negative ways, in some areas by maintaining low productivity, in others by inhibiting growth.

Japan's relatively small percentage of imports and foreign direct investment in manufacturing industries as compared with other developed countries has increased pressure on Japan to further open the Japanese market to foreign companies and products.

LABOUR AND TECHNOLOGY: TRANSFORMATION OF TWO INDUSTRIES

Rapid technological and organizational change is transforming many industries in the world today. This section focuses on automobiles and data processing to illustrate changes taking place in manufacturing and services, respectively.

The automotive industry accounted directly for 1 to 3 per cent of GDP in the G7 countries in 1989, and employed a significant percentage of the workers in manufacturing, accounting for 5.2 per cent of employment in the United States, 11.2 per cent in western Germany, 9.6 per cent in France and 6.9 per cent in Japan.⁶³ The industry also merits attention because firms operating within it, especially the market leaders, are moving away from mass production towards flexible specialization.

Services have grown to become a more significant part of industrialized economies. With this growth, the importance of technological change in the service sector and its impact on labour have become central economic issues. The data-processing industry has changed rapidly in the past two decades owing to technological advances in telecommunications and computers.

In both the automobile and the data-processing industries, transformations taking place today have profound implications for the location of production and for the participation of low-wage countries in world trade in goods and services.

⁶² See, for example, *World Economic and Social Survey 1994...*, p. 167; Paul Krugman, "Past and prospective causes of high unemployment", *Federal Reserve Bank of Kansas City Economic Review*, (fourth quarter, 1994), pp. 23-43; and Robert Z. Lawrence, "Trade, multinationals, & labor", Working Paper No. 4836 (Washington, D.C., National Bureau of Economic Research, August 1994).

⁶³ See *Employment Performance...*, chap. 3, automotive case study, p. 2.

Automobiles

Henry Ford began production of the Model T in 1908, pioneering a system of production that came to be known as “mass production” or “Fordism”.⁶⁴ The key to mass production is a standardized product assembled from interchangeable parts by interchangeable workers. The system permits minute subdivision of, and removes virtually all skill requirements from, the assembly process. This organizational change produced tremendous productivity gains. The key process technology of the day — the moving assembly line, which refined mass production so that parts moved instead of workers — was introduced in 1913, five years after the beginning of mass production.

Workers in Ford’s factory resented the de-skilling of tasks and pressure for speed; labour turnover soared, reaching an annual rate of 380 per cent by 1913. A 13 per cent increase in the minimum daily wage (to \$2.34) failed to reduce turnover, so in January 1914, Ford offered his employees the unprecedented wage of five dollars a day. Because of the economies of mass production, Ford was able to pay high wages and reduce prices at the same time. In a period when most prices were rising, the retail price of a Model T touring car fell continuously from \$950 in 1909 to \$360 in 1916.

In relentless pursuit of reduced costs, Ford carried standardization to an extreme. Beginning in 1914, he offered the Model T in only one colour (black). A limited number of body styles shared the same chassis and mechanical parts.⁶⁵ For the consumer, an advantage of standardization was that replacement parts could easily be obtained. Moreover, unlike craft production, parts would actually fit the vehicle.

Mass production drastically cut the cost of automobile assembly by increasing labour and capital productivity. Craft assembly requires more labour and more capital than is the case in mass production, for each product is unique and components are not standardized. Hundreds of skilled craftsmen across western Europe and North America found it impossible to compete with Ford in the production of automobiles. Only a few producers of luxury cars were able to survive by selling at high prices in small, niche markets. The techniques of mass production spread quickly in North America and slowly in western Europe, but by the 1950s, a number of western European mass producers, including Volkswagen, Fiat, Renault and Daimler-Benz, were competing successfully with three large North American mass producers (General Motors, Ford and Chrysler).

While post-war western Europe was completing the transition to mass production of automobiles, Toyota was pioneering a new system of production in Japan. This system was Toyota’s response to the needs of the small Japanese market for a wide variety of trucks and passenger cars. The Japanese Ministry of International Trade and Industry (MITI), at the time, recommended mass production of a few standardized models. Toyota opted instead for production in small lots, using a just-in-time (JIT) supply of components.

The system that Toyota developed came to be known as flexible specialization or “lean production”. In addition to small lots and JIT, it includes production to order rather than for stock, minimal in-process inventories, multi-skilled workers organized in teams, treatment of employees and suppliers as a fixed rather than variable cost, selective use of automation and continuous

⁶⁴ Ford began to assemble cars in 1903, with the Model A. Five years later, he achieved perfect parts interchangeability with the Model T, and in 1913, he introduced the moving assembly line; for a brief history, see David A. Hounshell, *From the American System to Mass Production, 1800-1932* (Baltimore, Maryland, The Johns Hopkins University Press, 1984), chaps. 6 and 7; and James P. Womack, Daniel T. Jones and Daniel Roos, *The Machine that Changed the World: The Story of Lean Production* (New York, Rawson Associates, 1990), chap. 2.

⁶⁵ General Motors later sold more vehicles than Ford by offering the consumer a variety of colours and models. None the less, all GM models, from Chevrolet to Cadillac, shared numerous components, so the company did not deviate very much from Ford’s principles of standardization and mass production. In 1926, to compete with GM, Ford painted the Model T in colours other than basic black. The following year, a new Model A replaced the Model T after the latter completed a production run of 15 million cars; see Hounshell, op. cit., chap. 7.

improvement. Like the previous transition from craft to mass production, Toyota developed the organizational system of flexible specialization long before the complementary process technology — robotics — was invented and used to increase productivity further.

Flexible specialization increases the productivity of both labour and capital, over mass production. Workers are expected to do the job of any member of their team rather than carry out a single, mind-numbing assembly operation.

JIT production of components not only saves on storage of inventory, it also minimizes the cost of mistakes that might otherwise be hidden for weeks or for months. Under mass production, companies typically make and store enough components to last a month or more, then push them through the assembly line regardless of quality. Defects are corrected at the end of the line in large rework areas. Under flexible specialization, defects are corrected immediately and steps are taken to ensure that they do not happen again. Any worker can stop the production line at any time that a problem is spotted.

Flexible specialization also carries important implications for the location of employment. To save transportation costs, mass producers typically assemble vehicles close to markets even if the models assembled are identical.⁶⁶ But each component is manufactured at a central location, so parts can be sourced from low-cost producers anywhere in the world (see box XIV.2). Thus, components are sourced globally and standardized vehicles are assembled in local markets.

⁶⁶ By 1926, Ford automobiles were assembled in more than 36 cities in the United States and in 19 foreign countries; see Womack, Jones and Roos, *op. cit.*, pp. 34-35.

Box XIV.2.

FORD'S CONCEPT OF A WORLD CAR

HENRY FORD'S MODEL T WAS A "WORLD CAR", designed for sale in all markets. Components were produced in Detroit, then shipped for assembly to save transportation costs and import duties. The final product was identical everywhere. Western European tastes and driving conditions differed from those of North Americans, however, so Ford soon found it necessary to design a smaller Model Y for production and sale in that market. Eventually, Ford designed distinct models for each western European country in which the firm had production facilities. Vehicles assembled in Germany or Belgium shared no parts with those assembled in the United Kingdom.

Years later, in the 1970s, the Ford Motor Company took advantage of the removal of barriers to intra-western European trade to assemble a single model — the Fiesta — at plants in the United Kingdom, Spain and Belgium. Ford was able to benefit from economies of scale by shipping many of the standardized components from a single factory. All carburetors, for example, were produced in Ireland, all transmissions in France, all spark-plugs and radiators in the United Kingdom.^a Building on this western European experience, Ford attempted to revive the world car concept with the 1981 Escort. In the end, the attempt was unsuccessful, for the only thing the western European and American versions of the Escort had in common was a name and two insignificant parts.

In 1993, Ford launched another world car (the Mondeo), this time with more success. It was necessary to lengthen the body of the North American version, named the Ford Contour or Mercury Mystique, but the cars do share a common chassis and all mechanical parts. More world cars are planned, including a 1999 Escort. The aim is to assemble virtually the same car in different markets. Common parts will be purchased from the lowest-cost global suppliers, then shipped for assembly in each of the main markets. In addition, savings on development costs are envisaged if more vehicles of a common design are produced. It remains to be seen whether this return to the mass production model of Henry Ford's Model T will prove successful against the totally different global strategy of Japanese automakers.^b

^a Peter Dicken, *Global Shift: The Internationalization of Economic Activity*, second edition (New York and London, The Guilford Press, 1992), pp. 299-302.

^b For a pessimistic appraisal, see James B. Treece, "Ford: Alex Trotman's daring global strategy", *Business Week* (3 April 1995), pp. 94-104.

With flexible specialization, like mass production, assembly plants are located close to main markets. But, compared to mass production, more components are purchased from outside suppliers in nearby plants (a maximum of two hours' transport). Assembly lines at Toyota City in Japan are replenished constantly from nearby component plants. Toyota's competitors in Japan have set up similar supply systems as part of a transition to flexible production. Without this geographical proximity, there can be no JIT production. In geographical space, flexible specialization thus implies a high concentration of automobile production, including components, compared to mass production.⁶⁷

Flexible specialization does not reduce the importance of scale in the assembly of motor vehicles.

*"What the new lean production techniques allow is the production of a variety of cars but within a large annual volume. Hence, an assembly plant is still optimum at around 250,000 units a year, although the model-specific optimum can be lower What the new techniques do is make it easier for large companies to make a variety of products, but they do not make it easier for small companies to survive."*⁶⁸

This fact, combined with JIT production of components, has profound implications for international trade and for the location of production.

The logic of flexible specialization dictates that Japanese automakers would eventually have shifted production to their main export markets. Because of protectionism, this shift took place sooner. The Japanese competed first by exporting to the major markets in North America and western Europe; then, in the face of rising import barriers in the 1980s, they established assembly plants in those markets. This is reminiscent of the behaviour of Henry Ford earlier in the century.

When they began to produce abroad, the Japanese carried the JIT system of supply with them to North America, where more than 300 Japanese manufacturers of original equipment invested \$26 billion in plants constructed alongside the new Japanese facilities.⁶⁹

This is not the case in western Europe, where Japanese automakers rely on existing suppliers in order rapidly to reach targeted levels of western European content. JIT production of components is absent in Japanese transplants in the United Kingdom. The pressure to work with existing suppliers means that Japanese transplants have JIT delivery, not JIT production, with a consequent increase in costs. Honda, for example, had to build storage facilities for a day's supply of incoming parts that feed, JIT, into its assembly lines.⁷⁰ Nissan stores two days' supply of parts in external warehouses. In addition, large suppliers such as Bosch, the German manufacturer of braking and electrical systems, have set up warehouses near the Japanese assembly plants. The assembly plants themselves may be very efficient, yet the inventory costs of Japanese transplant production in western Europe are high because components are not produced on a JIT basis. There is considerable doubt that western European auto assembly plants, in an open and competitive market, will continue to ignore the potential cost savings from JIT production of components.

Japanese companies, through flexible specialization, are able to meet the demands of international markets by producing, in each major market, models popular in that market. Some vehicles are then exported to other markets as a niche product. Honda, for example, engineers and produces the Accord coupe

⁶⁷ Brazil appears to be on its way to becoming the most efficient producer, and main supplier, of automobiles in South America. Automobile companies there are introducing Japanese-style production techniques, and the trend is towards clustering of component manufacturers around assembly plants. Fiat's factory in Betim, Minas Gerais, expects to purchase 60 per cent of its components from suppliers in Minas Gerais by 1996, compared to only 26 per cent in 1989. In addition, Japanese manufacturers of original equipment are building plants in Sao Paulo in anticipation of the arrival of Toyota; see "The sputtering spark from South America's car industry". *The Economist* (15 April 1995), pp. 57-58.

⁶⁸ D. G. Rhys, "Smaller car firms - will they survive?", *Long Range Planning*, vol. 22 (1989), pp. 22-29; cited in Peter Dicken, *Global Shift: The Internationalization of Economic Activity*, second edition (New York and London, The Guilford Press, 1992), p. 282.

⁶⁹ The following discussion is based on David Sadler, "The geographies of just-in-time: Japanese investment and the automotive components industry in Western Europe", *Economic Geography*, vol. 70, No. 1 (January 1994), pp. 41-59.

⁷⁰ Philip N. Jones and John North, "Japanese motor industry transplants: the West European dimension", *Economic Geography*, vol. 67, No. 2 (April 1991), p. 118.

⁷¹ These exports are right-hand-drive, appropriate for drive-on-the-left Japan. It is a simple matter for the Japanese to assemble left-hand-drive and right-hand-drive vehicles on the same line, something that inflexible mass producers in North America have never done.

⁷² These figures are from Stuart Sinclair, *The World Car: The Future of the Automotive Industry* (New York, Facts on File Publications, 1983), pp. 4 and 92.

⁷³ After purchasing Jaguar in the United Kingdom, Ford found productivity and quality to be low owing to the existence of "archaic work practices like rigid job classifications and a piece-rate system that allowed workers to quit early after producing their quota". These practices are characteristic of craft production, not mass production; see "Ford's Jaguar bet: payoff isn't close", *The New York Times*, 21 April 1992, p. D1.

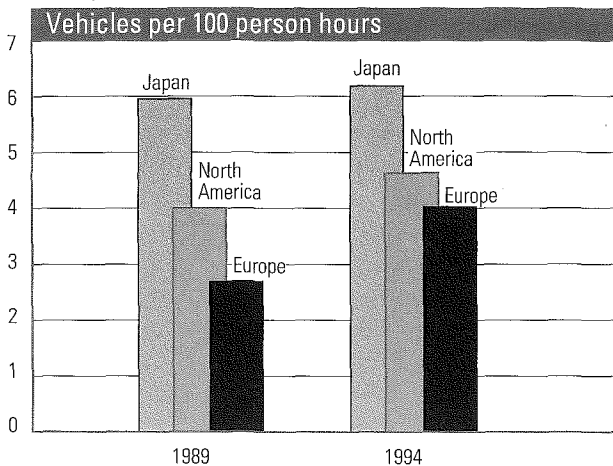
and station-wagon exclusively in Marysville, Ohio, then ships some to Japan where they are marketed as a luxury American import.⁷¹ In this sense, the Honda Accord is often referred to as a "world car", but it is very different from Ford's concept of a world car. (see box XIV.2 above). Similarly, Nissan produces models in the United Kingdom designed for western Europe and exports a small number of these each year to Japan.

Toyota, along with other Japanese companies that followed its lead in flexible specialization, poses a serious threat to mass producers, just as Henry Ford threatened craft producers decades ago. In 1950, Japan produced a mere 0.3 per cent of the total world auto output. By 1960, Japan claimed 17.8 per cent of the world market and 20 years later Japan overtook the United States as the leading producer of passenger cars in the world, with 25.5 per cent of total world output.⁷² Today, Toyota in Japan remains the industry leader, setting standards towards which other producers can so far only aspire. Competition with the output of Toyota City is affecting the productivity and product quality of plants everywhere, but particularly in Japan, where import barriers cannot shield weaker producers from Toyota, and in North America, which has been less protectionist than western Europe.

Western Europe's poor performance reflects continued reliance on mass-production techniques combined, in some cases, with elements of craft production.⁷³

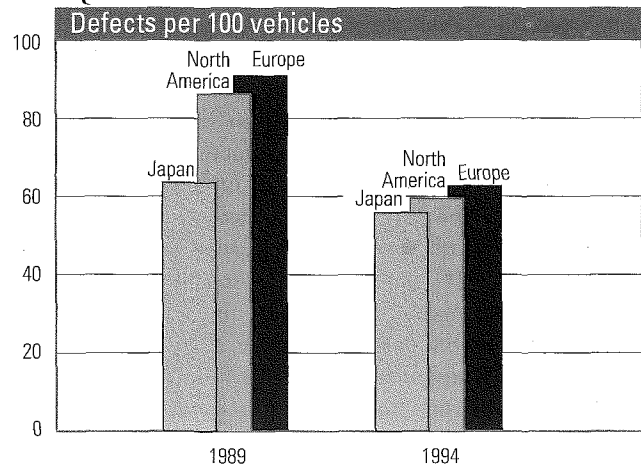
During the late 1980s and early 1990s, there has been convergence in average levels of labour productivity and, especially, quality. On average, however, western European plants continue to lag behind those of North America, and North American plants behind those of Japan (see figures XIV.5 and XIV.6). The lag of western Europe and North America behind best practice is even greater, as Toyota continues to report levels of productivity and quality that are well above industry averages for Japan. Because of this low productivity and quality, combined with high transportation costs, it is unlikely that Japanese imports from western Europe and North America will increase significantly if distribution barriers to imports are reduced.

Figure XIV.5.
AUTOMOTIVE ASSEMBLY PLANTS:
PRODUCTIVITY



Source: UN/DESIPA, based on a survey by J.P. MacDuffie and F. Pil, reported in Alex Taylor, "New ideas from Europe's automarkets", *Fortune* (December 1994), p. 160.
Note: The data are not adjusted for differences in the importance of models.

Figure XIV.6.
AUTOMOTIVE ASSEMBLY PLANTS:
QUALITY



Source: UN/DESIPA, based on a survey by J.P. MacDuffie and F. Pil, reported in Alex Taylor, "New ideas from Europe's automarkets", *Fortune* (December 1994), p. 160.
Note: The data are not adjusted for differences in the importance of defects.

North American automakers first responded to the Japanese threat by automating their mass production plants, investing in robots, programmable logic controllers (PLCs) and automated guided vehicles (AGVs). General Motors was financially the strongest North American company, and thus invested the most: \$42 billion between 1980 and 1987 on modernization of old factories and construction of new ones. The results of these efforts were far from satisfactory for workers or for management. In 1988, GM found that one of its most automated plants had lower productivity and produced vehicles with poorer quality than NUMMI, the labour-intensive plant it operates in Fremont, California in a joint venture with Toyota.⁷⁴ More than GM, researchers from the International Motor Vehicle Program at the Massachusetts Institute of Technology found that Ford responded to competition by emphasizing organizational change; in moving towards flexible specialization, the company has reached levels of quality and productivity that rival those of Japanese transplants in North America.⁷⁵

An assembly plant in Linden, New Jersey, was one of the plants that GM automated in the mid-1980s. GM increased the number of robots from 1 to 219, and invested in other computerized equipment. A careful study of this introduction of new technology concludes that the plant's organizational structure, designed for mass production, remained intact: the workforce remained polarized between skilled labour and production workers. There was a marked increase in both the number of skilled workers and their skill requirements. In contrast, the number of production workers and their skill requirements decreased. Production workers who kept their jobs were subordinated to ever more sophisticated machines, machines that were managed and maintained by increasing numbers of skilled technicians.⁷⁶

The MIT survey of assembly plants found only a weak association between automation and productivity, consistent with the experience of General Motors in the 1980s. The MIT team concluded that robots and other high-technology equipment introduced into a plant without organizational change can "end up adding about as many indirect technical and service workers as they remove unskilled direct workers from manual assembly tasks".⁷⁷ Flexible specialization concentrates on organization — organization of workers and organization of suppliers — and is typically less automated than mass production. Michael A. Cusamano, a well-known student of the Japanese automobile industry, explains the strategy in these words:

"One of the brilliant contributions of Toyota managers ... was to view automation with scepticism. Automation, unless it was flexible (easily changed or reprogrammed to handle different product models or variations, or volume fluctuations), introduced rigidity into production processes and was not suitable for labour-intensive assembly operations."⁷⁸ By introducing automation only when appropriate, it is possible to retain high productivity of capital while increasing the productivity of labour and retaining flexibility in the production process.

Government trade and investment policies have influenced the pace of change and the location of jobs significantly. In practice, policies are inevitably mixed, but western Europe, more than North America, has relied on protection. Members of the European Union have restricted Japanese imports overall to no more than 10 or 11 per cent of total sales of automobiles in the

⁷⁴ "Factory automation: living with smart machines", *The Economist* (21 May 1988), pp. 79-80.

⁷⁵ See Womack, Jones and Roos, *op. cit.*, p. 244. The authors of the study also note that "GM and Chrysler have improved their operations largely by simply closing the worst plants ... rather than by improving every plant".

⁷⁶ Ruth Milkman and Cydney Pullman, "Technological change in an auto assembly plant: the impact on workers' tasks and skills", *Work and Occupations*, vol. 18, No. 2 (May 1991), pp. 123-147. These findings for automation of a plant in the United States are strikingly similar to those reported by Hubert Schmitz and Ruy de Quadros Carvalho, "Automation and labour in the Brazilian car industry", *Journal of Development Studies*, No. 26 (October 1989), pp. 81-119.

⁷⁷ See Womack, Jones and Roos, *op. cit.*, p. 94.

⁷⁸ Michael A. Cusamano, "The limits of lean", *Sloan Management Review*, vol. 35, issue 4 (Summer 1994), p. 30.

EU. And, while the United Kingdom has welcomed Japanese investment, most western European countries have not. Nissan, the first Japanese automaker to establish an assembly plant in the United Kingdom, began production in 1986 with 20 per cent local content. Six years later, Nissan had more than 80 per cent local content and 195 western European suppliers. Two recently established Japanese transplants in the United Kingdom — Honda and Toyota — have made an even greater effort to add high local content. Toyota inaugurated its plant in December 1992 with a western European content of 60 per cent, and a commitment to reach 80 per cent within two years.⁷⁹

Total market share of Japanese companies in western Europe is projected to be 16 per cent in 1999, the year before liberalization of western Europe's auto market. It is not yet clear whether North American exports of vehicles produced by Japanese transplants are to be counted as part of the agreed quota on Japanese exports.⁸⁰

In contrast to the experience in western Europe, the Japanese were allowed to capture 22 per cent of the domestic market in North America before protective quotas (in the form of voluntary export restraints) were negotiated in 1981. North America imposes no local-content rules on assembly plants, so the Japanese were able to jump trade barriers easily by establishing "screwdriver" operations, adding local content gradually over time.

Restrictions on international trade and foreign direct investment flows preserve jobs in the short run, but they also impede the transition from mass production to flexible specialization, jeopardizing competitiveness and employment in the long run.

Overall, flexible specialization results in increased productivity, which implies reduced employment in the automotive industry. None the less, employment losses in the industrialized countries would have been even greater with continued mass production of motor vehicles. As a mature product, the production of automobiles some years ago seemed poised to move, like toasters and microwaves, to low-wage countries: first to Japan, then to the Republic of Korea, Mexico, Malaysia and other newly industrializing countries. By turning to flexible specialization, the industrialized countries will be able to retain their automotive industries. Because of economies of scale, production will tend to concentrate in large consumer markets, including large markets in developing countries such as Brazil and Mexico. However, with flexible specialization, it will be increasingly difficult for low-wage countries with small markets to produce automotive components for export or to assemble vehicles for domestic consumption at a reasonable cost.⁸¹

Data processing

Data processing is the systematic organization, recording, transmission and use of information. This industry, like transportation, is as old as civilization itself.⁸² However, unlike automobiles, in data processing technological change is preceding organizational and skill transformations and, in turn, affecting work organization and the skills needed in the industry.

In every society, clerks and scribes who processed data were held in high esteem, for they possessed skills and education far superior to those of their contemporaries. For thousands of years, the tools of the trade were simple:

⁷⁹ See Sadler, *op. cit.*, pp. 45-46; and "The enemy within", *The Economist* (12 June 1993), pp. 67-68.

⁸⁰ Mark Mason, "Elements of consensus: Europe's response to the Japanese automotive challenge", *Journal of Common Market Studies*, vol. 32, No. 4 (December 1994), pp. 433-453.

⁸¹ Kurt Hoffman and Raphael Kaplinsky, *Driving Force: The Global Restructuring of Technology, Labor, and Investment in the Automobile and Components Industries* (Boulder, Colorado, Westview Press, 1988).

⁸² For a detailed history see United States Congress, Office of Technology Assessment, *Automation of America's Offices* (Washington, D.C., United States Government Printing Office, 1985), chap. 1.

something to write with and something to write on. The first machine to facilitate data processing — the abacus — was invented more than five thousand years ago; it came to be widely used throughout Asia, Africa and western Europe by the time of the Middle Ages. This amazing machine was the forerunner of the modern computer, but mechanization did not progress further until the end of the nineteenth century, when mechanical typewriters, cash registers and adding machines made their appearance.

The mechanical stage of data processing was followed by an electromechanical stage (1920-1960), with the advent of calculators, electric typewriters, bank cheque sorting machines, punched cards and paper tape systems. Then came the computer revolution with the appearance, in rapid succession, of the first generation of digital computers (based on vacuum tubes), second-generation computers (based on transistors), bar codes, magnetic tape for storage (replacing punched cards), third-generation computers (based on microchips), magnetic disk devices (replacing, to an increasing extent, magnetic tape), facsimile transmission machines, video display terminals, optical scanners, microcomputers and optical discs for storage (compact discs with read-only memory, popularly known as CD-ROMs). Progress continues at a rapid pace on miniaturization, increased speed and reduced cost of computers, as well as enhanced efficiency and reduced cost of optical scanners.

Over the past quarter of a century, data processing has focused increasingly on digitization of data to produce computer-readable files. As the use of computers in North America became widespread in the 1980s, demand for data processing accelerated. Companies turned increasingly to outside firms as an alternative to hiring and training large numbers of data-entry operators. To save on labour costs, some firms began to ship raw data in bulk by air freight from the customer's office to an offshore data processor. Documents were then keyed-in, and a magnetic tape of the computer files was returned by air freight to the client. This procedure is still used when telecommunication links are poor or speed is not important. Increasingly, however, raw data are transmitted overseas by cable or satellite using high-speed imaging technology.⁸³ The data are then keyed and returned on-line over the same telecommunications line, shrinking the turn-around time to a matter of hours, regardless of geographic distance between data processor and client.

In a few short decades, technological change has transformed the data-processing industry. Modern telecommunications and computers allow the "back rooms" of offices to move to geographically remote locations, including overseas locations, in pursuit of low labour costs.

There are few barriers to trade in computer services, so low-wage countries can, in principle, export a variety of services, including data processing, computer aided design/computer aided manufacturing (CAD/CAM), geographical information systems (GIS) and programming (development of software). In practice, exports of computer services from low-wage countries have been limited for the most part to data entry and processing. There has also been some export of programming services from countries such as India and Hungary. Emphasis is on low end, labour-intensive services, where reduced wage costs are valued more than face-to-face interaction with clients.

Even in data processing, globalization has not proceeded very far, despite the obvious attraction of countries with literate labour, low wages, excellent

⁸³ Imaging is sometimes referred to as scanning, but unlike optical character recognition (OCR) scanning, it does not result in a computer-decipherable product. Telephonic facsimile transmission (fax) is an example of imaging.

⁸⁴ Marie Howland, "Technological change and spatial restructuring of data entry and processing services", *Technological Forecasting and Social Change*, vol. 43, No. 1 (March 1993), pp. 185-196.

communications and the English language. Although companies have increasingly contracted out their data processing, work tends to be done in the same country — even the same metropolitan area — as the client company.⁸⁴ Spatial restructuring of the data-processing industry has proceeded at a slow pace for a number of reasons.

First, with electronic services, as opposed to physical goods, issues of privacy and security are paramount. With modern telecommunications and the miracle of imaging, a client located halfway around the world is as close in cyberspace as one located nearby in physical space, so geographic distance has little effect on turn-around time for a data-processing job. Yet, even though firms are quite willing, even eager, to send components for assembly to an offshore factory, they are often reluctant to send their data for processing to a distant location. A lost shirt or toy is not the same as a lost client "ledger", medical claim, banking or insurance account. Processed data, unlike physical products, are often vital to a company and susceptible to misuse, so the potential cost of control loss can be high.

Secondly, the costs of decentralization may outweigh the benefits of a reduced wage bill. Such costs account for observed inertia of firms in other areas. For example, firms could reduce their need for office space by staggering work-hours or by allowing staff to work at home, yet this is not routinely done. Presumably, the increased cost of coordinating work over time or space outweighs any savings in rent. Similarly, many firms could rent office space at a lower price by moving immediately from high-rent districts, yet they choose to remain in their traditional locations. Again, presumably, there are benefits from each existing location, such as access to a labour pool or contact with other firms, that outweigh any savings from relocation.

Thirdly, management has imperfect knowledge and may not appreciate, or may overestimate the costs of, the logistics involved in offshore data processing. This begs the question, however, of why numerous suppliers of this service have not been able to convince potential clients of their ability to produce a quality product at substantial savings.

Electronic data processing is widely believed to be a growth industry, but few statistics are available to prove or disprove this claim. In the United States, by far the largest market for this service, the census of service industries shows that employment grew from 183,422 in 1982 to 234,356 in 1987 and 265,516 in 1992.⁸⁵ These figures suggest that average annual employment growth in the United States fell from 5.0 per cent in 1982-1987 to 2.5 per cent in 1987-1992. At the same time, however, companies in the United States, as well as those in Canada, England and Japan, came to rely increasingly on offshore data processors in places such as Ireland, Scotland, Sri Lanka, India, China, the Philippines, Mexico and the Caribbean. Eastern Europe, South America and Africa are now receiving consideration as potential sites for data processing.

Reliable statistics on the total number of persons employed in offshore data entry and processing do not exist. Estimates for 1989 and 1990 vary from as little as 8,000 to more than 40,000.⁸⁶ The figure of 8,000 is undoubtedly too low, for 5,000 are known to have been employed at this time by offshore data processors in the Philippines alone.⁸⁷ Data processing was also important in the Caribbean by the early 1990s, with 2,500 employed in Jamaica, 1,200 in Barbados, and 88 and 150 respectively in the small islands of Saint Lucia and

⁸⁵ These figures refer to establishments specialized in computer processing and data preparation (SIC 7374), thus exclude in-house data processing by Government and other establishments. Demand for data processing is greatest in the United States because of the large number of computers in that country, and because it is computer power that drives demand for digitization of data.

⁸⁶ Ruth Pearson and Swasti Mitter, "Employment and working conditions of low-skilled information-processing workers in less developed countries", *International Labour Review*, vol. 132, No. 1 (1993), p. 56; The Services Group, "Opening the information industry marketplace", report prepared for the Caribbean Unit of the World Bank (Arlington, Virginia, 10 February 1994), p. 1-1.

⁸⁷ Thierry Noyelle, "Computer software and computer services in five Asian countries", *Services in Asia and the Pacific: Selected Papers*, vol. 1 (United Nations publication, Sales No. 91.II.D.14), pp. 100-101.

Grenada.⁸⁸ In India, another “exporter” of data-entry services, 1988/89 estimates of total employment “in computer software and computer service occupations, including employment by users, ranged anywhere from 7,000 to 20,000 employees”,⁸⁹ so offshore data entry may have provided employment for a few thousand operators in that country as well.

Offshore data processing did not exist in developing countries before the 1980s, so growth rates for the activity have been impressive. Many Governments have come to expect this rate of growth to continue in the future; they are targeting the industry with fiscal incentives and costly telecommunications infrastructure in a bid to provide modern jobs for their labour force. An added attraction is the fact that businesses are often owned and managed by local entrepreneurs. In both the Philippines and Jamaica, the vast majority of data-entry firms are locally owned; on the other hand, in Barbados and Saint Lucia, all are subsidiaries of foreign companies.⁹⁰

New demands for computer-accessible databases are generating increasing work for the data-entry industry. A recent example is the transfer of information from telephone directories to compact discs with read-only memory (CD-ROM). Telephone companies maintain up-to-date computer-accessible files containing information on all subscribers; no further processing is necessary to download these files onto computer discs or make them available on-line. Some companies, such as NYNEX in north-eastern United States, and British Telecom and other companies in western Europe, offer this service, but users in most parts of the world must look up numbers in printed directories or dial directory assistance.⁹¹ Increasingly, however, they are offered the option of purchasing directory information that has been transferred by independent companies from printed telephone directories to CD-ROM (see box XIV.3).

⁸⁸ Larry Willmore, “Export processing in the Caribbean: the Jamaican experience”, *Cepal Review*, No. 52 (April 1994), pp. 91-104; Howland, *op. cit.*, p. 187; Larry Willmore, “Export processing in Saint Lucia: ownership, linkages and transfer of technology”, *Bulletin of Eastern Caribbean Affairs* (June 1995).

⁸⁹ See Noyelle, *op. cit.*, pp. 92-93.

⁹⁰ For information on participation of local entrepreneurs in offshore data processing, see Noyelle, *op. cit.*, pp. 100-101, for the Philippines; Willmore, “Export processing in the Caribbean...”, for Jamaica; Willmore, “Export processing in Saint Lucia...”, for Saint Lucia; and Howland, *op. cit.*, p. 187, for Barbados.

⁹¹ See “Compact discs: tearing up phone-books”, *The Economist* (14 January 1995), p. 71; “Price war planned on Europe’s phone discs”, *Information World Review*, No. 90 (March 1994), pp. 1 and 3; and Dom Pancucci, “Quick answers”, *Telecom World* (March 1992), pp. 42-43.

NEITHER A PRINTED TELEPHONE DIRECTORY nor directory assistance allows a user to exploit the full potential of telephone listings. Suppose, for example, that a person has only an address, or part of an address, and wants to locate the name and phone number that corresponds to it. Or suppose that a direct-marketing company wants the names, addresses and telephone numbers of all residents of a particular building or a particular neighbourhood. With information on-line or on CD-ROM, data can be sorted and retrieved not only by name, but also by any logical variable or combination of variables, such as address, city, state or province, postal code, business heading, industrial classification or telephone number.

Numerous companies have emerged to transfer directory information from telephone books to CD-ROM and market the product to the general public. One of the most successful is Pro CD, a Massachusetts company that employs 450 data-entry operators at Beijing Aviation and Aeronautical University in China. The first time a telephone directory is processed, all the information is entered by two separate operators (“double keyed”) and discrepancies are sent to a third operator for correction. Updates are handled by keying first the telephone numbers of the new directories, then the remainder of the information only if there have been changes. Changes in listings are frequent, however; in the case of British Telecom they amount to about 200,000 per week.

For the United States, Pro CD offers five CD-ROM discs containing over 72 million residential listings and 11 million business listings copied from the white and yellow pages of approximately 5,000 telephone directories. The full package is updated quarterly and sells for as little as US\$149, with one free update, although the list price is US\$299. Pro CD offers similar packages for Australia and Canada and is working on one for the United Kingdom with a view to undercutting the price that British Telecom charges for its CD-ROM.

Box XIV.3

TELEPHONE DIRECTORIES ON CD-ROM^a

^a The information for this box was drawn largely from “Compact discs: tearing up phone-books”, *The Economist* (14 January 1995), p. 71; and Dom Pancucci, “Quick answers”, *Telecom World* (March 1992), pp. 42-43.

As computers become ever more widely disseminated, the amount of data that is collected and used can be expected to continue to increase. None the less, as more and more data are digitized from the beginning at the point of transaction, opportunities for offshore data entry in low-wage countries can be expected to fall. Telephone companies, for example, maintain a continuously updated list of subscribers. They can sell this database to clients without further data entry, at much lower cost than independent companies that purchase telephone books and enter all the listings by hand. It is only a matter of time before such services are offered at a price just low enough to discourage entry by independent companies that face high fixed costs of new data entry.

Other databases are also increasingly maintained wholly or largely by point of transaction data entry. Retailers, for example, enter credit card data into a computer at the point of sale, eliminating the need to key in data from paper receipts. In banks, customers punch in data themselves at automatic teller machines. Similarly, hospitals submit insurance claims on computer diskettes, courts record legal cases with a word processor, and libraries label new books with bar codes and enter them into an electronic "card catalogue".⁹² Recently, passengers on some airlines have begun to board planes with reservation numbers or plastic "smart cards" instead of tickets, reducing drastically the need for manual data entry.

Another factor working to decrease demand for manual data entry is the decreasing price and increasing reliability of optical character recognition (OCR) devices. These devices are not yet able to read tiny fonts, printed on porous telephone directory paper, without a high rate of error, nor can they read cursive handwriting, but it is predicted that both will be possible before the year 2000.⁹³ Progress is being made through image enhancement, filtering to remove background "noise" such as marks and smudges, and, most importantly, in creating software that gives OCR scanners rules and "knowledge" in order to take context into account and improve on character "decisions".

Even today, OCR scanners utilize rules and spell-checkers to correct automatically many errors of recognition. A scanner may, for example, read a string of characters as "botel", but correct the word to "hotel" following an automatic spell-check. Or an address may appear ambiguously to be either 1144 Broad St. or 1144 Broadway. A check for consistency between the street name and the building number, telephone number or postal code can yield an unambiguous, correct choice, eliminating the need for costly human-machine interaction. This process is referred to as intelligent character recognition, or intelligent OCR, and it is a primary focus of technological research at this moment.⁹⁴ The rate of error of intelligent OCR will never be zero, so human input will always be required. A standard manuscript page contains approximately 1,500 characters, so even a 0.1 per cent error rate generates one or two errors per page. When the OCR scanner is unable to recognize a character without ambiguity, its video image can be superimposed in the string of characters already recognized. A human operator can then type in the character.⁹⁵

Rapid developments in OCR technology are drastically reducing the need for manual data entry. A good example is automation of data entry at Avon, a well-known United States-based direct marketing company with 450,000 sales personnel who file some 50,000 orders a day.⁹⁶ Each Avon sales booklet con-

⁹² *Automation of America's Offices...*, appendix A.

⁹³ John Schneider, "The future of OCR in document processing", *Inform*, vol. 7, No. 7 (July 1993), pp. 18-24.

⁹⁴ Wei Sun and others, "Intelligent OCR processing", *Journal of the American Society for Information Science*, vol. 43, No. 6 (July 1992), pp. 422-431.

⁹⁵ Don Keller, "High-speed OCR systems have flexibility and accuracy", *Document Image Automation*, vol. 13, No. 1 (spring 1993), pp. 28-29.

⁹⁶ "Automated data entry at Avon", *JMC Journal*, vol. 28, No. 4 (July-August 1992), pp. 26-27.

tains an average of 40 pages, so the company processes approximately 2 million pages a day. Previously, this was done by 160 operators who keyed in handwritten information manually, then passed the remainder of each booklet to an OCR scanner. Today, high-speed scanners, capable of reading 5,000 pages per hour, extract handprinted information along with bar codes and other easily read marks from each page. Images of the handprinted alphanumeric characters are then passed to an intelligent OCR program for recognition.

In the first year of operation, Avon's intelligent OCR software performed at a 98 per cent accuracy rate with a 0 per cent substitution rate. In other words, only 2 per cent of the handprinted alphanumeric characters had to be sent to operators for editing and the final product was almost error-free. The shift to intelligent OCR diminished shipping errors and drastically reduced the need for human operators. In addition, the function of the operator shifted from data entry to data editing. The productivity of OCR operators vastly exceeds that of manual data-entry operators, but there is no evidence that greater skills are demanded by the new technology. An Avon executive reports, in fact, that intelligent OCR "reduced training from weeks to days because it's very easy to learn".⁹⁷

Simple OCR systems can now achieve accuracy rates of above 99 per cent for clean images of text printed in a wide range of fonts. Handwriting, small or decorative typefaces, dirty images and misaligned pages confuse OCR scanners. Intelligent OCR reduces this confusion, and is expected within the next five years to attain close to 100 per cent accuracy for virtually any text. When this happens, OCR will completely displace manual data entry.

Technological change created electronic data processing and gave great hope to countries seeking new products for export to world markets. Technological change is now destroying the very jobs so recently created. In the very near future, most data entry will be done at the point of transaction. Less and less data will be entered first on printed forms that require further processing; printed forms that do exist will be processed with intelligent OCR scanners. With these new technologies, there will be little outsourcing of data processing at all, and most certainly little or no outsourcing to overseas establishments. The "back room" of offices will return to headquarters, which will employ a small, but highly productive, data-processing team. High productivity in data processing will be a product not of high skills, but rather of intelligent OCR scanners. The employees who operate this equipment will receive no more training than "old-fashioned" data keypunch operators, and possibly much less.

As it destroys jobs, technological change simultaneously generates new employment opportunities. This comes about in three distinct ways. First, industry output is not fixed; rather, it increases as a consequence of decreased costs. Modern computers and scanners use less labour per unit of output than was the norm with electrical typewriters and calculators, and still less than "best practice" of the quill pen and abacus era; but far more data are processed today than would have been feasible without technological change. Increased output diminishes, to an important extent, the negative impact of increased productivity on jobs.

Secondly, the new technology requires new machines (computers, scanners, telecommunications) and software to run them. All this generates employment

⁹⁷ *Ibid.*, p. 27.

⁹⁸ T. F. Huertas, "US multinational banking: history and prospects", in *Banks as Multinationals*, G. Jones, ed. (London, Routledge, 1990), chap. 13; cited in Peter Dicken, *op. cit.*, p. 361.

in industries that supply inputs to data processing. Thirdly, drastically reduced data-processing costs translates into reduced production costs in industries throughout the economy, stimulating output and employment. Ample and timely information on inventories and retail sales permits factories to reduce their stock of intermediate and raw materials, goods in process and final goods, with consequent cost savings. In financial services, the technological revolution in data processing has had an even greater impact. One researcher⁹⁸ estimates that:

"Since 1964, the real cost of recording, transmitting and processing information (including financial information) has fallen more than 95 per cent. This tremendous cost reduction makes it cheaper to record and process trades, cheaper to manage portfolios and cheaper to match the users with the suppliers of capital."

As a result, the supply of banking and other financial services has mushroomed in the past three decades in industrialized and developing countries alike.

Even though new jobs are created to replace those destroyed, technological change is seldom painless. New jobs may be located in a totally different region, or require vastly different skills, compared to jobs that become obsolete. As developing countries undergo the process of liberalization of trade and investment barriers, new comparative advantages will arise in information technologies; new employment opportunities in industries such as data processing may, in the future, be generated as much as a result of the development of internal financial and product markets as from functioning as an exporter of low-wage services.

CONCLUSIONS AND RECOMMENDATIONS

Today, the developed countries are undergoing profound transformations in the industrial mix of their economies, as technological development spawns new industries and new products. Rapid innovation is occurring in information technologies, environmental and biotechnologies and new materials. At the same time, innovations are under way in the organization of R&D and in the organization of work and of labour markets.

Technological innovation, and the enhanced productivity that it can bring, is essential to strong long-term growth and rising living standards. The evolution of management within firms and of relevant socio-economic institutions are equally essential. The magnitude of the transformations under way in both technology and organization suggests that the developed economies may be at the beginning of a new era of change.

During the past 15 years, R&D networks between firms and between universities and industry have proliferated, both within developed countries and internationally. Technology development is becoming a process that depends on cooperation and collaboration among businesses, Governments and universities. At the same time, every developed economy has, to varying degrees, adopted new flexible methods for the organization of work, to achieve productivity and quality improvements and market flexibility that exceeds the capacity of traditional mass production.

Technological changes have often transformed the organization of work and resulted in changes in the skills needed in an industry, as in the data-processing industry. But significant organizational changes have frequently stimulated

technological innovation, such as in the auto industry where such changes produced tremendous productivity gains and preceded the introduction of key process technology innovations when mass production was introduced at the beginning of the twentieth century, and today with the introduction of flexible specialization.

The differing patterns of investment in new ideas, and in physical and human capital, as well as differences in the organization of labour markets and of product markets, have resulted in important differences in the comparative outcomes for labour in Japan, the United States and western Europe.

Japan's relative success in achieving technological change and maintaining real wage growth, low unemployment and low wage dispersion are in part due to strong investments and to the organization of its labour markets. A central aspect of the organization of labour in Japan is that, based on a commitment to lifetime employment, industrial relations promote cooperation between workers and firms. This allows for the smooth introduction of new technologies and ensures that workers and management share both the economic burdens of cyclical downturns and the gains during economic upswings. The resulting cyclical flexibility in labour costs has helped Japan maintain low unemployment. On the whole, cooperation helps foster long-term productivity increases and maintain employment stability.

Unlike Japan and western Europe, the United States has developed large wage gaps by educational levels during the past decade. The comparison of the United States experience to that of Japan and western Europe suggests that the wage gaps in the United States have not resulted from technological change per se. The wage-gap problems are part of a broader United States response to increased international competition. The United States has emphasized downward pressure on wages and employment, while it de-emphasized investment in physical and human capital. Greater labour market flexibility has increased part-time work and reduced job security even in growth periods. In the process, labour relations that came to fruition in the post-Second World War era are being weakened, but they have not yet been replaced with new, more efficient methods for organizing labour markets in the economy as a whole.

Western Europe's long-term unemployment problems are not just due to labour market inflexibility. They are also a result of inefficiencies in product markets that have slowed innovation and growth in service sectors that are experiencing rapid growth and transformation in the United States, such as telecommunications, banking, film/TV/video, and specialty retailing. As a result, western Europe destroyed manufacturing jobs but did not produce strong growth in services, and thereby increased long-term unemployment.

The comparative analysis of developments in Japan, western Europe and the United States suggests that to realize the potential of new technologies, policies that stimulate investment in both process and product technologies should be pursued to complement sound macroeconomic policy. Greater investment is essential to upgrade the stock of physical capital, to foster basic and applied R&D and to improve education and training of the workforce.

Investment policies should be complemented with policies that further advance the organization of R&D at a societal level through stronger and more extensive networks among firms and between industry, universities and Governments.

Too often, investment policies are developed in isolation from education, training and labour market policies. Stronger linkages between these policy fields can improve the overall coherence and efficiency of government actions. In addition to improving training programmes and ensuring that educational institutions provide students with the knowledge and skills needed in today's economy, the organization of labour markets should be geared towards increased cooperation between workers and management.

Product market regulations and restrictions on trade and direct investment flows can strongly influence the pace of innovation, growth and employment. Constraints in product markets can preserve jobs in the short run, but they also can impede the introduction of new technologies and new methods of organization, jeopardizing competitiveness and employment in the long run.

Relative to western Europe and the United States, Japan seems to have in place institutional relations that ease the adaptation to technological change and result in the greatest productivity benefits and long-term stability. However, Japan will face new challenges in maintaining these advantages as its firms become more global in their manufacturing processes, and as it is required to push the technological frontier forward, rather than to catch up.

XV CURRENT ISSUES IN SOCIAL SECURITY POLICY

The present chapter is written in response to rising concerns about social security policy in developed and developing countries, as well as in economies in transition. Those concerns relate both to the volume of resources that a population needs to mobilize in order to provide social security and to the instruments by means of which those resources are mobilized. As the proportion of dependent populations in the total increases, the volume of resources required for their maintenance at any given level of well-being will rise. The current and continuing processes of ageing are of great relevance to these debates, as is the level of benefits. Where Governments pay established levels of benefits irrespective of contributions to those funds, payments on account of social security can be a determining factor in maintaining macroeconomic balance in the economy.

At the microeconomic level, benefit payments can be an important determinant of the reserve price of labour and thus affect the volume of unemployment. They can also affect decisions regarding current and future consumption. Finally, saving for old age can be a powerful source of accumulation affecting the development of, and the control over, capital markets.

Social security programmes provide transfer incomes at those times — in childhood and old age, and during unemployment, sickness and disablement — when individuals cannot earn incomes either at all or in adequate amounts. They are powerful instruments for redistributing earned incomes between generations living at the same time. Those transferred to children and young adults have been seen as constituting investment in human capital and are increasingly viewed as being critical to economic growth. Besides, there are other large returns to society from that expenditure. Payments in the event of unemployment, disability, sickness and old age reduce uncertainty in personal life and were considered a component of the demand management policies that contributed to successful economic policies in the OECD countries during the period 1950-1973. These perceptions have now changed. Incentives to enterprise, to work, to saving and investment and to increasing the mobility of all factors of production have greater prominence in the minds of most policy makers. Those very forces of dynamism themselves increase uncertainty, as is clearly manifested in economies in transition, and ways need to be found to reduce that uncertainty, and the tension between current consumption on the one

hand and economic growth and future consumption on the other.

In addition, in economies in transition, previously powerful social security arrangements are undergoing radical change, exposing both individuals and economies to new sources of uncertainty that need to be responded to with fresh institutional arrangements. In all countries, the changing composition of the family is putting new strains on this traditional common source of income security. In several developing countries, large numbers of orphaned children and persons with disabilities, consequent upon either epidemic diseases or war, create new demands for government payments to maintain incomes.

After clarifying the notion of social security in its first section, this chapter goes on to consider the several sources of income security, the question of ageing populations, the design of social security schemes, the spread of social security programmes in developing countries, and the respective functions of government and the market.

WHAT CONSTITUTES SOCIAL SECURITY?

Social security policy is concerned with the economic security provided to individuals and families by society through the instrument of government. Although such transfers have on a limited scale been in existence for a long time, the importance of social security grew in substance during this century, especially after 1950. Current social security programmes evolved out of social insurance schemes that had covered workers against selected risks imperilling their ability to provide for themselves and their dependants. Initially, foreseen contingencies were limited ones — old age, involuntary unemployment and illness — and benefits were tied to previously made contributions. Later on, in the second quarter of the twentieth century, both in the United Kingdom of Great Britain and Northern Ireland and in the United States of America, social security schemes were hailed as a means to abolish want.¹ Political compulsions, social solidarity and economic growth after the Second World War allowed these ideas to be implemented, mostly in developed countries, and, to some extent in developing ones. In centrally planned economies, the State assumed large responsibilities for reducing uncertainty and providing social security.² Eventually, social security programmes matured into their present form, including assistance under a wider range of contingencies. Benefits were increased, coverage expanded and government support increased. Social security schemes were installed in several developing countries and their coverage was gradually extended.

As the variety of programmes multiplied, the term “social security”³ came to have different meanings for different people - even for those in the same country - thereby rendering exercises in international comparison and analysis difficult.

In the United States, for example, the term “social security” strictly refers to the programmes established under the 1935 Social Security Act. These are programmes that offer protection against wage loss resulting from old age, prolonged disability or death (old-age, survivors and disability insurance (OASDI)). The expression is, however, frequently used by some in the United States to refer to a combination of the OASDI programme and the Hospital and Supplementary Medical Insurance portions of the Medicare programme, which

¹ “Social insurance fully developed may provide income security; it is an attack on want”, in *Social Insurance and Allied Services*, report by Sir William Beveridge, (New York, The MacMillan Company, 1942), p. 6.

² In Poland, the ratio of pensions to GDP rose from 7 per cent in 1988 to 15 per cent in 1993; see William Perraudin and Thierry Pujol, “Framework for the analysis of pension and unemployment benefit reform in Poland”, *IMF Staff Papers*, vol. 41, No. 4 (December 1994), pp. 643-673.

³ Alec L. Parrott, attributes the coining of the expression to Winston Churchill in 1908; see “Social security: does the wartime dream have to become a peacetime nightmare?” *International Labour Review*, vol. 131, No. 3 (1992), p. 368.

provides health insurance for the elderly.⁴ In some other countries, social security covers those public programmes that provide income security by compensating individuals in the event of a reduction in or loss of income, inadequate earning capacity or additional expenditure. Risks that are compensated for differ from country to country, although there is some degree of similarity - as far as the contingencies covered - across countries. For instance, as of 1990, more than 130 countries included some form of old-age, disability, survivors and work-injury benefits in their social security schemes. Unemployment benefits, however, were available in only 44 countries.⁵ The contingencies included in social security payments or social protection payments are shown in table XV.1.

⁴ L. H. Thompson, "The social security reform debate", *Journal of Economic Literature*, vol. XXI (December 1983), pp. 1,425-1,467; see also United States Department of Commerce, Economics and Statistics Administration, Bureau of the Census, *Statistical Abstract of the United States 1993*, sect. 12, pp. 365-367. *The New Palgrave: A Dictionary of Economics* also adopts this restricted interpretation of social security. It identifies as the principal functions of social security systems the financing of retirement and the provision of benefits to the disabled and to surviving spouses and children.

⁵ A. Otting, "International labour standards: a framework for social security", *International Labour Review*, vol. 122, No. 2 (1993), pp. 163-171.

Table XV.1.

CATEGORIES INCLUDED UNDER SOCIAL SECURITY PAYMENTS

	ILO	Statistical Office of the European Union (Eurostat) ^a	IMF ^a
Medical care	•		
Sickness benefit	•	•	•
Unemployment benefit	•	•	•
Old-age benefit	•	•	•
Employment-injury benefit	•	•	•
Maternity benefit	•	•	•
Invalidity benefit	•	•	•
Family benefit	•	•	•
Survivors benefit	•	•	•
Placement, vocational guidance and resettlement benefits		•	
Housing benefit		•	

^a Including one further category: other.

⁶ *System of National Accounts, 1993* (United Nations publication, Sales No. E.94.XVII.4).

⁷ *Ibid.*, chap. VIII, sects. D, E and F.

The fact that terms such as “social security”, “social protection”, “social assistance”, “social insurance” and “welfare” are used interchangeably complicates matters even further. The 1993 System of National Accounts⁶ differentiates social assistance from social insurance, using the criteria of the source of funds. It defines the term “social assistance benefits” as comprising those transfers made by government to households, when the benefits are outside any social insurance scheme. Social security benefits, in contrast, are social insurance benefits paid to households out of social security funds.⁷

The present chapter understands social security as comprising those programmes responding to the contingencies, with the exception of health care, identified in the 1952 ILO Social Security (Minimum Standards) Convention. There are two reasons for this. One is practical: As was seen above, most statistics on social security, as compiled by international organizations, do not cover health care. The other has to do with the different nature of the issues involved: Although the need for health care can entail substantial additional costs for workers and their families, which in many countries are met out of government resources, current concerns surrounding health care are somewhat distinct from those for social security. For instance, issues relating to incentives, allocative distortions and savings displacement are of special significance in current debates on social security policy but not as regards health care.

SOURCES OF INCOME TRANSFERS

The human life cycle is distinguished by a long period in which individuals earn a livelihood and two other periods, childhood and old age, in which they must depend on transfers. There are other, shorter periods in which persons may be unable to earn a livelihood, either because they are sick or disabled or because although willing, they cannot, find employment. Incomes may not accrue in agriculture because of crop failure, in fishing because the seas are too rough for fishermen to set out.

In recent years, the periods in which individuals do not earn incomes have lengthened, both because the number of years of formal education has risen and because people are living to a greater age than earlier. These two phenomena are common to developed, developing and transitional economies. In developed economies, both the level and the length of unemployment have risen, increasing the need to transfer larger incomes than earlier. In economies in transition, certain relatively generous social security arrangements, including unemployment benefits, have broken down as the Governments concerned design new institutions for market economies.

In most developing economies, the rapid decline in infant and child mortality rates a few decades back and the education of both male and female children have given rise to a young workforce seeking remunerative employment. In several developing countries, (Uganda, Zaire and Zambia, among others), young parents have died of HIV/AIDS infections, leaving many young children without income-earners to support them. Communities ravaged by war, as exist in Afghanistan, Angola, Cambodia, Mozambique and Somalia, have large numbers of disabled persons who need income support to survive. Extended and nuclear families, which have been central in providing emotional and income security to children, the aged, the sick and the unemployed, have been subject

to rapid change everywhere and have reduced their role in these tasks. These considerations constitute the main reasons why the demand for resource transfers has risen. Social security arrangements are one source from which to satisfy that demand, as is shown below.

The family is the principal source of security in all contingencies (see table XV.2). It is a much more important source of income for young people than for those in any other situation. Youth at the stage of seeking first employment depend on parents more during that stage than at later stages in their lives.⁸ A good proportion among the aged, certainly more than half of all aged persons in the world, depend on the family to provide them with the necessary resources. In the Marriage Law of China, it is provided that "in case children fail to perform the duty of protection, parents having no working capacity or living a hard life have the right to demand living expenses from their children".⁹ Among the disabled, the family remains a major source of support.

There are currently many situations where the family may cease to be a source of resources. When young parents die, whether because of infection or in prolonged war, the welfare of children becomes a concern of the State. In sub-Saharan Africa alone, some 10 million children are expected to become orphans during the decade, because of the death of their parents from AIDS.¹⁰ Where children are born to a woman without either adequate income or a partner to supplement what income she does have, there is again a call on the State to ensure the welfare of the children. In Denmark and Sweden, nearly half of all children are born outside a formal marriage; in France and the United Kingdom, one quarter; in Belgium and the Netherlands, nearly one tenth; and in Switzerland, one sixteenth.¹¹ In the United States, 21 per cent of all children in 1987 lived with a single mother, compared with 7 per cent in 1960.¹² In contrast, where both husband and wife are wage-earners, and as more and more women join the workforce, the family can become an increasingly more important source of resources in times of unemployment.

⁸ See Mark Blaug and Maureen Woodhall, *The Causes of Graduate Unemployment in India* (London, Allen Lane, The Penguin Press, 1969).

⁹ Wenruo Hou, "The variety of social security arrangements in China", paper presented at the Seminar on Central Problems in Social Security Policy, Lisbon, April 1995, p. 36.

¹⁰ See Report on the *World Social Situation, 1993* (United Nations publication, Sales No. E.93.IV.2), chap. III, sect. A.4.

¹¹ *Ibid.*, table XI.8.

¹² Judith M. Gueron, "Work and welfare: lessons on employment programmes", *Journal of Economic Perspectives*, vol. 4, No. 1 (winter 1990), pp. 79-98.

Table XV.2.

SOURCES OF INCOME SECURITY AMONG DEPENDENT POPULATIONS

Source	Young	Unemployed	Aged	Disabled
Family	*	**	**	**
Personal savings	•	*	*	•
Voluntary associations	*	*	*	*
Employer	*	*	**	**
State	**	**	**	**

Note: The symbol "•" indicates a source of little or no significance; "***", a significant source; and "****", a highly significant source.

Private savings, however mobilized, are available only to those who earn surpluses over current consumption. Among income-earners at large, only those in higher-income groups can be expected to have the capacity to accumulate sufficiently large resources to maintain themselves in old age and provide legacies for the well-being and education of their progeny. Among those accumulators, some will run out of their resources because they have outlived them or made imprudent investment decisions or because the savings were wiped out by inflation. In such situations, they are likely to fall back on the State as a source of transfer incomes.

Outside the formal system, informal or traditional social security arrangements play an important role in protecting uncovered populations against some risks, for example, burial expenses, and support for widows and surviving children. They cannot be entirely relied upon, however to offer satisfactory insurance against hunger and destitution.¹³ Providers are also vulnerable to the same shocks and uncertainties that may affect individual members of the community, for example, crop failure owing to natural disaster. The insurance base, despite some pooling of risks, may not be diversified enough, since arrangements are often confined to a small specific geographical area rather than to the larger State. With time, traditional arrangements may not survive. They are usually based on voluntary cooperation and can be easily terminated. Inroads by the market economy and an assertion of individual interests over those of the collective tend to undermine the basis of such schemes.¹⁴

Voluntary associations of various kinds provide income security. In many developing countries in Africa, a village or kin group may adopt a child and provide him or her with the resources needed for attending school. Philanthropic foundations provide support to young people, especially when they are pursuing higher education. Trade unions are often a source of some income during periods of unemployment, though a decline in trade-union membership reduces the importance of that source.¹⁵ Friendly societies or neighbourhood associations are a common source of income security for the aged and the disabled.

In most societies, maintenance of children and persons in old age has been, and continues to be, the responsibility of working-age family members. The costs of such maintenance grew as periods of apprenticeship and learning lengthened and people survived to older and older ages. Periods of education have lengthened remarkably during this century, with the average number of years of formal education of the adult population having risen from about 6 to 13 in most developed countries.¹⁶ That process is likely to be repeated at a faster pace in developing countries, within the context of currently continuing changes in the processes of production and management. Governments intervene when family incomes are insufficient to look after the needs of dependent children or when it is unfeasible, given the nature of capital markets, for children to borrow at reasonable rates of interest. Since the well-being and education of children are in part a social good, this is a further reason for society to use the instrument of government to provide the required resources.

Where the means are lacking for individuals or families to provide for old age, society again uses the instrument of government to provide such resources as will enable aged persons to lead a life that is not devoid of dignity.

In the United States, for instance, the average income of a person aged 65 years or over in 1983, during the period 1983-1989, was 41 per cent of the

¹³ J. von Braun, "Social security in sub-Saharan Africa: reflections on policy changes", in *Social Security in Developing Countries*, E. Ahmad and others, eds. (Oxford, Clarendon Press, 1991), pp. 395-414.

¹⁴ Jean-Philippe Platteau, "Traditional systems of social security and hunger insurance: past achievements and modern challenges", in *Social Security in Developing Countries*, E. Ahmad and others, eds. (Oxford, Clarendon Press, 1991), pp. 112-170.

¹⁵ For example, in the United States, 36 per cent of all employees in 1945 and 16 per cent in 1992 belonged to trade unions.

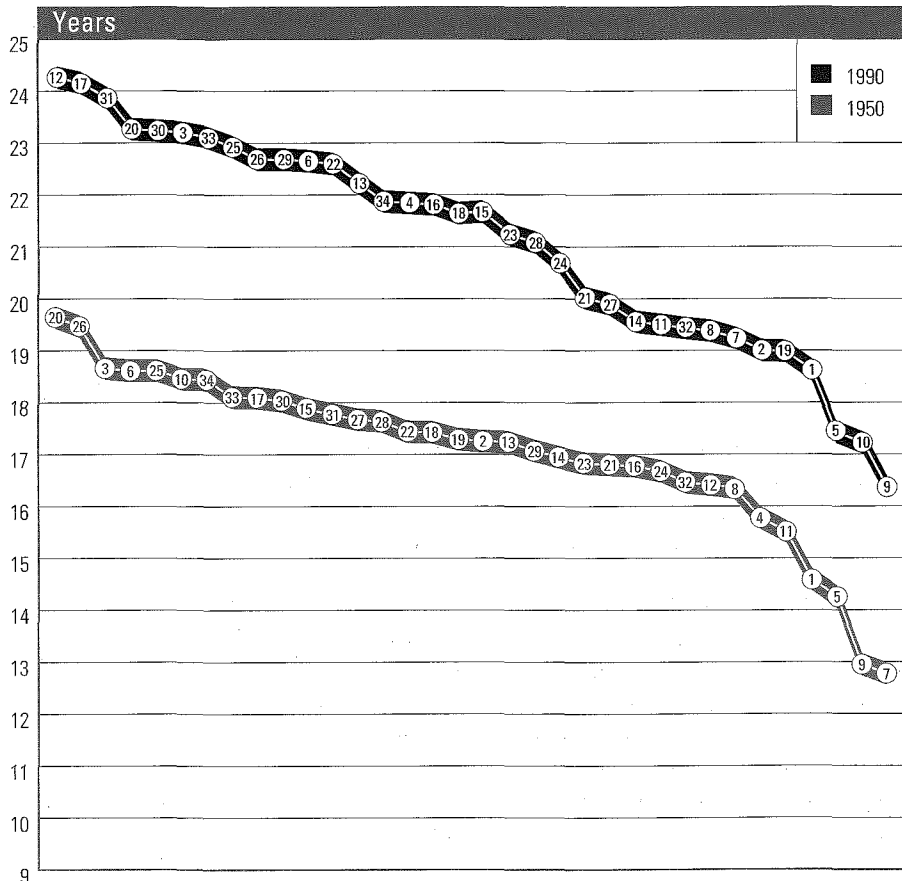
¹⁶ Angus Madison, *Dynamic Forces in Capitalist Development* (New York, Oxford University Press, 1991), p. 64.

median income for the entire population (both incomes calculated *before* government taxes and transfers), and 84 per cent of the median income (both incomes calculated *after* taxes and transfers). In Germany, the effects of government intervention were even stronger: the respective proportions were 4 per cent and 81 per cent.

A special problem encountered in providing for the aged is that of women who in general live to an older age than men (see figures XV.1 and XV.2); that is to say, where old-age benefits are determined in relation to wages, the pensions of women tend to be lower than those of men, since on average women earn less than men during their working lives. When women depend on accumulated savings, again from lower lifetime earnings than those of men, those savings need to be spread over a longer period of time. Since survivors benefits constitute some fraction of the income received by a husband and wife, those benefits contribute a lower income than that received by a single man. Consequently, in two of the highest-income countries, Germany and the United States, older women were among the least economically well-off and ran a high risk of falling into poverty.¹⁷

¹⁷ See Richard V. Burkhauser, Greg J. Duncan and Richard Hauser, "Sharing prosperity across the age distribution: a comparison of the United States and Germany in the 1980s", *The Gerontologist*, vol. 34, No. 2, pp. 150-160.

Figure XV.1.
EXPECTATION OF LIFE AT AGE 60, FEMALES, SELECTED COUNTRIES



^a Countries are identical by number as follows:

- 1 Mauritius
- 2 Barbados
- 3 Canada
- 4 Costa Rica
- 5 Guatemala
- 6 United States of America
- 7 Colombia
- 8 Ecuador
- 9 India
- 10 Philippines
- 11 Sri Lanka
- 12 Japan
- 13 Austria
- 14 Czechoslovakia
- 15 Denmark
- 16 Finland
- 17 France
- 18 Federal Republic of Germany
- 19 Hungary
- 20 Iceland
- 21 Ireland
- 22 Italy
- 23 Luxembourg
- 24 Malta
- 25 Netherlands
- 26 Norway
- 27 Poland
- 28 Portugal
- 29 Spain
- 30 Sweden
- 31 Switzerland
- 32 Yugoslavia
- 33 Australia
- 34 New Zealand

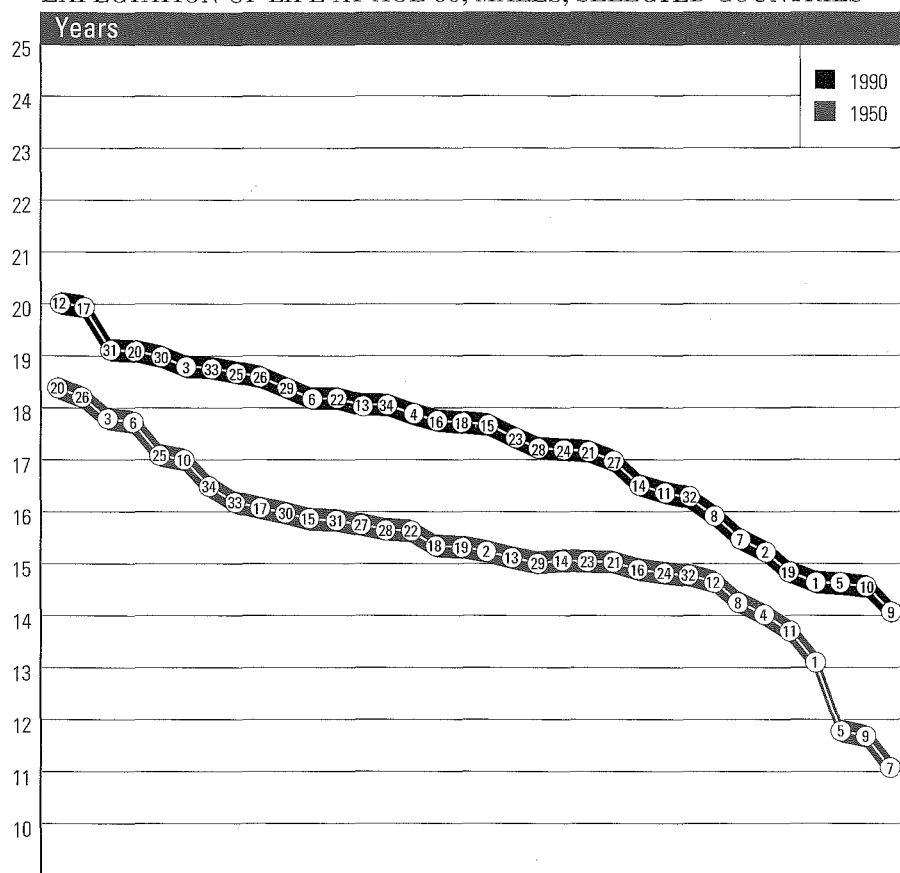
Source: Several editions of *Demographic Yearbook*.

Figure XV.2.

EXPECTATION OF LIFE AT AGE 60, MALES, SELECTED COUNTRIES^a

^a Countries are identical by number as follows:

- 1 Mauritius
- 2 Barbados
- 3 Canada
- 4 Costa Rica
- 5 Guatemala
- 6 United States of America
- 7 Colombia
- 8 Ecuador
- 9 India
- 10 Philippines
- 11 Sri Lanka
- 12 Japan
- 13 Austria
- 14 Czechoslovakia
- 15 Denmark
- 16 Finland
- 17 France
- 18 Federal Republic of Germany
- 19 Hungary
- 20 Iceland
- 21 Ireland
- 22 Italy
- 23 Luxembourg
- 24 Malta
- 25 Netherlands
- 26 Norway
- 27 Poland
- 28 Portugal
- 29 Spain
- 30 Sweden
- 31 Switzerland
- 32 Yugoslavia
- 33 Australia
- 34 New Zealand



Source: Several editions of *Demographic Yearbook*.

In all societies, employers are, next to the family, the most prominent source of income security. Wages paid to young people in their initial years of employment, when they are learning rather than contributing to output in a given enterprise, are a source of income to them. If they remain with that enterprise during their years of prime output, when they may contribute to its output in excess of their compensation, in some respects they pay back a loan to the enterprise.

Contributions paid to unemployment, old age and disability insurance by employers are a prime source of income security. However, these apply only to the person who is in the employ of an enterprise whose owner is some other person. The self-employed pay premiums out of personal savings. Furthermore, employees in small and low-productivity enterprises may lack surpluses, taking one year with another, out of which premiums can be created. In developing countries, where large numbers of people are in casual employment with very-small-scale enterprises, it is prohibitively expensive to launch viable income-security schemes.

LARGER DEPENDENT POPULATIONS

Dependent populations to whom incomes need to be transferred have increased over several decades and are expected to go on increasing, dramatically in some instances, over the next few decades. Demographic change accounts for a part of the increase; the changing composition of the needs of the dependent population accounts for another part and high rates of involuntary unemployment for a third part.

The proportion of the dependent population comprising both those under 15 years of age and those over 65 years of age in the total world population will continue to fall well into the future (see table XV.3). This will be the result of a fall in the proportion of those under 15 years of age combined with a much smaller rise in the proportion of those over 65 years of age. However, in developed countries, the proportion of the dependent population will rise from 33 per cent in 1990 to 37 per cent in 2025. That rise will be the result of an approximately 20 per cent decline in the proportion of those under 15 years of age and a nearly 60 per cent increase in the proportion of those over 65 years of age.

Table XV. 3.

ESTIMATES AND PROJECTIONS OF PROPORTION OF THE DEPENDENT POPULATION, BY MAJOR AREA AND REGION

Percentage	1970	1990	2025
World			
Under 15 years of age	37.5	32.3	24.5
Over 65 years of age	5.4	6.2	9.7
Total	42.9	38.5	34.2
More developed regions			
Under 15 years of age	26.6	21.3	17.8
Over 65 years of age	9.6	12.1	19.0
Total	36.2	33.4	36.8
Less developed regions			
Under 15 years of age	41.8	35.6	25.8
Over 65 years of age	3.7	4.5	8.0
Total	45.5	40.1	33.8
Africa			
Under 15 years of age	44.8	45.0	34.8
Over 65 years of age	3.1	3.0	4.1
Total	47.9	48.0	38.9
Latin America			
Under 15 years of age	42.5	35.9	25.7
Over 65 years of age	3.9	4.8	8.6
Total	46.4	40.7	34.3
Asia			
Under 15 years of age	40.3	32.9	22.6
Over 65 years of age	4.0	5.0	9.6
Total	44.3	37.9	32.2
Former USSR			
Under 15 years of age	28.9	25.5	20.8
Over 65 years of age	7.4	9.6	14.8
Total	36.3	35.1	35.6

Source: *World Population Monitoring, 1991: With Special Emphasis on Age Structure*, Population Studies, No. 126 (United Nations publication, Sales No. E.92.XIII.2), tables 5 and 6.

In developing countries, the proportion of the dependent population will continue to fall, from 40 per cent in 1990 to 34 per cent in 2025. That decline will be the result of a decline in the proportion of the population of youth, despite a dramatic rise of nearly 80 per cent in the proportion of the population over 65 years of age.

In the countries that belonged to the former Soviet Union, the proportion of the dependent population under 15 years of age will fall, as in developed countries. As educational levels are high and education is diversified, the increase in expenditure will be on account of the increase in the proportion of persons over 65 years of age.

These figures suggest at first glance that the total resource transfers needed the world over will continue to fall in the foreseeable future. Clearly, this will not be the case in developed countries nor, generally, in economies now in transition to market institutions. As more is spent on education, the volume of resources transferred to young populations, both for their maintenance and for their more costly, longer periods of education, will increase transfers to that age group. The average number of years of formal education of the adult population rose from about 6 to about 13 years in most developed countries between 1900 and 1990. This process can be expected to continue. As people live to older ages (see figures XV.1 and XV.2), the number of people living beyond 80 years of age will increase. The claims made on medical services and health care for people in these age groups will rise rapidly, compared with those in the lower-senior age groups.¹⁸ For the above-mentioned reasons, the demand for transfers will grow more than is indicated by the change in the proportion of the dependent populations.

In developing countries too, one can expect that the drop in the demand for transfer incomes will be less than is suggested by the projected drop in the proportion of the dependent populations. The same phenomenon as is occurring in developed countries will increase the demand for income transfers to people over 65 years of age. In addition, observe that the proportions of people over 65 years of age will be increasing so much faster, nearly doubling both in Asia and in Latin America between 1990 and 2025. Although the proportion of the population of youth in the less developed regions will decline by virtually one third between 1990 and 2025, educating them to higher levels will require large resources. In 1990, the estimated proportion of the illiterate population aged 15 years or over was 35 per cent in developing countries, compared with 3 per cent in developed countries. In the least developed countries the corresponding proportion was 60 per cent, in South Asia 54 per cent and in sub-Saharan Africa 53 per cent. To raise literacy alone, more resources will need to be spent on education. More students also need to complete secondary and tertiary-level education. Furthermore, at both secondary and tertiary levels, larger proportions of students need to learn science, technology and vocational skills. The cost of each higher level of education is, per student, a multiple of that of the lower one and the cost of science and technology teaching is, per student, several times that in the humanities. Policies to secure universal primary education, and extend and diversify secondary and tertiary education will increase the total volume of resources that need to be directed towards these purposes.

¹⁸ Joseph P. Newhouse, "Medical care costs: how much welfare loss", *Journal of Economic Perspectives*, vol. 6 (September 1992), pp. 3-21.

DESIGN OF SOCIAL SECURITY SCHEMES

Where individuals or families provide resources to children, the aged or the disabled, the volume of resources is determined by their availability. The same principle is honoured under pension schemes where contributions by individuals and the earnings of those contributions determine the level and duration of benefits. A very different situation emerges where the benefits are predetermined (and become entitlements) and resources need to be found to honour such commitments. Where contributions and their earnings are inadequate to meet those predetermined obligations, current contributions need to be increased or the level of benefits renegotiated. Those whose benefits were reduced would have every reason to complain that obligations due them were not being honoured and those whose contribution rates rise would have every reason to complain about unfair burdens, especially if their own benefits were likely to be scaled down in future.

The so-called old age crisis can therefore also be seen as an argument about the design of pension benefits. When should retirement begin? The later the retirement, the shorter the period during which a pension would be paid. With increased longevity, working lives can be expected to be lengthened well beyond 60 or 65 years of age. Since wage incomes increase generally over a generation and wages increase with age, the predetermination of pension benefits at a high percentage of terminal years' wages raises the level of benefits compared with that determined for a lower percentage of lifetime average earnings. The problems become more severe when wages decline or rise more slowly after a period of rapid growth, as they have done in OECD countries from 1974 until the present, following a period of prosperity (1950-1973).

The above-mentioned renegotiation of pension benefits would of course result in a lower level of well-being for the older generation than might otherwise obtain. Unsatisfactory as this is, it may represent what is affordable. Therefore, it is important that predetermined benefits, while ensuring protection against poverty and destitution, should not be set at levels that would not be sustainable without injury to the rest of the economy. They could be supplemented by wages earned, if the design for benefit payments was properly written out. Such lower levels of benefits would, on the one hand, reduce public sector current payments and, on the other, encourage individuals to raise savings in the economy. Lower government current payments might be a necessary condition for holding back inflationary pressures and increased savings, when invested productively, would help raise productivity.

Consequently, the sources of old-age incomes might be several: first, a minimum pension, provided by the State, financed out of contributions or taxes; an employment-related pension to complement the former and financed out of contributions; income from savings and drawdown of capital; wages out of part-time work; and transfers from family members.¹⁹

SPREAD OF SOCIAL SECURITY PROGRAMMES IN DEVELOPING COUNTRIES

Developing countries have achieved considerable progress over the past decades in making available formal social security programmes that protect

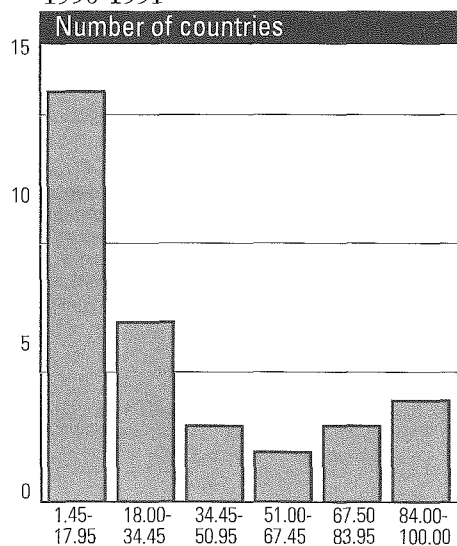
¹⁹ Orio Giarini, "Introduction: the opportunities of the Four Pillars' Strategy", *The Geneva Papers on Risk and Insurance* (April 1990), pp. 95-99.

²⁰ A. Otting, "International labour standards: A framework for social security", *International Labour Review*, vol. 132, No. 2 (1993), pp. 163-171.

²¹ In a regression exercise concerning Latin American countries, the share of the salaried labour force could explain 62 per cent of coverage. The addition of a dummy variable expressing political commitment or the presence of a state initiative would explain 79 per cent of the coverage. C. Mesa-Lago, "Social security in Latin American and the Caribbean: a comparative assessment", in *Social Security in Developing Countries*, E. Ahmad and others, eds. (Oxford, Clarendon Press, 1991), pp. 356-394.

²² S. Guhan, "Social security options for developing countries", *International Labour Review*, vol. 133, No. 1 (1994), pp. 35-53.

Figure XV.3.
PROPORTION OF ECONOMICALLY ACTIVE POPULATION COVERED BY OLD-AGE-PENSION SCHEMES, DEVELOPING ECONOMIES,^a 1990-1991



Source: ILO, World Labour Report, 1993 (Geneva, ILO, 1993); and World Labour Report, 1994 (Geneva, ILO, 1994).
^a Based on a sample of 35 developing countries.

their populations against some specified contingencies. As of 1990, approximately 150 countries had established some type of social security programme. The corresponding figure for the late 1950s was 80.²⁰ The programmes, however, differ in their coverage. Not all contingencies foreseen in ILO Convention No. 102 are covered.

While most countries have some programme offering employment injury compensation, few currently extend unemployment benefits to their working population. Furthermore, in most programmes, coverage is commonly limited to workers in the formal sector, including those employed in large-scale enterprises, the civil service and the armed forces. In developing countries, a large share of the population still lives in rural areas and engages in subsistence activities. Among those who live in urban areas, many work in small-scale enterprises and in the informal sector. Neither of these large groups is usually protected under current formal arrangements.

Figure XV.3 is based on a sample of 35 developing countries and provides some information on the limited coverage extended by old-age pension systems in these countries. Less than 18 per cent of the economically active population (EAP) was covered in almost half of the countries surveyed (16 countries). There was considerable variation among the countries belonging to this subgroup and coverage was provided to less than 10 per cent of the EAP in nine of them. Most of them were sub-Saharan African countries with limited salaried employment and limited formal urban economies.

The extent of the formal economy can only partially explain the coverage: political commitment is also relevant.²¹ Almost all the States in India, for instance, have introduced (non-contributory) pension schemes for the elderly poor. In the State of Tamil Nadu, a third of the elderly poor was covered in 1990. Coverage for maternity assistance and survivors benefits were higher and reached at least 60 per cent of the poor in that year. Likewise, the pension scheme in Kerala State is estimated to cover the majority of the elderly poor. Benefits are usually low but they help beneficiaries to avoid absolute poverty.²² This notwithstanding, people living and working in rural areas with casual or irregular employment, and those self-employed or employed in the informal sector are normally not insured against social risks in many developing countries. This situation raises questions of equity in the existing systems, as a minority of the population, precisely those with relatively high incomes, are protected against many risks, while the majority are left to fend for themselves.

Social security benefits also vary considerably across different occupational groups, with the sectors that are better organized politically receiving more generous benefits and being protected against a wider variety of risks. Better political organization often coincides with employment in large-scale enterprises, the civil service or the military. In countries where both rural and urban working populations are covered, benefits accruing to urban residents are more diverse and of higher quality than those reaching the inhabitants of the rural areas. In China, for instance, social security benefits vary according to the place of residence and employment status. Most rural workers do not receive old-age pensions. Care for the old is a family responsibility and most of the elderly living in rural areas are supported by their children; but those who do not have children may count on a "social relief" programme, a system that prevents such people from falling into complete destitution. Recently, the Chinese

Government experimented with pension schemes in rural areas; however, these initiatives have been restricted to township enterprises in the richer provinces.

The ratio of social security expenditure to GDP in developing countries is mostly less than 3 per cent. In several, the ratio was lower than 1 per cent.²³ There is room to increase the coverage somewhat. However, these economies could not afford to extend their social security systems, as presently designed, to the entire population, even if efficiency gains were introduced into current systems. This is because of the large number of people excluded from current arrangements, the significant share in the economy of the informal sector (including the subsistence sector), the narrow tax base and administrative and technical constraints.

In many instances, the cost of contributing to the system is high in relation to earnings. Having to pay their own contribution and the employer's share, the self-employed end up paying more than those formally employed, who often earn more than the self-employed.²⁴ The differences can be substantial. For instance, in Mexico, the self-employed pay 3.6 times what is paid by the salaried employed; in Peru they pay 3 times, in Jamaica 2 times and in Costa Rica 1.6 times what is paid by the salaried employed.²⁵ In addition, evasion may occur because the eventual pension benefit is low and there are bureaucratic entanglements delaying the payment of benefits. Extending entitlement to a share of the population that did not qualify previously can, in some instances, be financially disastrous. Those to whom benefits are to accrue at a date more remote - as is the case with old-age pensions - will tend either to delay enrolment or to not pay at all, leaving the programme without a sound financial basis. A state of affairs of this nature was reported in Tunisia when the Government extended social protection to the self-employed and agricultural wage-earners.²⁶

In contrast, government workers, and employees of state-owned enterprises and of large collectively owned enterprises, most of them located in cities, are entitled to old-age and disability pensions, sickness and maternity benefits and unemployment insurance. Additionally, they receive higher wages in the form of subsidized housing, education and health care.²⁷

In some developing countries in Latin America, South-East Asia and North Africa, social security coverage has been extended to agricultural workers and people engaged in the informal sector, such as domestic workers and some of the self-employed. Other countries have made voluntary coverage available. For instance, in Malaysia, there are voluntary schemes for domestic workers and the self-employed; in Tunisia, for the self-employed (against work injuries); in the Republic of Korea, for employees of firms with less than five workers and the self-employed (including farmers and fishermen). In Mexico, all persons not covered by old-age, disability and death benefit programmes sponsored by government are allowed to affiliate themselves on a voluntary basis.²⁸ Yet, coverage remains low.

Several factors contribute to such an outcome. Social security schemes require the regular collection of contributions, the timely recording of these collections, their safe and productive investment and the eventual payment of benefits in a timely manner, all at reasonable costs. The small scale of operations, informality of contractual arrangements, low levels of literacy and other factors contribute to the raising of transaction costs to prohibitively high levels.

²³ Based on data available for 1986. Among the 80 developing countries that replied to the thirteenth ILO inquiry on social security costs, only in 12 was the ratio of social security expenditure to GDP higher than 5 per cent (ILO, *The Cost of Social Security: Thirteenth International Inquiry, 1984-1986: Comparative Tables* (Geneva, ILO, 1992), table 3, pp. 79-85).

²⁴ "Many persons working on their own account are poorer and more in need of state insurance than employees", in *Social Insurance and Allied Services*, report by Sir William Beveridge (New York, The MacMillan Company, 1942), p. 9.

²⁵ C. Mesa-Lago, "La seguridad social y el sector informal", *Investigaciones sobre empleo*, 32 (Santiago, Regional Employment Programme for Latin America and the Caribbean (PREALC), 1990), p. 129.

²⁶ Jean-Victor Gruat, "Social security schemes in Africa: current trends and problems", *International Labour Review*, vol. 129, No. 4 (1990), pp. 405-421.

²⁷ Hou Wenruo, "The variety of social security arrangements in China", paper presented at the Seminar on Central Problems in Social Security Policy, Lisbon, April 1995. E. Ahmad and A. Hussain, "Social security in China: a historical perspective", in *Social Security in Developing Countries*, E. Ahmad and others, eds. (Oxford, Clarendon Press, 1991).

²⁸ United States, Social Security Administration, *Social Security Programs throughout the World*, 1993 ed. (Gopher version) (Washington, D.C., 1993).

One should also add a political constraint to the list of factors contributing to low coverage, as an increase in coverage may imply a redistribution of income, in the form of either increased taxation or reduced benefits, from the better-off to the less well-off segments in society. In societies characterized by sharp income inequalities where privileges are not easily given up, a sense of social solidarity may not be forthcoming to ensure the instituting of such extensions.

Even for those privileged to participate in formal social security arrangements, such arrangements may in many instances fail to deliver the defined benefits. The replacement ratio, by which benefits are determined as a percentage usually of the average of earnings during a period of three to five years prior to retirement, is quite modest in some countries. That ratio is about 40-60 per cent in sub-Saharan African countries, and usually higher in other regions.²⁹ However, when the benefits are compared with final-year earnings, the replacement ratio can be actually quite a bit lower. In inflationary environments with no provisions for indexing the earnings base, the contributions made or the entitlement to be received, the drop can be quite sharp. The index chosen, when it fails to reflect changes in prices adequately, can be treacherous. In Brazil, for instance, contributions to and benefits from the pension system are indexed to the minimum wage, which usually lags behind the consumer price index in terms of monthly changes.

Low returns to investment of pensions funds are a common problem in developing countries. In many, there are rules requiring the investment of pension funds in government securities with very low or negative real returns. For Governments, it is a convenient source of funds to cover fiscal deficits. In many instances, money interest rates on such loans were below market rates with no provisions for inflation, while in some other countries, the government defaulted on the loans. In Togo, for instance, although the pension fund reserves seemed to be solid, the Caisse nationale de sécurité sociale had 20 per cent of its investments in loans to the Government in 1991, while the Caisse de retraites du Togo (covering the civil servants) held CFA 25 billion in government debt. Loans to government may not earn any real interest at all and may be difficult to recover owing to financial difficulties faced by the government.³⁰

Social security funds have also been invested in bank deposits and real estate. While the former may have the advantage of being liquid, returns may not be particularly high. The latter may offer higher returns - excluding public housing projects - but liquidity can be a problem. Bolivian pension funds, for instance, have been partially invested in real estate. When these investments faced liquidity problems, property had to be sold quickly, fetching prices below market value, and thereby causing an even further deterioration of the financial position of these funds. In other countries, social security funds are invested in public sector projects in the health or housing sector. While social returns of such investments may be high, particularly when low-income segments of society benefit from them, they are usually not associated with solid financial returns. In some cases, rampant inflation, administrative constraints and lack of sound investment opportunities in underdeveloped or fragile capital markets have led to negative yields on investments. Real returns were negative in a number of countries during the last decade: Ecuador (-10 per cent), Egypt (-11.7 per cent), Kenya (-3.8 per cent), Peru (-37.4 per cent), Turkey (-23.85 per cent), Venezuela (-15.3 per cent) and Zambia (-23.4 per cent)³¹

²⁹ S. N. Iver, "Pension reforms in developing countries", *International Labour Review*, vol. 132, No. 2 (1993), pp. 187-207.

³⁰ K. Evlo, "Who pays for and benefits from social security schemes in Togo?", paper presented at the Seminar on Central Problems in Social Security Policy, Lisbon, April 1995.

³¹ World Bank, *Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth*, World Bank Policy Research Report (New York, Oxford University Press, 1994), p. 95.

Social security funds also have been adversely affected by the economic developments of the last decade. Stabilization and structural adjustment had negative impacts on employment and real wages, undermining the contributory basis of social security systems in the above-mentioned countries. Countries with mature systems were the most distressed (see table XV.4). Other developing countries were successful in generating surpluses in their pension funds, mainly because they had relatively young systems with few people currently eligible for pensions and limited benefits. The magnitude of these surpluses should not be misread. Accumulated resources can easily be depleted by increasing benefits or extending coverage to other contingencies without proper funding.

Table XV. 4.
OVERALL DEFICIT OR SURPLUS OF SOCIAL
SECURITY FUNDS AS A PROPORTION OF GDP, SELECTED
DEVELOPING COUNTRIES, 1980, 1985 AND 1990

Percentage			
Country	1980	1985	1990
Argentina	..	-0.91	-0.29 ^a
Bahrain	0.76	1.16	1.86
Bolivia	..	-0.11	-0.73
Brazil	-0.76	-0.09	3.34
Cameroon	0.51	0.42	-0.07 ^a
Chile	-1.91	-4.46	-4.87 ^b
Colombia	-0.65	-0.78	-0.49 ^a
Costa Rica	-1.21	0.28	-0.63
Cyprus	-0.38	1.06	1.21
Egypt	..	4.60	4.48 ^a
Iran (Islamic Republic of)	0.00	0.00	0.00
Israel	-0.86	-4.49	-3.53
Malaysia	0.09	0.21	0.29
Mauritius	..	-0.65	-0.78
Mexico	-0.76	-0.20	-0.08
Morocco	0.44	0.38	0.34
Panama	1.56	-1.50	0.99
South Africa	-0.01	-0.03	-0.07
Thailand	0.02	-0.03	-0.03
Tunisia	0.85	-0.28	-0.18
Uruguay	-2.17	-2.90	-3.92

Sources: IMF, *Government Finance Statistics Yearbook, 1993*, (Washington, D.C., IMF, 1993); World Bank, *World Tables, 1994*, (Baltimore, Maryland, Johns Hopkins University Press, 1994).

^a 1989 data.

^b 1988 data

Box XV.1

THE SIGNIFICANCE
OF CHILEAN REFORMS

In 1981, CHILE INTRODUCED RADICAL REFORMS in its old-age pension system, moving from a publicly managed benefits-determined scheme to an individually capitalized contributions-determined system which was privately administered. Employees were given the option to choose between the public and the private systems and for those who opted for the private one, a premium, based on their past contributions to the old system, was paid in the form of treasury bonds (bonos de reconocimiento). New entrants into the labour market are obliged to subscribe to the private system, to which they contribute with 10 per cent of their gross earnings. Additional contributions of 2.5-3.7 per cent of their salaries are paid for disability and survivors benefits. The law does not require employers to contribute. Benefits depend on the contributions made and the income those contributions generate. At retirement, the accumulated capital and earnings can be used to provide a pension or to buy an indexed annuity. The State guarantees a minimum pension for those with a qualifying period of contributions (20 years), if by the time they reach retirement (65 years of age for men, 60 years of age for women), their accounts do not contain adequate resources to provide a predetermined minimum benefit (22-25 per cent of the average wage). The State also pays a pension for those who qualify under its social assistance programme, but the number of beneficiaries is restricted to 300,000.^a

The accumulating resources are managed by private funds administrators (Administradoras de Fondos de Pensiones (AFPs)), under regulation by government. The AFPs are expected to compete among themselves, by offering low commissions and high returns, for contributors who are allowed to move freely from one administrator to another.

The system has been considered a success in many respects. Pensions currently offered are 40 per cent higher than those obtained in the public schemes. Coverage is universal: 93.4 per cent of the workforce belonged in an AFP at the end of 1993; less than 7 per cent of the active population remained in the old system.^b By the end of 1994, the AFPs had accumulated funds equivalent to 45 per cent of GDP (the figure was less than 1 per cent of GDP in 1981) and real returns on investment averaged 13.7 per cent annually during the period 1981-1994.^c

The Chilean example is being followed in other Latin American countries and reforms similar to those adopted by Chile are being implemented elsewhere in the region. However, there are factors particular to the Chilean situation. Chile has long had a social security system covering a large extent of its working population, most of it engaged in the formal sector. The fact that informal sector activity in Chile is limited has contributed to the universalization of the system. Privatization of pension funds does not increase coverage because it is formal sector employees who will be enrolled in the private pension funds. Informal sector workers will remain excluded. Voluntary schemes may be offered but there is no guarantee that people will contribute.

The Chilean Government has had an enviable record of delivering on its promises. Some other Latin American countries cannot lay claim to such a record. Moreover, the Chilean reforms were introduced during the Pinochet regime, whereas democracy is the dominant form of government nowadays. In 1992, the Uruguayan Government failed to have a much less radical reform approved by Congress. The proposal comprised, among other things, an increase in the retirement age and changes in the formula that established benefits. These proposals aimed at reducing the deficit of the social security system.^d It took a long time for pension reforms to be adopted as they met fierce opposition in Argentina. The original proposal that it be compulsory for all insured persons over age 45 to enrol in private funds was dropped and the Government had to settle for a mixed system.

The lack of updated information is a major problem in many countries, especially in those that contemplate giving employees in the public system an incentive to move to the private one. Like those in Chile, the Peruvian reforms included bonos de reconocimiento which were based on the value and number of past contributions. However, given inadequate records, the length of the contributory working life of the employee had to be esti-

^a C. Gillon and A. Bonilla, "La privatización de un régimen nacional de pensiones: el caso chileno", *Revista Internacional del Trabajo*, vol. 111, No. 2 (1992), pp. 193-221.

^b "Privatization of pensions in Latin America", *International Review of Labour*, vol. 133, No. 1 (1994), pp. 134-141.

^c UNCTAD, "Consideration of the country presentation in the light of a cross-country review by the Secretariat of the design, implementation and results of privatization programmes. Issues related to (a) privatization of the environment and (b) the privatization of pension funds" (document TB/D/WG.3/7/Rev.2/Add.1), 24 January 1994; and C. Mesa-Lago, "Economic reform, institutional change and social security policy in Latin America", summary of the presentation made at the International Seminar on Economic Restructuring and Social Policy, United Nations, New York, 11-13 January 1995 (mimeo).

^d Economist Intelligence Unit, Uruguay/Paraguay, Country report, No. 3 (1992), p. 9.

mated by other means. For instance, the value of past contributions was obtained through sworn statement of employees. Given widespread evasion in terms of contributions, the State probably recognized higher contributions than it had actually been paid.^e

The high real rates of returns obtained by the Chilean AFPs may be attributed in part to relatively well-developed financial and capital markets and the availability of attractive investment opportunities. The programme of privatization of state-owned enterprises during 1985-1988 was one such opportunity. Other countries may not have mature capital markets or equally attractive investment opportunities. The reforms in Bolivia have many of the same characteristics as Chile's. However, with very limited capital markets and undiversified financial instruments, it is not clear how these resources will be invested. There is the option to invest these funds abroad; however, this option needs to be examined carefully, for it will not raise investment in the domestic economy. The failure among the 12 member States of the European Union in 1994 to agree to the free cross-border management and investment of European pension funds points to the inherent difficulties.

To support a replacement ratio of 70 per cent of earnings with a contribution of 10 per cent of earnings, as in Bolivia and Peru, it is necessary to earn real rates of return at 4.5 per cent per year for a period of 45 years. Such rates of return may not be sustainable in the long run.^f

The reforms are costly and require intense state involvement in regulating, supervising and providing the necessary guarantees. There are a series of guarantees and benefits that the State has to honour (minimum pensions, social assistance, bonos de reconocimiento and others), without corresponding revenues, as employees transfer their contributions to the private sector. On the eve of reforms in Chile, social security funds ran a deficit equivalent to 1.9 per cent of GDP. During the first four years of the reform, the deficit widened, reaching more than 6 per cent of GDP in 1984. It has been slowly narrowing since then.^g These costs had to be absorbed by the government budget.

A worrisome feature is the high degree of delinquency in Chile. Although 94 per cent of the working population are members of an AFP, over 40 per cent default on their payments. It is not known if this lack of compliance is due to sickness and unemployment or to evasion. Employees might evade payment because they place a higher value on current consumption than on future consumption. They may also lack confidence in the system, despite government guarantees. The minimum pension guaranteed by government (although requiring 20 years of contribution) may act as a disincentive to the orderly payment of contributions. A parallel problem is the value of the minimum pension itself. At 22-25 per cent of the average wage, it may place low-wage workers well below the poverty line in retirement. Continuous delinquency puts the value of future pensions in jeopardy, even if the system succeeds in maintaining the present high rates of return. These factors raise the contingent liability of government entailing eventual financial burdens and renewed social problems within the country.

^e For those who had paid for longer periods than estimated, there was the option to prove their having done so. World Bank, Peru: Public Expenditure Review, report, No. 13190-PE (Washington, D.C., World Bank, 31 October, 1994), p. 68.

^f C. Gillion and Bonilla, loc. cit., pp. 211-212.

^g The cost of transitional measures was estimated at 4.8 per cent of GDP in 1992 and is expected to halve by 2010. UNCTAD, "Consideration of the country presentations".... p. 11.

MARKET VERSUS GOVERNMENT

Providing income security is an area where the government and the market interact intensively. Both institutions respond to the same needs in society. In general, the income security needs of high-income earners can be met in the market. Savings can be accumulated, in many forms of assets, to provide an income in old age, to provide an income to one's progeny and to be drawn down in periods of adversity. Those assets will purchase the capital that helps raise output and productivity in the economy. Laws governing private property will

ensure entitlement to income from these assets. Stable prices will assure savers that the value of their assets will not fall drastically in future. The desire to accumulate and acquire higher incomes will provide incentives to apply labour and use capital productively.

It was the demonstrated incapacity of market institutions to respond to the income security needs of the low-income receivers that prompted Governments to provide social security. Many among those who earn lower incomes fall into poverty in old age, because their voluntary saving are too low to support them after retirement. Even when savings are high, injudicious investment decisions can wipe out the value of the assets of these people. There is also the matter of the improvident, whom society may not wish to punish through the denial of resources for survival in old age. Furthermore, market institutions that mobilize personal savings may, because of either mismanagement or dishonesty, end up dissipating those resources. Inflation will do pretty much the same. Persons with a disability may not have assets against which to borrow. Unemployment is not an insurable risk because in cyclic troughs it becomes the fate of large collectivities at one and the same time. Capital markets are not an effective source of capital for children as regards their obtaining resources until such time as they begin to earn incomes.

In providing social security, government policies impact heavily on both labour and capital markets — on labour markets, by raising the cost of labour, by raising the reserve price of labour and by implicitly imposing a minimum wage. The regulations that govern entitlements to some forms of social security payments and their amounts may also affect incentives to save and accumulate among those with lower lifetime incomes.³² Assuring incomes to young people raises the productivity of labour both by improving their physical well-being and by enabling longer periods of education and training. By providing transfer incomes, Governments change the terms under which persons will offer their labour in the market.

The interaction between these two sets of institutions (government and market) was accommodated so long as the incomes of most of the persons affected rose rapidly, so that virtually everyone gained by participation in the scheme. As growth in incomes slowed down, as contributions of the working population for the maintenance of the non-working population increased, and as government failures came to be highlighted in the same way as market failures, social security policies came to be questioned. The loss of control over non-wage incomes in centrally planned economies, as private property came to cover increasingly larger parts of these economies, seriously undermined the capacity of the Governments concerned to provide social security. Electorates based on universal franchise in developing countries questioned the virtue of social security schemes that covered only the more affluent in their societies.

Is the role of government then limited to the imposition of compulsory participation in social security schemes and the supervision of market organizations that will administer these funds in competitive markets? For some eventualities such as prolonged periods of unemployment and care of the orphaned, there are no working markets. For other eventualities, even if market instruments are used, there is no compelling evidence that direct costs of managing pension funds are lower in the private sector than in the government.

Where there are capital markets of substantial breadth and depth, savings

³² See Glenn Hubbard, Jonathan Skinner and Stephen P. Zeldes, "Precautionary savings and social insurance", *Journal of Political Economy*, vol. 103, No. 2 (1995), pp. 360-399.

are generally allocated to investments with greater efficiency by private sector agents than by government. In such instances, private sector savings can be effectively mobilized by market institutions. Consequently, the net cost to society of privately managed funds may arguably be less than is shown by figures of direct costs. Investment of private sector savings in pension plans has an additional advantage: as those savings come out of incomes paid to an economic agent and may not be viewed as taxes, the burden of dead-weight losses of taxation is thus removed. There would also be a direct and visible relationship between that agent's behaviour and the disposal of his or her resources.

Costs of management are an important consideration in deciding upon terms for the management of income security arrangements. Such a consideration is important in deciding between alternatives — between government and market institutions, as well as structures within government. Well-managed government social security schemes are highly efficient. In Norway, the costs of managing are 2.1 per cent of contributions; for the Employees' Provident Fund in Malaysia, the corresponding figure was 2.5 per cent in 1990;³³ for the Central Provident Fund in Singapore, the figure was a meagre 0.53 per cent.³⁴ The proportion of those costs can also rise ranging from 10 per cent in Jamaica to 50 per cent in Zambia. In the privatized system in Chile, most recent estimates of costs of management have been 3 per cent of contributions.

In a centralized system there is the tremendous advantage that rights are "portable" and do not reduce labour mobility within the economy. There is a lesson here for the highly fragmented social security arrangements among enterprises, county administrations, and municipal, provincial and central Governments established in China. Management can indeed be centralized: however, access to offices by contributors and beneficiaries at a reasonable cost and with reasonable convenience is also an essential condition in administrative arrangements, especially in countries that are large in size, as well as in those where transport to the administrative capital is costly and inconvenient.

There are instances where government sector investments would raise productivity in the economy more than private sector investments. Furthermore, if a general downturn in economic activity, although seemingly banished in capitalist economies since the 1930s, was to occur, the contingent liability of government would be no different from what would prevail with a social security programme in effect.

While the role of markets may have become somewhat strengthened, the roles played by the family, voluntary agencies and government have not lessened as societies have changed and income distribution have become more skewed.

CONCLUSIONS

Social security policies have been a principal means of reducing uncertainty in individuals' lives and in mitigating poverty in developed countries. These same objectives were achieved in centrally planned economies under different arrangements. In several developing countries, both in South-East Asia and in Latin America, much progress has been made towards achieving these objectives. In other developing countries, there are many forces that do not yet permit a shortened march towards them.

³³ Mukul G. Asher, *Social Security in Malaysia and Singapore: Practices, Issues and Reform Directions*, (Malaysia, Institute of Strategic and International Studies, 1994), p. 31.

³⁴ Mukul G. Asher, "The role of the central provident fund (CPF) in Singapore", paper presented at the Conference on Major Superannuation Funds, 13-15 March 1995, Hobart, Tasmania.

The rise in the proportion of the ageing population is matched by a fall in the proportion of the population of youth, both in developed economies and in economies in transition. In developing countries, the proportion of the dependent population will fall in the foreseeable future. Although some of the gains in these dynamic processes will be lost through the higher costs of educating for longer periods and of diversifying education, the total burden does not seem as formidable when only the proportion of ageing populations is considered. Clear statements making transparent the nature and extent of the transfer of resources between generations consequent upon social security arrangements would contribute to better-informed choices by the public.

As regards mitigating poverty in old age during periods of mass unemployment among families with children in adverse circumstances, among orphaned children and among those disabled in large-scale conflicts, Governments will bear the main responsibility. Besides, Governments, by formulating and implementing appropriate policies in the proper circumstances can, encourage economic agents and markets to undertake some of the functions that, often less efficiently, said Governments carry out themselves. Maintaining stability in the general price level by maintaining macroeconomic balance, in order to enable markets to provide institutional support to economic agents in providing resources to meet the above-mentioned contingencies, is one of the most important roles of government. Reforming laws and regulations internalizing mechanisms to ensure compliance with, and minimize evasion of, the relevant legal provisions is yet another.

The use of markets for meeting some of the requirements of dependent populations requires the presence of working financial markets, including insurance markets. The formulation of adequate regulations and their enforcement remain prime responsibilities of government. In well-functioning financial and capital markets, with inflation under check, individuals are likely both to save a higher proportion of their income and to receive higher returns on their savings.

In addition to government programmes and private savings, families and voluntary associations will remain important sources of income security in all societies. These sources are given special emphasis in many South-East Asian developing countries.

The direct costs of management of pension funds by government are in many instances remarkably lower than those incurred by organizations in the market. There are also instances, mostly in developing countries, where these costs are prohibitively high. In such instances, there are no market institutions whose costs can be used for purposes of comparison. However, indirect costs, including benefits forgone, which accrue when markets may invest these funds more efficiently, are not known.

As all economies attempt to grapple with these problems of social security policies, there is much that can be learned by an exchange of acquired experiences.

ANNEX

STATISTICAL TABLES

ANNEX

STATISTICAL TABLES

This annex contains the main sets of data on which the analysis provided in the *World Economic and Social Survey, 1995* is based. The data are presented in greater detail than in the text and for longer time periods, and incorporate information available as of 15 April 1995.

The annex, like the Survey itself, was prepared by the Macroeconomic and Social Policy Analysis Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat, with the assistance of the United Nations Conference on Trade and Development (UNCTAD). The annex is based on information obtained from the Statistical Division and the Population Division of the Department for Economic and Social Information and Policy Analysis, as well as from the United Nations regional commissions, the International Monetary Fund (IMF), the World Bank, the Organisation for Economic Cooperation and Development (OECD), and national and private sources. Estimates for the most recent years were made by the Macroeconomic and Social Policy Analysis Division in consultation with the regional commissions.

Forecasts are based on the results of the March-April 1995 forecasting exercise of Project LINK, an international collaborative research group for econometric modelling, headquartered in the Macroeconomic and Social Policy Analysis Division. The LINK itself is a global model that links together the trade and financial relations of 79 country or region models that are managed by over 40 national institutions and by the Division. The models assume that the existing or officially announced macroeconomic policies as of 15 April are in effect. The primary linkages are merchandise trade and prices, as well as interest and exchange rates of major currency countries. The model is solved by an iterative process and thus key exchange rates, interest rates and a complete matrix of trade flows and price changes are determined endogenously. The one significant exception is the international price of crude oil, which is derived using a satellite model of the oil sector; in this case, the average price of the Organization of the Petroleum Exporting Countries (OPEC) basket of seven crude oils is expected to rise by over 7 per cent in 1995 and by about 6½ per cent in 1996. It is assumed that in 1996, the price of oil will remain constant in real terms.

COUNTRY CLASSIFICATION

The country classification in the *Survey* divides the world into three major groups: developed market economies, economies in transition and developing countries, as defined in the explanatory notes that appear at the beginning of the *Survey*. The groups are currently under review in the light of the major geopolitical changes that have taken place.

The group of developed market economies, comprising 23 countries, is further subdivided for analytical purposes into the following overlapping classifications: the major industrialized countries, which consist of the seven largest economies in terms of gross domestic product (GDP), namely Canada, France, Germany, Italy, Japan, the United Kingdom of Great Britain and Northern Ireland and the United States of America; Western Europe; the European Union; and North America. Data cover the 15 current members of the European Union for all years. North America includes Canada and the United States.

The group of economies in transition is subdivided into three subgroups: one is central and eastern Europe, also called eastern Europe for short, which comprises Albania, Bulgaria, the Czech Republic, Hungary, Poland, Romania, and Slovakia; a second group is the Commonwealth of Independent States (CIS), including Azerbaijan and Georgia; and the third comprises the Baltic republics (Estonia, Latvia and Lithuania). In some cases, data are shown for the former Soviet Union until 1991 and for the aggregate of the successor States of the USSR from 1992 so as to facilitate analysis of trends over time. Data for individual successor States of the Soviet Union will be included in the annex as sufficient time-series become available.

Developing countries are grouped mainly by region, according to their geographical location (see the explanatory notes). For analytical purposes, a distinction is also made between capital-surplus countries and capital-importing countries (for country composition, see the explanatory notes). The capital-surplus countries are a group of petroleum exporters that at one point were major suppliers of financial capital to the world and whose very heavy dependence on oil revenues warrants maintaining them as a separate analytical grouping even though most of them have become substantial net importers of financial capital. All other developing countries are included in the group of capital-importing developing countries. The latter are further subdivided into energy exporters and energy importers. A country is defined as an energy exporter if it meets the following twin criteria: (a) its primary energy production (including coal, lignite, crude petroleum, natural gas, hydropower and nuclear electricity) exceeds its consumption by at least 20 per cent and (b) its energy exports are equivalent to at least 20 per cent of its total exports (Myanmar, Yemen and Zaire meet these two criteria, but are not included in the group because they are least developed countries).

Energy-importing developing countries are further differentiated as belonging either to the group of four exporters of manufactures, that is, the four Asian economies considered to constitute the first generation of successful exporters of manufactures (Hong Kong, the Republic of Korea, Singapore and Taiwan Province of China), or to that of other countries.

Finally, two other analytical groupings are sometimes employed. One is sub-Saharan Africa, which groups together all the African countries south of the

Sahara desert, excluding Nigeria and South Africa. The intent in this grouping is to focus on the smaller African economies, and the data of the latter two countries would overwhelm and distort those of the smaller economies (in terms of, for example, GDP, population, and so forth). The second grouping comprises 15 heavily-indebted countries that in the 1980s were a main focus of international policy to resolve the crisis of excessive levels of debt owed to commercial banks by developing countries (see explanatory notes for the list of members of the group).

DATA QUALITY

There is a growing demand from both the public and the private sector for timely and reliable statistics that can be used for economic and social analysis, comment and decision-making in the present environment of rapid internationalization and information diffusion. Statistical information that is consistent and comparable over time and space is of vital importance when monitoring structural adjustment, discussing welfare, environmental policy, and poverty, or assessing emerging markets and economies. In addition, the multifaceted nature of these and other current issues, like the high mobility of capital and people, and economic regionalization call for an integrated as well as a selective approach to national and international data.

At the level of establishing international norms for definition and presentation of data, the recent revision of the System of National Accounts (SNA)¹ and the new fifth edition of the *IMF Balance of Payments Manual*² (the Manual) highlight the changes within the economic and social context underlying statistical data during the past two decades, and constitute a major step forward in efforts to incorporate those changes into an integrated and harmonious system of statistics. The 1993 SNA strives to have concepts, definitions and classifications that are interrelated at both the macro- and micro-levels, and concepts in the Manual have been harmonized, as closely as possible, with those of the revised SNA and with the Fund's methodologies pertaining to money and banking and government finance statistics. In addition, through a system of satellite accounts, which are semi-integrated with the central framework of the SNA, it is possible to establish linkages between national accounts data and other particular fields of economic and social statistics, such as the environment, health, social protection and tourism, to cite a few. The fact that the experts have failed to agree on a set of standards to define formal and informal activities, consumer and producer subsidies, education and other aspects of human capital shows the methodological and material limits to capturing and quantifying all occurrences and changes at the present time. However, both the 1993 SNA and the IMF Manual will serve as guideposts for countries that wish to update, review or improve their statistical reporting.

As Governments begin to report their data on the basis of these standards, those data will be incorporated into the statistics in this annex. For the time being, however, the reader should be aware of the deep-seated weaknesses underlying some of the national and international statistics that are perforce used in this *Survey* and other international publications. Inconsistency of coverage, definitions and data-collection methods among reporting countries sometimes mars the easy interpretation of data published by international agencies.

¹ Commission of the European Communities, IMF, OECD, United Nations and World Bank, *System of National Accounts, 1993* (United Nations publication, Sales No. E.94.XVII.4).

² IMF, *Balance of Payments Manual*, 5th ed. (Washington, D.C., IMF, 1993).

One perennial problem is uneven, late or non-reporting of data. Although adjustments and estimations are possible and are made in selected cases, in an era where economic and social indicators are closely tracked and extensively used, there is a need for timely reporting not only on an annual basis, but also on a quarterly one, where applicable. It is worth noting, in this regard, the considerable progress made by some developing and transition economies in publishing annual and quarterly data on a timely and regular basis. On the other hand, major lacunae have developed in the case of some countries and territories in transition, in conflict or at war.

A widespread source of inaccuracy is the use of out-of-date benchmark surveys and censuses or old models and assumptions about behaviour and conditions that no longer apply. On the other hand, when statistical administrations seek to improve their estimates using new sources of data, updated surveys and input-output tables in a sporadic fashion, there can be frequent breaks in the series. National income estimates are especially subject to significant revisions of the order of 10-30 per cent.³

National accounts and related indicators mainly record market transactions conducted through monetary exchange. Other activities, such as barter, production by households, and subsistence output, and the informal sector are not always recorded. Generally, all but the last category have a larger share of total activity in low-income countries and lead to an underestimation of production of up to 40 per cent of national output. As the degree of underestimation is not systematic across countries, output comparisons may give inconsistent results. In addition, as the non-market sector is absorbed into the mainstream of production over time through increasing monetization, the extent of output growth will be overstated based on the extent of this shift (see "Data caveats and conventions" below for illustrations of difficulties of the type noted here).

It is no exaggeration to say that weaknesses at the national level become major analytical handicaps when international comparisons between countries or groupings of countries at a given time or over a period of time are attempted. Missing, unreliable or incompatible country data necessitate considerable estimation and substitution on the part of international organizations to retain consistent country composition of aggregated data over time. Furthermore, the absence of reliable GDP estimates for many developing countries and the transition economies require analysts to resort to very approximate estimates in preparing country aggregations, as GDP weights underlie many data series.

Besides GDP, other types of statistics that are commonly cited, such as unemployment, consumer price inflation, and the volume of exports and imports, are also subject to large difficulties. Cross-country comparisons of unemployment must be made with caution owing to differences in definition among countries. For this reason in particular, table A.6 employs the standardized definitions of unemployment rates which, in certain cases, differ substantially from national definitions.

Consumer price indices are among the oldest of economic data series collected by Governments and are still surrounded by controversy even in countries with the most advanced statistical systems, owing in particular to changes in the quality of goods and consumer behaviour that are often not captured because of infrequent consumer spending surveys and revisions to sample baskets of commodities.

³ Wilfred Beckerman, "National income", in *The New Palgrave: The World of Economics*, John Eatwell, Murray Milgate, and Peter Newman, eds., (New York, The Macmillan Press, Limited, 1991), p. 486.

There are no clear-cut solutions to many of the problems noted above, and even when there are, inadequate resources allocated to the improvement of statistical systems and reporting can perpetuate statistical shortcomings. In this light, it is advisable to approach economic and social indicators as presented in this *Survey* as approximations and estimations, especially at the aggregate level.

DATA CAVEATS AND CONVENTIONS

Aggregate data are either sums or weighted averages of individual country data. Unless otherwise indicated, multi-year averages of growth rates are expressed as compound annual rates of change. The convention followed is to identify the period of change in a multi-year growth rate and omit the base year; for example, the 10-year average growth rate of a variable in the 1980s would be identified as the average annual growth rate in 1981-1990. Year-to-year growth rates are expressed as annual percentage changes.

Historical data presented in the statistical annex may differ from those in previous editions because of updating, as well as changes in the availability of data for individual countries.

Output

The growth of output in each group of countries is calculated from the sum of GDP of individual countries measured at 1988 prices and exchange rates. This is to say, national currency data for GDP were converted into dollars for 1988 (with adjustments in selected cases)⁴ and were extended forward and backward in time using changes in "real" GDP for each country. The method is believed to supply a reasonable set of aggregate data for a period of about 15 years, centred on 1988. In other words, the base year has to be moved from time to time to reflect the changed composition of production and expenditure over long periods.

Developed market economies

Up to and including the *World Economic Survey, 1992*,⁵ the Surveys, in order to be as current as possible, published either GDP or gross national product (GNP) data (depending on which data series was released first) as indicators of economic activity in developed market economies. However, as a result of the improved availability of GDP data, as of the *World Economic Survey, 1993*,⁶ the *Survey* has switched to GDP as its measure of aggregate output for all countries.

Beginning in 1991, aggregate economic growth data for Germany included the former German Democratic Republic. Because official data for the level of GDP in post-reunification Germany were available as of 1991, the first year for which a growth rate could be calculated from official data was 1992. The growth rate in 1991, as shown in table A.2, was a weighted average of official and estimated GDP growth rates in the two parts of Germany, with the weighting based on the level of GDP in 1991, as published by the *Statistisches Bundesamt* (federal statistical office) of Germany.

⁴ When individual exchange rates seem outside the bounds of "realism", alternative exchange rates are substituted. Averages of the exchange rates in relevant years might be used, or the exchange rate of a more normal year might be adjusted according to relative inflation rates since the time the exchange rate was deemed "correct".

⁵ United Nations publication, Sales No. E.92.II.C.1 and corrigenda.

⁶ United Nations publication, Sales No. E.93.II.C.1.

Economies in transition

Starting with the *World Economic Survey, 1992*, there was a switch to GDP from net material product as the measure of aggregate output of economies in transition. For the purpose of arriving at an analytically useful time-series in real and nominal terms, adjustments were made, notably in the case of the former Soviet Union, to the GNP data published in terms of local currency. There were, in many instances, neither fully reliable national accounts data nor meaningful exchange rates for the 1980s, and this continued into the 1990s in several cases. Thus, a set of weights had to be estimated from fragmentary data (and a series of approximate growth rates of GDP in constant prices was constructed for the Soviet Union for 1981-1990).

Recently, new data became available that warranted updating the estimates of the weighting scheme. The data pertain directly to 1990, but as 1988 has been retained as the base year for *World Economic and Social Survey, 1995*, the new data have been used to revise the 1988 weights. In the previous exercise, as there were not economically meaningful market exchange rates for the transition economies in 1988, an effort had been made to extrapolate a study of purchasing power parities (PPPs) in 1980 among the member countries of the Council for Mutual Economic Assistance. In 1994, however, the European Comparison Programme published a set of estimates of GDP in 1990 valued at PPPs (see below), which followed upon a study of the same nature of all the member countries of OECD.⁷ In addition, in 1993, a revised set of the "Penn World Tables" (PWT) was released, containing estimates of GDP in terms of 1985 PPPs for countries that had not participated in the International Comparison Programme (ICP) exercise for that year, and new estimated growth rates of GDP in PPP terms for all the countries through the 1980s were also made available.⁸

Estimates of GDP in 1990 for Czechoslovakia, Hungary, Poland, Romania and the Soviet Union were arrived at by using the OECD study to obtain GDP per capita figures in 1990 using "international dollars" and multiplying by 1990 population estimates. *World Economic and Social Survey* estimates of the growth of real GDP in 1989 and 1990 were used to extrapolate backwards to 1988 GDP levels, which were then deflated to 1988 prices using the revised PWT (albeit in terms of the 1985 base year). As Bulgaria and the German Democratic Republic had not participated in any ICP exercise, their 1988 base year GDP weights were estimated using a transitive approach (through the ratios with GDP estimates for Hungary in 1988).

In addition to the general caveat as to the overall reliability, consistency and comparability of data, which has been validated by the important revisions to several data series for countries in the region, the extent of economic activity not captured by national statistics has become an especially acute concern. The proliferation of new modes of production, transactions and entities has rendered the previous institutional and methodological framework for statistics obsolete. Reform is under way, but it is in a fledgling state. An example of the adverse consequences of the coexistence of the old and the new is the discordance in the Russian Federation between data on GDP growth and industrial production as reported by Goskomstat (State Committee of the Russian Federation on Statistics), which paint a very bleak picture of the Russian economy, and other data - some of which is also released by Goskomstat - such as on

⁷ See *International Comparison of Gross Domestic Product in Europe, 1990* (United Nations publication, Sales No. E.94.II.E.23; and OECD, *Purchasing Power Parities and Real Expenditures*, vol. I, (Paris, OECD, 1992).

⁸ These were distributed as a data diskette by the National Bureau of Economic Research, Harvard University, Cambridge, Massachusetts, United States of America.

retail sales volume growth, increase in savings and real disposable income and exports to non-member countries of CIS, which indicate that a resumption of growth of economic activity is already under way. The explanation of the difference lies in the fact that Goskomstat's major source of data is the industrial sector and especially large and/or state-owned enterprises. There is thus a relatively better coverage of sectors that are undergoing major adjustment and retrenchment and serious underreporting of the new market activities, resulting in statistical distortions which mislead decision makers and analysts.

The tendency to publish selected statistics in analytical tables and narratives without standardized tables of data themselves, and the considerable number of independent procurers of data and research - itself a consequence of the poor quality of official statistics - only add to the confusion. It therefore bears repeating more than ever that the statistical information provided, especially for many of the successor States of the Soviet Union, as well as for other countries in transition, must be treated as tentative estimates subject to potentially large revision.⁹

Developing countries

Beginning with the *World Economic Survey, 1993*, estimates of the growth of output in developing countries have been based on the data of 93 countries, accounting for an estimated 99 per cent of the population of all developing countries. GDP expressed in national currency in 1988 is converted to a figure expressed in dollars. In cases where the conversion at the official exchange rate yielded unrealistic results, adjustments were made.

It has to be borne in mind that the veracity of estimates of output and of other statistical data of developing countries is related to the stage of development of their statistical systems. As these improve, revisions to the data can be expected. For example, Turkey recently recalculated its GNP going back to 1968 by using new data, such as results of current surveys, and incorporating some items and economic subsectors that could not be included in previous annual national accounts.¹⁰ In Africa in particular, there is a wide divergence in the values of the economic aggregates provided by different national and international sources for many countries. Data for the countries in Asia and Europe as well as in Africa in which civil strife and war exist should be interpreted as indicating only rough orders of magnitude. In addition, in countries experiencing high rates of inflation and disequilibrium exchange rates, substantial distortions can invade national accounts data. For this reason, among others, Argentina recently revised its 1980s GDP by some 30 per cent.

International trade

The main source of data for tables A.15-A.18 on the direction and structure of trade is the United Nations trade data system and the External Trade Statistics Database (COMTRADE). Adjustments and estimates to this data set are made by UNCTAD, which also prepared the tables.

Trade values in table A.19 are largely based on customs data for merchandise trade converted into dollars using average annual exchange rates, as in the IMF publication *International Financial Statistics*. These data are supplemented by balance-of-payments data in certain cases. Estimates of dollar values of trade for the years up to 1990 in the case of the economies in transition

⁹ See *World Economic Survey, 1993* (United Nations publication, Sales No. E.93.II.C.1), box II.2, entitled "Economic data in the new States of the former Soviet Union".

¹⁰ State Institute of Statistics, Prime Ministry, (Ankara, 1994), Republic of Turkey, *Gross National Product: Concepts, Methods and Sources*, State Institute of Statistics, pp. iii-iv.

were based on the research undertaken in the Economic Commission for Europe (ECE). Data for the most recent years include estimates by the regional commissions and the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

For developed market economies and economies in transition, the growth of trade volumes are aggregated from national data, as collected by ECE, IMF and the Department for Economic and Social Information and Policy Analysis. Implicit unit value indices in table A.20 are calculated from value and volume measures. Terms of trade are defined as the ratio of export to import unit values.

As of 1 January 1993, customs offices at the borders between States members of the European Union (EU), which used to collect and check customs declarations on national exports and imports, were abolished as the Single Market went into effect. A new system of data collection for intra-EU trade, called INTRASTAT, has been put in place. INTRASTAT relies on information collected directly from enterprises and is linked with the system of declarations of value-added tax (VAT) relating to intra-EU trade to allow for quality control of statistical data. There remains, nevertheless, a discontinuity owing to the changes in methodology.

Concerning the economies in transition, two factors preclude the presentation of estimates for trade values and volumes as other than tentative: first, the switch, which occurred mainly in 1991, from intraregional trade at rather arbitrarily set prices in transferable roubles to trade at world market prices in convertible currency; and second, the inadequacy of the data-collection systems in the region. These largely affect the reliability of calculations of changes in unit values.

Unit values of exports for groupings of developing countries are estimated from weighted averages of export prices of commodity groupings at a combination of three- and four-digit Standard International Trade Classification (SITC) levels, based on COMTRADE (the weights reflect the share of each commodity or commodity group in the value of the region's total exports). Unit values of imports for groupings of the developing countries are estimated from weighted averages of export unit values of groupings of supplier countries (the weights reflect the shares of each supplier group in the value of the region's imports).

International finance

The present *Survey* includes standardized tables on the net transfer of financial resources of developed and developing countries, in addition to those on balance of payments on current account, external debt and particular financial flows. Net transfer is measured in two ways, based on either of two definitions, according to the derivation contained in the *World Economic Survey, 1986*.¹¹

One definition covers the concept of net transfer on an expenditure basis, which can be related in broad terms to the System of National Accounts. This net transfer measure concerns the implicit financing of the balance of trade in goods, services and transfers related to labour income (largely, workers' remittances). Algebraically, if X represents exports of goods, services and labour income and transfers, and M represents the corresponding import variable, then the net transfer on an expenditure basis is defined as $-(X-M)$. A positive net transfer means that total expenditure in the economy on

¹¹ United Nations publication, Sales No. E.86.II.C.1, annex III.

domestic production and imports exceeds the value of output produced domestically (including net foreign earnings of labour).

The second concept is of net transfer on a financial basis, which is defined as net flow of capital minus net payment of interest and dividends. Capital is so defined as to include official grants, private grants (other than workers' remittances), direct investment¹² and all credit flows, including use of IMF resources. This treatment embodies one — but not the only — standard approach to the balance of payments. It incorporates a definition of the current account as the balance of payments on goods, all services and private transfers, and also treats borrowing from IMF as a credit flow, whereas in some other treatments such borrowing is considered part of the change in reserves.

The link between the two definitions of net transfer is net change in reserves, that is, net transfer on a financial basis minus net increase in reserves equals net transfer on an expenditure basis. The concept of net transfer on an expenditure basis in effect makes no distinction between reserve changes and other capital flows, lumping them all together as constituting the means of financing the net transfer. The concept of net transfer on a financial basis in effect focuses attention on the composition of the financial flows of all actors other than the central bank of the country concerned.

ALTERNATIVE AGGREGATION METHODOLOGIES FOR GDP

In May 1993, the staff of IMF adopted a different procedure for calculating regional and global aggregates of GDP. Since then, the Fund's *World Economic Outlook* has published aggregate output growth rates based on a weighting scheme for each country derived from its GDP measured in PPPs, instead of a weighting scheme derived from exchange rate-conversions of national data, as in the *World Economic and Social Survey* and other international reports. OECD followed IMF and adopted the alternate method in December 1993 in its *OECD Economic Outlook*. The World Bank, like the United Nations, has not switched over to the new method. The question of which approach to use still seems controversial.

The motivation for PPP weights was the belief that when aggregating production in two countries, a common set of prices should be used to value the same entities in both countries. In practice, however, when domestic prices were converted to, say, dollars at market exchange rates, the dollar prices for the same goods in the two countries were frequently very different. The strategy of the PPP approach was thus to revalue gross production (actually, expenditure) in different countries in a single set of prices. Use of these prices could be interpreted as answering the question how, if one were to purchase the gross domestic product in one particular country in one particular year at "standard" prices, this would compare with buying the entire GDP of the United States in the same prices in the same year (the United States is the standard comparator).

One significant problem in employing such PPP estimates for calculating the relative sizes of countries to be used as weights in weighted averages of GDP growth is that the most recently completed set of PPP prices, which was for 1985, covered a set of only 64 countries.¹³ This is a large number of countries but far less than half the world's total, and the exercise did not cover any of Latin America (although estimates were made for seven English-speaking

¹² Direct investment is defined on an actual payments basis so as to be consistent with the practice of a large number of developing countries in reporting such data; that is to say, direct investment excludes reinvested earnings (and investment income excludes reinvested earnings as well in the derivation of net transfer of financial resources).

¹³ See *World Comparisons of Real Gross Domestic Product and Purchasing Power, 1985: Phase V of the International Comparison Programme*, Series F, No. 64 (United Nations publication, Sales No. E.94.XVII.7).

Caribbean islands), China, Taiwan Province of China, or any of the transition economies except Hungary and Poland. And while estimates for a new benchmark year (1993) covering a larger set of countries will be produced by the ICP, whose activities are coordinated by the Statistical Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat, they are not as yet available.

This notwithstanding, certain regularities had been observed, on the one hand, between GDP and its major expenditure components when measured in market prices and on the other, between GDP and its components measured in "international" prices as derived in the ICP exercise. On that basis (and using other, very partial data on consumer prices) a technique was devised to approximate PPP levels of GDP and its major expenditure components for countries that had not participated in ICP, the results having come to be known among statisticians as the Penn World Tables.¹⁴

A serious difficulty in implementing this exercise is that there is no standard set of PPP-based weights for aggregation purposes. The weights used by OECD for its aggregations are the result of a 1990 OECD benchmark study covering the 24 member States, extrapolated to 1991, which is the OECD base year for the purposes of its *Outlook*. Thus, no developing-country prices entered into the calculations, aside from those of Turkey, nor those of any economies in transition.¹⁵ At least, however, all the countries covered were participants in a full ICP-type exercise.

In the case of the IMF's *Outlook*, a global set of country weights is imperative. For this, the 1985 ICP data are used when available and these are supplemented by the Penn World Tables, plus IMF and World Bank staff estimates for the non-ICP countries, all of which are extrapolated to 1990 which is the Fund's base year.¹⁶ In addition, the Fund notes that it has used an unpublished study prepared in the Bureau of the Census of the United States as the source of its China estimate. Thus, the IMF weights appear to combine detailed country analyses (ICP countries), systematic extrapolations (for non-ICP countries in general), but also expert judgements for cases in which Fund staff apparently find the general methodology to be inadequate.

All in all, neither the PPP approach nor the exchange-rate approach to weighting country GDP data could be applied in a theoretically pure or fully consistent way. The data requirements for a truly global ICP are enormous, although in each round the ICP coverage grows and the 1993 data set promises to be a major advance over what has thus far been available. Further improvement in PPP data can be expected from ongoing efforts of the World Bank and the Statistical Division of the Department for Economic and Social Information and Policy Analysis in estimating PPPs for a large number of non-ICP countries through a "reduced information approach". A combination of reduced and full-scale survey results would then produce ICP-type PPP estimates for most countries of the world in the coming years.

Similarly, since a system of weights based on exchange rates presumes a world of foreign-exchange markets and domestic economies under competitive and liberal conditions, its application has been constrained by exchange controls and severe distortions of market prices in many countries. On the other hand, the global trend towards liberalization and the goal of full convertibility where it does not yet exist may make possible a more consistent application

¹⁴ See Robert Summers and Alan Heston, "The Penn World Table (Mark 5): an expanded set of international comparisons, 1950-1988", *Quarterly Journal of Economics*, vol. 106, No. 2 (May), pp. 327-368.

¹⁵ The ICP team for Europe has produced a set of benchmark estimates for 1990, covering 25 countries; and while they extend the ICP coverage to 5 additional European countries, 2 of those countries, the Czech and Slovak Federal Republic and the Soviet Union no longer exist; by the same token, neither does another country in the study, namely, the Yugoslavia of 1990 (see *International Comparison of Gross Domestic Product in Europe, 1990* (United Nations publication, Sales No. E.94.II.E.23)).

¹⁶ See IMF, *World Economic Outlook*, (Washington, D.C., IMF, May 1993).

over time of the exchange-rate method. Even so, the methods are conceptually different and thus yield different measures of world output growth.

How much difference does it make in practice?

There are systematic differences in the aggregate rates of growth as calculated using exchange-rate weights and PPP weights. This can be seen in figure A.1, which employs the same individual country GDP estimates and the same country coverage for both global samples; thus, the two lines differ only in the weights used to form the global averages.

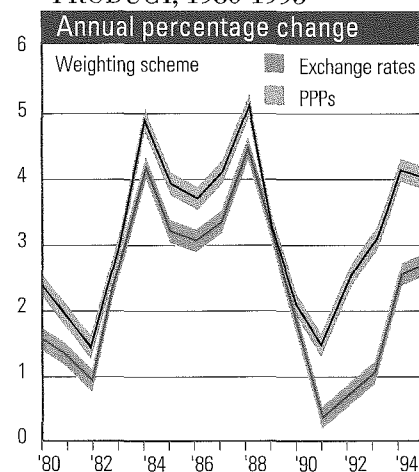
The difference in the global growth estimates in figure A.1 is easy to explain: the Asian developing economies, which account for a large share of GDP of the developing countries, are growing more rapidly than the rest of the world and their weight under PPPs has to be higher than it is under exchange-rate schemes. The main reason is that there is a strong tendency for the actual prices of non-tradable goods and services to be lower relative to tradable goods in low-income countries than in higher-income countries, owing mainly to the lower real wage rates in the poorer countries. Thus, when there is revaluing of output in a common set of prices, the prices of those low-priced non-tradable goods and services are raised substantially. Also, because the relative size of the GDP of countries enters into the price-averaging formula, the resulting set of prices is closer to the actual prices in the larger economies than the smaller ones.¹⁷

The value of the PPP-weighting exercise thus hinges on the credibility of the weights assigned to the large, rapidly growing but low-income countries (most especially China). Calculating all the prices underlying the PPP weights entails myriad estimates, judgements and compromises; but experts can be trained to work with such material. The difficulty is the following:

“Direct quantitative comparisons between economic situations that have little in common with each other are inherently difficult, not only in terms of finding sufficient common data on which to base a meaningful comparison, but also from a conceptual and theoretical viewpoint. Indeed, there may come a point at which it ceases to be useful to attempt such comparisons, although some analysts and policy makers nevertheless may insist on trying to make them.”¹⁸

There is another problem, however, in using PPP-based weights for calculating world output growth. The meaning of the aggregate is not clear. When world economic growth is calculated in the traditional way, implementation may be difficult but the meaning is straightforward: it entails changes in a Laspeyres quantity index over time. The index can be expressed as the sum of world output in the prices of a base year or equivalently as a weighted average of the growth of its components, where the weights are the shares in the value of world output in the base year. The components discussed here have been each country's GDP, but they could equally have been global output of producing sectors (agriculture, mining, and so forth) or, with certain adjustments, factor incomes. If measured correctly, the weighted averages of all the different decompositions would produce the same world output growth rate. In addition, if world output was calculated annually in nominal terms, the Laspeyres index could be used to derive the implicit world output deflator. The meaning would

Figure A.1
GROWTH OF GROSS WORLD
PRODUCT, 1980-1995



Source: UN/DESIPA

¹⁷ One study found that if low- and high-income countries had equal weights, PPP-converted GDP per capita would be 9-13 per cent lower for the poorest countries (Irving G. Kravis, "The three faces of the International Comparison Project", *The World Bank Research Observer*, vol. 1, No. 1 (January 1986), p. 21).

¹⁸ See Commission of the European Communities, IMF, OECD, United Nations and World Bank *System of National Accounts, 1993* (United Nations publication, Sales No. E.94.XVII.4), para. 16.85.

be the direct extension of implicit GDP deflators at the national level.

The Laspeyres index is not an "ideal" index, but it is a much-studied one. Its properties are well known; but what does the growth of real gross world product valued at PPP weights mean? It looks like changes in a Laspeyres quantity index. However, expenditure valued at base-year prices does not give actual expenditure, but rather what expenditure would have been if prices had been the PPP levels while people and firms were prevented from adjusting their activities to the new prices. In this regard, the caveat by the authors of the Penn World Tables regarding use of their PPP estimates in analyses of actual expenditure is germane: "After all, residents of a country face their own prices, not international prices."¹⁹

¹⁹ Summers and Heston, *loc cit.*, p. 360.

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I. GLOBAL OUTPUT AND MACROECONOMIC INDICATORS

Table A.1.
WORLD POPULATION, OUTPUT AND PER CAPITA GDP, 1975-1994

	Population (millions)		Growth rate of population (annual percentage change)		GDP (billions of 1988 dollars)		GDP per capita (1988 dollars)		Growth of real GDP per capita (annual percentage change)	
	1984	1994	1975-1984	1985-1994	1984	1994	1984	1994	1975-1984	1985-1994
Developed market economies	769	818	0.6	0.6	12 283	15 893	15 973	19 429	2.1	2.0
of which:										
United States	236	261	1.0	1.0	4 308	5 549	18 256	21 262	1.5	1.5
European Union ^a	358	370	0.3	0.3	4 625	5 804	12 916	15 686	3.1	2.0
Japan	120	125	0.9	0.4	2 434	3 367	20 280	26 935	2.8	2.9
Economies in transition	371	391	0.8	0.5	1 961	1 348	5 286	3 448	..	-4.2
Eastern Europe	97	99	0.7	0.2	605	460	6 236	4 643	..	-2.9
Former Soviet Union	274	292	0.8	0.6	1 356	888	4 949	3 042	..	-4.7
Developing countries^b	3 615	4 411	2.1	2.0	2 777	4 144	768	939	1.7	2.0
By region										
Latin America	390	474	2.3	2.0	771	984	1 975	2 079	0.7	0.5
Africa	533	708	2.8	2.9	365	437	685	618	0.3	-1.0
West Asia	109	152	3.7	3.4	465	489	4 261	3 215	-2.3	-2.8
South and East Asia	1 455	1 784	2.2	2.1	761	1 369	523	767	3.7	3.9
China ^c	1 055	1 209	1.5	1.4	289	736	274	609	6.2	8.3
Mediterranean	72	85	1.8	1.6	126	128	1 751	1 516	1.9	-1.4
By analytical grouping										
Capital-surplus countries	81	113	4.1	3.4	417	406	5 155	3 606	-3.0	-3.5
Capital-importing countries	3 534	4 299	2.1	2.0	2 361	3 737	669	870	2.4	2.7
Four exporters of manufactures	67	75	1.7	1.1	253	527	3 771	7 054	6.3	6.5
Other	3 467	4 224	2.1	2.0	2 108	3 210	609	760	2.0	2.3
Memo items										
Sub-Saharan Africa	319	430	2.9	3.0	105	118	361	275	-1.0	-1.7
Fifteen heavily indebted countries	517	638	2.4	2.1	870	1 084	1 591	1 699	0.6	0.1

Source: UN/DESIPA.

^a The former German Democratic Republic is included in Germany and thus in the European Union, beginning in 1991.

^b Covers 93 countries that account for 99 per cent of the population of all developing countries.

^c Net material product until 1988.

Table A.2.

DEVELOPED MARKET ECONOMIES: RATES OF GROWTH OF REAL GDP, 1985-1995

Annual percentage change ^a											
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b	1995 ^c
All developed market economies	3.4	2.8	3.3	4.5	3.3	2.5	*0.8	1.5	1.0	2.9	2 ³ / ₄
Major industrialized countries	3.4	2.9	3.3	4.6	3.3	2.5	*0.9	1.6	1.1	2.9	2 ³ / ₄
Canada	4.8	3.3	4.3	4.9	2.5	-0.2	-2.2	1.0	2.2	4.5	4
France	1.9	2.5	2.3	4.5	4.3	2.5	0.8	1.2	-1.5	2.6	3 ¹ / ₄
Germany	1.9	2.2	1.4	3.7	3.3	4.7	*1.2	2.1	-1.1	2.9	3
Italy	2.6	2.9	3.1	4.1	2.9	2.1	1.3	0.9	-0.7	2.2	3
Japan	5.0	2.6	4.1	6.2	4.7	4.8	4.3	1.1	-0.2	0.6	1 ¹ / ₂
United Kingdom	3.8	4.3	4.8	5.0	2.2	0.4	-2.0	-0.5	2.1	3.9	3 ¹ / ₄
United States	3.2	2.9	3.1	3.9	2.5	1.2	-0.6	2.3	3.1	4.1	3
Other industrialized countries	3.0	2.5	3.3	3.5	3.7	2.6	0.6	0.9	0.1	3.0	3
Memo items											
Western Europe	2.6	2.8	2.8	4.0	3.4	2.7	*0.6	1.0	-0.5	2.7	3
European Union	2.5	2.8	2.9	4.1	3.4	2.7	*0.6	1.0	-0.5	2.7	3
Other	4.2	3.3	2.0	1.8	2.8	2.1	0.5	0.9	0.2	3.2	3

Source: UN/DESIPA.

* Indicates discontinuity in the series: from 1991, Germany includes eastern Länder.

^a Data for country groups are weighted averages, where weights for each year are GDP valued at 1988 prices and exchange rates.^b Partly estimated.^c Forecast, based on Project LINK.

Table A.3.

ECONOMIES IN TRANSITION: RATES OF GROWTH OF REAL GDP, 1985-1995

Annual percentage change ^a											
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b	1995 ^c
Economies in transition^d	2.0	3.5	2.6	4.5	2.1	-6.2	*-8.8	-15.5	-8.6	-9.9	-6
Eastern Europe^d	2.6	3.2	2.2	2.7	0.1	-11.3	*-11.3	-4.7	1.0	3.8	3 ³ / ₄
Albania	1.8	5.6	-0.8	-1.4	9.8	-13.1	-29.4	-6.0	11.0	8.0	5
Bulgaria	2.7	4.2	6.1	2.6	-1.4	-9.1	-11.7	-5.7	-2.4	1.4	2
Former Czechoslovakia	2.2	1.8	0.8	2.6	1.3	-4.7	-14.4	-7.1			
Czech Republic									-0.9	2.7	4
Slovakia									-4.1	4.8	3 ³ / ₄
Hungary	-0.3	1.5	3.8	2.7	3.8	-3.5	-11.9	-4.3	-2.3	2.5	3 ³ / ₄
Poland	3.6	4.2	2.0	4.4	0.2	-11.6	-7.6	1.5	3.8	5.0	4 ³ / ₄
Romania	-0.1	2.3	0.8	-0.5	-5.8	-5.6	-12.9	-13.6	1.4	3.4	4
Former Soviet Union and successor States	1.7	3.6	2.8	5.3	3.0	-4.0	-8.0	-18.3	-12.0	-16.3	-11 ¹ / ₂
The Baltic States											
Estonia								-31.6	-14.4	1.9	2 ³ / ₄
Latvia								-14.8	-7.8	4.0	4 ¹ / ₄
Lithuania								-34.9	-14.9	1.0	2 ³ / ₄
								-35.0	-17.0	1.5	2 ¹ / ₄

Sources: UN/DESIPA and ECE.

* Indicates discontinuity in the series.

^a Country group aggregates are averages weighted by GDP in 1988 dollars (for methodology, see World Economic Survey, 1992 (United Nations publication, Sales No. E.92.II.C.1 and corrigenda), annex, introductory text.^b Partly estimated.^c Forecast.^d Excluding Albania; including the former German Democratic Republic until 1990.

Table A.4.

DEVELOPING COUNTRIES: RATES OF GROWTH OF REAL GDP, BY COUNTRY GROUP, 1985-1995

Annual percentage change											
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a	1995 ^b
All developing countries	3.3	3.8	4.1	4.5	3.5	3.0	3.4	4.9	5.0	5.4	5
By region											
Latin America	3.6	4.2	3.0	0.7	1.0	-0.1	2.9	2.2	3.0	4.4	1 ³ / ₄
Africa	3.6	1.5	0.6	2.7	3.0	2.2	1.3	0.8	0.5	2.1	3
West Asia	-3.6	-3.1	-0.8	0.0	3.2	1.9	-0.2	5.7	2.2	0.4	1 ³ / ₄
South and East Asia	3.6	6.2	6.9	8.5	6.1	6.4	5.4	5.2	5.5	6.5	7
China ^c	12.9	8.5	11.1	11.3	4.3	3.9	8.0	13.2	13.4	11.8	10
Mediterranean	2.8	5.5	1.1	0.8	0.4	1.1	-5.6	-1.4	0.1	-2.8	2 ³ / ₄
By analytical grouping											
Capital-surplus countries	-4.8	-4.5	-1.8	-1.1	3.6	1.4	-1.4	5.3	1.8	-0.5	1
Capital-importing countries	4.7	5.1	5.0	5.2	3.5	3.3	4.1	4.8	5.3	6.0	5 ¹ / ₂
Net energy exporters	3.5	1.0	1.7	3.5	3.0	5.1	4.6	4.3	2.1	3.2	2 ¹ / ₄
Net energy importers	5.1	6.4	6.0	5.7	3.6	2.7	3.9	5.0	6.3	6.8	6 ¹ / ₄
Four exporters of manufactures	3.8	11.0	11.7	9.6	6.2	6.9	7.7	5.6	6.2	7.6	7 ¹ / ₂
Other	5.3	5.7	5.0	5.0	3.1	1.9	3.1	4.9	6.3	6.7	6
Memo items											
Sub-Saharan Africa	1.9	2.6	0.6	2.9	1.5	1.2	0.4	0.0	-0.5	2.1	3
Fifteen heavily indebted countries	3.4	4.1	2.4	1.2	1.3	-0.2	2.2	1.4	2.2	4.4	1 ³ / ₄

Source: UN/DESIPA.

^a Preliminary estimates.^b Forecast, based in part on Project LINK.^c Net material product until 1984; data for 1983-1989 are government estimates.

Table A.5.

DEVELOPED MARKET ECONOMIES: INVESTMENT, SAVING AND NET TRANSFERS, 1980-1993

Percentage of GDP

		Gross domestic investment	Total	Gross domestic saving		Net financial transfer
				Government saving	Private saving	
Total^a	1980	23.4	23.7	0.9	22.7	-0.3
	1985	21.4	21.8	-0.6	22.4	-0.4
	1990	22.2	22.2	1.2	21.0	0.0
	1991	21.3	22.1	0.6	21.5	-0.8
	1992	20.6	21.7	-0.4	22.1	-1.1
	1993	20.3	21.7	..	..	-1.4
Major industrialized countries^a	1980	23.2	22.7	0.8	21.9	0.5
	1985	21.4	20.9	-0.8	21.6	0.5
	1990	22.0	22.0	1.1	20.9	0.0
	1991	21.3	22.0	0.7	21.3	-0.8
	1992	20.6	21.7	-0.2	21.9	-1.1
	1993	20.5	21.7	..	..	-1.2
of which: Germany	1980	23.4	22.9	2.4	20.5	0.5
	1985	19.6	23.1	2.6	20.5	-3.5
	1990	21.4	27.3	1.3	26.0	-5.9
	1991	22.0	27.7	1.0	26.6	-5.6
	1992	20.8	27.5	1.6	25.9	-6.7
	1993	18.9	26.5	..	..	-7.6
Japan	1980	32.2	31.3	3.2	28.2	0.9
	1985	28.2	31.5	4.9	26.6	-3.4
	1990	32.8	33.5	9.0	24.5	-0.7
	1991	32.5	34.3	9.5	24.8	-1.8
	1992	31.2	33.6	8.7	24.9	-2.4
	1993	30.3	32.7	..	..	-2.3
United States	1980	19.9	19.3	-0.1	19.5	0.6
	1985	20.2	17.2	-2.5	19.7	3.0
	1990	17.2	15.7	-2.0	17.7	1.5
	1991	15.6	15.1	-2.9	8.0	0.5
	1992	15.7	15.0	-3.9	18.9	0.7
	1993	16.5	15.2	..	..	1.2

Sources: OECD, *National Accounts*, and national information supplied to the Statistical Division/DESIPA.^a National data converted to dollars for aggregation at annual average exchange rates.

Table A.6.

DEVELOPED MARKET ECONOMIES: UNEMPLOYMENT RATES, 1985-1995^a

Percentage of total labour force											
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b	1995 ^c
All developed market economies	7.7	7.6	7.2	6.6	6.1	6.0	6.6	7.3	7.7	7.8	7 ½
Major industrialized countries	7.2	7.1	6.7	6.1	5.7	5.6	6.2	6.8	6.9	6.8	6 ½
Canada	10.4	9.5	8.8	7.7	7.5	8.1	10.2	11.3	11.2	10.3	9 ½
France	10.2	10.4	10.5	10.0	9.4	8.9	9.4	10.4	11.6	12.5	12 ¼
Germany	7.2	6.4	6.2	6.2	5.6	4.9	4.2	4.6	6.1	6.9	6 ¼
Italy	9.6	10.5	10.9	11.0	10.9	10.3	9.9	10.5	10.2	11.3	11
Japan	2.6	2.8	2.8	2.5	2.3	2.1	2.1	2.2	2.5	2.9	2 ¾
United Kingdom	11.2	11.2	10.3	8.5	7.1	6.8	8.8	9.9	10.3	9.5	8 ¼
United States	7.1	6.9	6.1	5.4	5.2	5.4	6.6	7.3	6.7	6.0	5 ¾
Other industrialized countries	10.3	9.9	9.6	9.1	8.1	7.9	8.7	9.8	11.6	12.3	12 ¼
Memo items											
Western Europe	9.9	9.8	9.6	9.0	8.2	7.6	7.9	8.8	10.0	10.7	10 ¼
European Union	10.2	10.1	9.9	9.3	8.4	7.7	8.1	8.9	10.2	10.9	10 ½
Other	1.6	1.3	1.3	1.7	2.2	2.3	2.9	4.0	4.6	4.4	4 ¼

Source: UN/DESIPA, based on data of OECD.

^a For the seven countries shown and ten others, unemployment data are standardized by OECD for comparability among countries and over time, in conformity with the definitions of the International Labour Office (see OECD, Standardized Unemployment Rates: Sources and Methods (Paris, 1985)); national definitions and estimates are used for other countries.

^b Partly estimated.

^c Forecast, based on Project LINK.

Table A.7.

DEVELOPED MARKET ECONOMIES: CONSUMER PRICE INFLATION, 1985-1995^a

Annual percentage change											
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b	1995 ^c
All developed market economies	4.0	2.2	2.8	3.2	4.4	5.0	4.3	3.1	2.6	2.3	2 ¾
Major industrialized countries	3.7	1.8	2.6	3.0	4.2	4.8	4.2	2.9	2.5	2.2	2 ½
Canada	4.0	4.1	4.4	4.0	5.1	4.7	5.6	1.5	1.9	0.2	2
France	5.8	2.6	3.3	2.8	3.4	3.4	3.2	2.4	2.1	1.7	2
Germany	2.2	-0.2	0.3	1.3	2.7	2.7	3.5	4.0	4.1	3.0	2 ¼
Italy	9.2	5.8	4.7	5.1	6.2	6.5	6.3	5.2	4.5	4.1	4 ½
Japan	2.0	0.6	0.1	0.7	2.2	3.1	3.3	1.7	1.2	0.7	½
United Kingdom	6.1	3.5	4.1	4.8	7.8	9.5	5.9	3.7	1.6	2.5	3 ½
United States	3.7	1.8	3.7	4.0	4.9	5.4	4.2	3.1	2.7	2.7	3 ¼
Other industrialized countries	5.9	4.8	4.2	4.2	5.2	6.1	5.2	4.0	3.7	3.1	3 ½
Memo items											
Western Europe	5.3	2.9	2.9	3.3	4.8	5.5	4.9	4.0	3.4	3.0	3
European Union	5.4	2.9	2.9	3.3	4.8	5.5	4.9	4.0	3.4	3.1	3 ¼
Other	3.7	2.5	3.7	3.4	3.5	5.0	5.1	3.5	3.0	1.0	2

Source: UN/DESIPA, based on IMF, International Financial Statistics.

^a Data for country groups are weighted averages, where weights for each year are consumption expenditure for the year valued at 1988 prices and exchange rates.

^b Partly estimated.

^c Forecast, based on Project LINK.

Table A.8.

MAJOR DEVELOPED MARKET ECONOMIES: FINANCIAL INDICATORS, 1984-1994

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Growth of real money^a (percentage change)											
Canada	2.8	2.7	5.4	3.9	5.6	8.3	4.4	1.7	8.5	9.6	7.3
France	1.1	1.0	2.3	3.5	2.7	-0.6	-0.7	-3.9	-1.0	1.4	-1.5
Germany	3.5	5.7	3.2	4.0	4.2	2.6	14.9	2.4	3.4	8.1	0.5
Italy	0.0	1.7	0.6	1.3	1.0	4.8	1.0	2.1	0.8	2.7	-1.0
Japan	4.5	7.2	7.4	11.1	9.4	9.7	5.8	0.6	-1.7	1.3	2.6
United Kingdom	6.6	5.3	18.7	15.3	10.6	12.7	3.9	-5.0	2.1	3.0	-1.0
United States	6.3	5.0	7.7	0.2	2.2	1.5	2.3	-1.5	-0.2	-0.8	-1.3
Short-term interest rates^b (percentage)											
Canada	10.1	9.8	8.2	8.5	10.4	12.1	11.6	7.4	6.8	3.8	5.5
France	11.7	9.9	7.7	8.0	7.5	9.1	9.9	9.5	10.4	8.8	5.7
Germany	5.5	5.2	4.6	3.7	4.0	6.6	7.9	8.8	9.4	7.5	5.4
Italy	17.3	13.7	11.4	10.7	11.1	12.6	12.4	12.5	14.3	10.6	9.2
Japan	6.1	6.5	4.8	3.5	3.6	4.9	7.2	7.5	4.6	3.1	2.2
United Kingdom	7.6	10.8	10.7	9.7	10.3	13.9	14.7	11.7	9.6	5.5	4.8
United States	10.2	8.1	6.8	6.7	7.6	9.2	8.1	5.7	3.5	3.0	4.2
Long-term interest rates^c (percentage)											
Canada	12.8	11.0	9.5	10.0	10.2	9.9	10.9	9.8	8.8	7.8	8.6
France	12.5	10.9	8.6	9.4	9.1	8.8	10.0	9.1	8.6	6.9	7.4
Germany	7.8	6.9	5.9	5.8	6.1	7.1	8.9	8.6	8.0	6.3	6.7
Italy	15.6	13.0	10.5	9.7	10.2	10.7	11.5	13.2	13.3	11.3	10.6
Japan	6.8	6.3	4.9	4.2	4.3	5.1	7.4	6.5	4.9	3.7	3.7
United Kingdom	10.7	10.6	9.9	9.5	9.4	9.6	11.1	9.9	9.2	7.9	8.1
United States	12.5	10.6	7.7	8.4	8.9	8.5	8.6	7.9	7.0	5.8	7.1
General government financial balances^d (percentage)											
Canada	-6.5	-6.8	-5.4	-3.8	-2.5	-2.9	-4.1	-6.6	-7.1	-7.1	-6.2
France	-2.8	-2.9	-2.7	-1.9	-1.7	-1.2	-1.6	-2.2	-3.9	-5.8	-5.7
Germany ^e	-1.9	-1.2	-1.3	-1.9	-2.2	0.1	-2.0	-3.3	-2.9	-3.3	-2.7
Italy	-11.6	-12.6	-11.6	-11.0	-10.7	-9.9	-10.9	-10.2	-9.5	-9.6	-9.7
Japan	-2.1	-0.8	-0.9	0.5	1.5	2.5	2.9	3.0	1.8	-0.2	-2.0
United Kingdom	-3.9	-2.8	-2.4	-1.4	1.0	0.9	-1.2	-2.7	-6.2	-7.7	-6.8
United States	-2.9	-3.1	-3.4	-2.5	-2.0	-1.5	-2.5	-3.2	-4.3	-3.4	-2.0

Source: UN/DESIPA, based on IMF, *International Financial Statistics*, and OECD, *Economic Outlook*.

^a Real money is here defined as broad money (denoted by M2 and comprising currency outside banks and demand deposits plus time, savings and foreign currency deposits of resident sectors other than central government) deflated by GDP deflators. Growth rates measure changes from year-end to year-end (1994 data are partly estimated).

^b Money market rates.

^d Surplus (+) or deficit (-) as a percentage of nominal GNP or GDP; 1994 data are OECD estimates.

^c Yield on long-term government bonds.

^e Data up to end-1990 are for western Germany only.

Table A.9.

MAJOR DEVELOPED MARKET ECONOMIES: EFFECTIVE EXCHANGE RATES, 1984-1994

1985=100											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Nominal effective exchange rates: global^{a, b}											
Canada	103.1	100.0	93.9	95.1	101.8	107.6	109.4	112.1	108.0	102.0	96.0
France	98.1	100.0	104.6	104.0	103.2	102.8	108.2	107.8	111.2	113.9	115.9
Germany	98.0	100.0	111.3	116.4	116.7	115.1	123.4	124.1	129.7	134.0	136.0
Italy	101.8	100.0	98.7	98.7	96.4	97.2	100.8	99.8	97.1	91.5	78.6
Japan	96.7	100.0	130.6	139.3	153.4	147.3	136.8	143.9	152.2	180.7	195.0
United Kingdom	99.7	100.0	93.9	90.3	96.1	93.7	92.6	94.6	91.3	83.3	84.0
United States	95.5	100.0	87.7	79.0	79.5	86.1	87.0	88.4	89.7	94.7	93.5
Real effective exchange rates: industrialized country partners^c											
Canada	104.5	100.0	94.6	98.8	108.1	114.9	116.7	119.6	113.0	103.3	97.1
France	97.4	100.0	101.7	99.8	96.9	94.5	97.5	93.5	94.8	97.3	98.6
Germany	99.8	100.0	109.0	116.5	116.6	114.3	120.5	119.4	122.6	132.2	130.8
Italy	103.1	100.0	101.6	102.5	101.6	105.5	109.3	110.5	108.7	90.8	87.3
Japan	100.6	100.0	126.6	132.9	140.2	131.7	118.0	125.2	129.7	152.0	162.4
United Kingdom	98.8	100.0	90.5	91.5	96.9	100.3	94.3	98.5	96.4	88.1	88.7
United States	97.3	100.0	80.8	70.1	65.8	67.7	64.4	63.4	62.2	65.0	64.4

Sources: IMF, *International Financial Statistics*, and OECD, *Economic Outlook*.

^a Weights based on manufactures trade with 24 OECD countries and 6 non-OECD areas (rebased from 1991 = 100).

^b The data for 1994 are based on the technical assumption that exchange rates remain at their level on 2 November 1994.

^c Based on relative normalized unit labour costs in 16 industrialized countries.

Table A.10.

ECONOMIES IN TRANSITION: OUTPUT AND DEMAND INDICATORS, 1984-1994

Annual percentage change											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a
Industry, gross product											
Eastern Europe ^b	4.9	3.9	4.6	3.2	3.3	-0.1	-15.7	*-17.4	-7.9	1.7	7.6
Albania							-7.5	-30.0	..	..	..
Bulgaria	4.2	3.2	4.7	6.0	3.2	2.2	-16.8	-22.2	-15.9	-6.9	2.9
Former Czechoslovakia	3.9	3.5	3.2	2.5	2.1	0.8	-3.7	-23.0	-11.7	-	-
Czech Republic							-3.5	-21.8	-10.6	-5.1	2.3
Slovakia							-4.0	-25.4	-13.8	-10.6	6.4
Hungary	3.2	0.7	1.9	3.5	-0.3	-2.5	-4.5	-16.6	-9.7	4.0	9.2
Poland	5.2	4.5	4.7	3.4	5.3	-0.5	-24.2	-11.9	3.9	7.3	11.9
Romania	6.7	3.9	7.3	2.4	3.1	-2.1	-19.0	-19.6	-22.1	1.3	3.3
Former Soviet Union and successor States ^c	4.1	3.4	4.4	3.8	3.9	1.7	-1.2	-7.8	-18.0	-12.0	-23.0
Agriculture, gross product											
Eastern Europe ^b	6.8	-0.9	1.8	-2.8	2.0	0.1	-3.4	*-3.1	-13.8	-0.7	-1.6
Albania							-6.9	-24.0	..	15.0	..
Bulgaria	7.2	-11.9	11.7	-3.5	0.9	1.2	-6.0	-0.3	-12.0	-18.2	0.8
Former Czechoslovakia	4.4	-1.6	0.6	0.9	2.9	1.7	-3.9	-8.4	-12.7	-	-
Czech Republic							-2.3	-8.9	-12.1	-2.3	-5.6
Slovakia							-7.2	-7.4	-13.9	-8.1	9.1
Hungary	2.9	-5.5	2.4	-2.0	4.3	-1.3	-4.8	-6.2	-20.0	-9.7	2.0
Poland	5.7	0.7	5.0	-2.3	1.2	1.5	-2.2	-1.6	-12.8	1.5	-4.0
Romania	13.3	0.7	-5.5	-8.9	5.8	-5.0	-2.9	1.0	-13.8	12.4	0.2
Former Soviet Union and successor States ^c	-0.2	0.1	5.3	-0.5	1.7	1.3	-2.8	-7.0	..	..	-13.0
Gross investment											
Eastern Europe ^b	2.4	3.6	4.5	3.2	2.4	-1.4	12.6	*-16.0	0.7	-1.1	7.2
Albania							-14.8	..	..	..	..
Bulgaria	1.7	6.2	13.7	0.3	4.5	-10.1	-18.5	-19.9	-1.5	-9.0	-2.0
Former Czechoslovakia	-4.2	5.4	1.4	4.4	4.1	1.6	6.1	-27.2	4.7	-	-
Czech Republic							6.5	-17.7	3.8	-7.7	7.8
Slovakia							5.3	-20.0	6.4	-3.5	-7.4
Hungary	-3.7	-3.0	6.5	9.8	-9.1	7.0	-7.1	-11.9	-1.6	0.2	10.0
Poland	11.4	6.0	5.1	4.2	5.4	-2.4	-10.1	-4.1	0.7	2.2	6.6
Romania	6.0	1.6	1.1	-1.4	-2.2	-1.6	-38.3	-25.8	-1.1	0.7	15.3
Former Soviet Union and successor States ^c	1.9	3.0	8.3	5.7	6.2	4.7	1.0	-12.0	-39.0	-10.0	-25.0

Sources: UN/DESIPA and ECE, 1988 prices and exchange rates based on national data.

* Indicates discontinuity in the series.

^a Preliminary estimate.

^b Excluding Albania; including the former German Democratic Republic until 1990.

^c Excluding Estonia, Latvia and Lithuania.

Table A.11.

DEVELOPING COUNTRIES: INVESTMENT, SAVING AND NET TRANSFERS, 1980-1993

Percentage of GDP												
	Gross domestic investment				Gross domestic saving				Net transfer of resources			
	1980	1985	1990	1993	1980	1985	1990	1993	1980	1985	1990	1993
All developing countries^a	26.1	23.7	25.3	25.5	27.0	24.2	26.2	25.1	-1.0	-0.5	-0.9	0.4
By region												
Latin America	24.8	19.1	19.6	19.6	23.6	23.7	21.9	18.0	1.2	-4.7	-2.2	1.5
Africa	25.6	20.2	20.5	18.2	25.2	19.6	19.3	16.0	0.4	0.6	1.2	2.2
West Asia	24.5	21.2	21.5	23.6	41.3	20.2	26.2	22.2	-16.8	1.0	-4.7	1.5
South and East Asia ^b	26.3	24.6	29.8	29.5	24.0	24.6	29.0	30.1	2.4	-0.1	0.7	-0.6
Mediterranean	22.5	21.5	23.5	25.6	14.4	17.8	18.7	27.7	8.2	3.7	4.8	5.8
By analytical grouping												
Capital-surplus countries	23.9	21.2	22.7	24.2	46.6	22.1	30.3	27.6	-22.7	-0.9	-7.6	-3.5
Capital-importing countries	24.1	17.9	22.1	21.7	21.8	20.1	21.8	20.5	-2.3	-2.2	0.3	1.2
Energy exporters	26.6	22.3	23.5	23.4	29.2	25.3	25.3	21.6	-2.7	-3.0	-1.8	1.8
Energy importers	22.6	14.8	21.6	21.1	17.2	16.5	20.5	20.2	5.4	-1.7	1.1	1.1
Four exporters of manufactures	34.4	26.2	31.5	31.8	29.2	31.7	34.1	34.4	5.2	-5.4	-2.6	-2.6
Other countries	20.6	11.5	17.8	16.0	15.2	12.1	15.3	13.4	5.5	-0.6	2.5	2.4
Memo items												
Sub-Saharan Africa	19.3	17.6	18.2	16.7	12.3	15.3	12.2	9.2	7.0	2.5	6.0	7.5
Fifteen heavily indebted countries	24.9	16.1	19.8	19.6	24.6	23.0	22.2	18.3	0.3	-4.6	-2.4	1.3
Selected developing countries												
Argentina	25.3	17.6	14.0	18.4	23.8	23.1	19.5	16.5	1.4	-5.5	-5.5	1.9
Bangladesh	14.9	12.9	12.8	13.3	2.1	2.0	2.9	7.1	12.8	10.9	9.9	6.2
Brazil	23.3	19.2	21.5	18.2	21.1	24.4	23.2	20.2	2.3	-5.2	-1.7	-2.0
China	32.2	40.5	37.2	37.7	32.2	36.5	39.9	38.7	-0.0	4.1	-2.8	-1.0
Côte d'Ivoire	26.5	12.6	9.3	9.3	20.4	25.8	14.6	16.3	6.2	-13.1	-5.4	-6.9
Egypt	27.5	26.7	21.9	19.6	15.2	14.5	4.8	6.6	12.4	12.1	17.1	13.0
India	20.9	23.9	26.5	24.5	17.4	20.8	23.5	24.3	3.5	3.1	2.9	0.2
Indonesia	24.3	28.0	36.1	30.6	37.1	29.8	36.7	33.1	-12.8	-1.8	-0.5	-2.5
Kenya	29.2	26.0	24.3	16.1	18.1	24.9	19.1	21.1	11.1	1.1	5.2	-5.0
Mexico	27.2	21.2	21.9	21.7	24.9	26.3	20.7	15.9	2.3	-5.1	1.2	5.8
Morocco	24.2	27.1	25.1	24.6	13.7	18.1	19.1	18.8	10.5	9.0	6.0	5.8
Nigeria	22.2	9.0	14.6	12.7	32.3	12.6	29.5	19.5	-10.1	-3.7	-14.9	-6.7
Peru	28.8	18.4	16.8	18.6	31.8	24.9	16.3	15.6	-3.0	-6.5	0.5	3.0
Republic of Korea	31.7	29.3	36.9	34.3	24.3	30.5	36.4	34.7	7.4	-1.3	0.5	-0.4
South Africa	30.8	20.3	19.1	15.1	39.1	29.3	25.4	19.4	-8.3	-9.1	-6.3	-4.3
Thailand	29.1	28.2	41.1	39.3	22.9	25.5	33.6	34.5	6.3	2.7	7.5	4.7
Tunisia	29.4	26.6	25.5	25.1	24.0	20.4	19.1	20.8	5.4	6.1	6.4	4.3
Turkey	21.9	21.0	23.1	25.3	14.1	17.8	18.3	19.3	7.8	3.2	4.8	6.0
Zambia	23.3	14.9	17.3	10.7	19.3	15.4	17.8	9.5	4.0	-0.5	-0.5	1.2

Source: UN/DESIPA, based on World Bank, *World Tables*, and United Nations Secretariat estimates.

^a Excluding the former Yugoslavia.

^b Excluding China.

Table A.12.

DEVELOPING COUNTRIES: STRUCTURE OF TRADE IN GOODS AND SERVICES, 1980-1992

Percentage	Share in total exports of goods and services											
	Manufactures			Non-fuel primary commodities			Travel receipts and remittances			Fuels trade balance		
	1980	1985	1992	1980	1985	1992	1980	1985	1992	1980	1985	1992
All developing countries^a	21.3	30.8	43.3	16.8	17.5	13.4	6.2	7.8	11.1	32.6	17.1	8.2
By region												
Latin America	13.3	20.1	27.2	31.7	30.3	28.9	6.3	7.0	11.0	13.9	18.1	7.6
Africa	17.9	12.2	17.4	16.4	21.3	24.0	6.4	8.8	17.3	46.7	38.1	32.0
West Asia	4.8	9.2	13.4	1.6	3.0	3.2	2.8	5.0	5.0	80.3	51.4	55.3
South and East Asia ^b	42.1	49.8	54.5	21.0	14.2	8.5	9.0	8.8	11.7	-7.5	-4.0	-3.8
Mediterranean	24.9	40.3	38.6	39.0	21.4	13.3	49.6	24.7	27.6	-65.8	-27.2	-12.4
By analytical grouping												
Capital-surplus countries	1.9	3.5	2.4	0.7	1.3	1.4	1.0	1.7	2.0	89.3	66.5	76.2
Capital-importing countries	29.2	35.8	47.4	23.3	20.4	14.6	8.4	9.0	12.1	9.7	8.0	1.4
Energy exporters	4.1	10.7	27.5	12.9	12.3	12.5	14.8	18.4	31.3	66.7	56.9	37.9
Energy importers	50.0	49.4	53.6	32.0	24.8	15.3	3.6	3.9	4.8	-37.5	-18.3	-9.9
Four exporters of manufactures	60.1	63.2	55.1	8.9	6.1	3.8	5.3	5.3	14.2	-15.7	-10.0	-5.2
Other countries	43.5	38.9	51.9	46.7	39.0	28.3	2.9	3.1	0.5	-51.4	24.5	-15.2
Memo items												
Sub-Saharan Africa	6.8	6.6	11.2	51.0	43.7	48.3	5.7	5.9	9.3	2.7	4.3	2.0
Fifteen heavily indebted countries	12.0	20.3	28.1	29.9	28.8	27.8	5.8	6.4	9.7	26.2	25.4	11.8
Selected developing countries												
Argentina	16.6	17.4	20.1	52.5	58.0	49.5	3.1	5.1	4.9	-7.2	1.5	4.0
Bangladesh	52.2	52.9	60.5	23.6	24.9	13.6	36.3	43.1	36.6	-19.3	-30.8	-15.5
Brazil	33.4	39.2	50.6	51.6	42.7	35.5	0.6	0.2	2.4	-44.6	-17.5	-11.2
China	61.0	65.0	79.7	18.6	19.8	15.4	0.0	3.9	4.5	5.9	5.8	1.2
Côte d'Ivoire	6.5	8.5	9.5	76.0	66.8	70.0	2.2	1.1	0.9	-5.2	-3.8	-6.2
Egypt	5.1	2.5	10.0	11.6	5.4	5.9	50.5	48.8	76.5	29.2	14.1	11.3
India	35.8	39.1	64.3	24.7	24.0	18.9	34.9	25.3	6.6	-49.7	-28.2	-27.5
Indonesia	2.4	12.2	44.3	25.3	18.6	17.8	0.8	3.0	9.0	62.9	55.1	25.2
Kenya	7.8	6.8	18.2	34.7	43.1	35.8	11.6	15.5	20.6	-21.3	-19.1	-3.5
Mexico	8.4	22.4	32.0	14.9	10.6	10.8	17.7	13.9	19.7	45.2	47.2	14.5
Morocco	17.3	27.7	33.2	52.6	38.1	25.2	46.1	49.8	53.7	-26.6	-31.4	-15.1
Nigeria	0.8	1.0	1.0	5.5	2.2	3.0	0.3	0.3	0.7	86.0	93.5	86.9
Peru	11.4	8.7	16.4	42.2	46.6	57.9	6.1	7.6	4.2	12.6	16.2	-3.2
Republic of Korea	69.5	83.6	77.8	7.6	5.1	4.1	1.6	2.4	3.0	-29.3	-19.3	-14.2
South Africa	68.1	41.3	39.8	15.9	44.0	42.4	2.1	2.3	4.3	3.1	2.0	1.9
Sudan	0.6	0.4	0.9	69.5	47.9	95.9	37.3	39.6	31.0	-22.3	-13.2	-38.5
Thailand	20.9	26.8	52.0	53.4	41.3	23.9	10.1	11.4	11.4	-33.5	-19.6	-7.1
Tunisia	23.9	26.9	48.1	7.8	7.8	7.9	29.9	30.6	28.6	13.3	11.7	2.0
Turkey	21.3	42.7	41.5	56.8	23.8	15.7	65.3	24.6	26.2	-98.8	-29.9	-14.0

Source: UN/DESIPA, based on World Bank, *World Tables*, and United Nations Secretariat estimates.

^a Excluding the former Yugoslavia.

^b Excluding China.

Table A.13.
DEVELOPING COUNTRIES: INFLATION, 1985-1995^a

Annual percentage change											
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b	1995 ^c
All developing countries^d	87.6	33.7	52.8	116.7	291.6	499.6	77.9	130.6	270.0	158.8	40
By region											
Latin America	263.1	95.0	147.9	376.6	1002.5	1746.7	243.0	427.6	921.5	514.7	95
Africa	12.4	14.2	26.7	14.2	18.9	14.4	18.5	22.8	22.1	25.6	18
West Asia	43.2	17.1	19.8	18.9	15.5	8.0	13.8	15.8	13.1	18.3	13
South and East Asia	5.0	4.8	6.2	7.2	6.5	8.2	10.6	8.2	6.1	7.8	7
China	11.9	7.1	8.7	20.8	16.3	1.4	5.1	8.6	17.0	24.1	15
Mediterranean	41.7	32.0	36.0	68.1	58.6	55.9	61.1	65.0	61.3	98	70
By analytical grouping											
Capital-surplus countries	2.1	10.7	17.7	18.6	14.8	5.6	13.5	17.1	13.7	20.2	..
Capital-importing countries	113.0	41.4	65.8	146.3	376.2	651.4	99.3	166.9	347.8	200.4	..
Energy exporters	126.1	35.0	48.4	46.2	25.2	20.0	19.8	19.2	18.4	20.2	10
Energy importers	107.9	43.8	72.6	183.2	505.6	883.7	128.5	221.3	468.9	266.6	75
Four exporters of manufactures	2.5	2.1	3.3	5.3	5.6	7.3	8.0	6.0	4.7	5.3	..
Other	128.5	55.2	86.1	231.9	642.3	1122.4	161.3	279.9	595.4	337.8	..
Memo items											
Sub-Saharan Africa	14.0	10.9	78.2	2.6	18.7	17.9	23.7	27.0	32.8	47.6	28
Fifteen heavily indebted countries ^d	244.8	87.3	137.4	349.9	927.5	1620.8	225.8	398.8	857.8	479.8	100

Source: UN/DESIPA, based on IMF, *International Financial Statistics*, and United Nations Secretariat estimates.

^a Weights used are GDP in 1988 dollars.

^c Forecast.

^b Preliminary estimates based on data for part of the year.

^d Excluding the former Yugoslavia and Zaire.

Table A.14.
SELECTED DEVELOPING COUNTRIES OR AREAS: REAL EFFECTIVE EXCHANGE RATES, 1984-1994^a

1990 average = 100											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Argentina	137.1	121.3	104.2	92.2	103.1	87.7	100.0	115.7	113.7	115.4	111.8
Brazil	72.5	71.7	62.8	61.1	66.8	82.6	100.0	80.6	73.3	82.6	94.7
Chile	145.8	128.7	111.1	105.5	98.4	101.7	100.0	106.4	114.0	114.2	114.3
Mexico	128.5	126.3	90.1	92.9	112.3	107.5	100.0	106.3	107.8	116.8	112.3
Venezuela	167.9	178.3	173.2	124.8	139.4	122.6	100.0	98.1	97.2	100.8	98.3
Hong Kong	97.8	101.2	91.5	88.3	89.7	96.0	100.0	105.2	110.7	118.1	122.4
Indonesia	178.8	175.8	136.5	104.7	101.7	102.7	100.0	100.7	99.4	101.4	100.0
Malaysia	159.4	154.2	126.1	118.2	105.4	103.0	100.0	98.9	106.3	109.4	105.3
Philippines	121.6	128.5	101.5	98.0	100.1	106.1	100.0	96.9	105.5	97.2	104.5
Republic of Korea	113.8	105.0	89.3	88.4	96.3	107.8	100.0	97.4	88.2	85.7	84.0
Singapore	125.3	116.5	98.2	90.7	90.1	95.5	100.0	102.4	105.0	105.9	109.0
Taiwan Province of China	103.9	100.7	91.7	96.9	100.5	107.0	100.0	97.2	96.0	92.9	91.2
Thailand	135.9	121.2	103.0	96.8	97.4	100.3	100.0	102.2	98.4	99.8	99.5
Turkey	81.8	81.5	83.7	83.9	86.8	95.1	100.0	97.9	89.7	92.9	75.9

Source: Morgan Guaranty Trust Company, *World Financial Markets*, various issues.

Note: The real effective exchange rate, which adjusts the nominal index for relative price changes, gauges the effect on international price competitiveness of the country's manufactures due to currency changes and differential inflation. A rise in the index implies a fall in competitiveness and vice versa. The relative price changes are based on indices most closely measuring the prices of domestically produced finished manufactured goods, excluding food and energy at the first stage of manufacturing. The weights for currency indices are derived from 1990 bilateral trade patterns of the corresponding countries.

^a Measured against a broad currency basket of 22 OECD currencies and 23 developing-country currencies (mostly Asian and Latin American).

II. INTERNATIONAL TRADE

Table A.15.
DIRECTION OF TRADE: EXPORTS, 1980-1992

		Percentage								
Origin		Destination								
		World	Developed market economies ^a	Economies in transition	Developing countries (total)	Latin America	Africa	West Asia	South and East Asia	Other Asia ^b
		Billions of dollars								
World	1980	2 000.9	66.8	7.2	25.2	6.3	4.2	4.8	7.5	1.1
	1985	1 933.4	66.4	7.8	24.6	4.8	3.3	4.6	8.6	2.2
	1990	3 391.9	71.6	4.2	22.8	3.9	2.4	3.0	10.9	1.7
	1992	3 667.6	70.4	2.8	25.4	4.8	2.3	3.6	12.7	2.3
Developed market economies ^a	1980	1 258.9	70.8	3.4	25.1	6.1	5.2	5.3	6.6	1.1
	1985	1 266.9	74.0	2.7	22.2	4.5	3.6	4.5	7.0	2.0
	1990	2 445.2	77.5	2.0	19.5	3.9	2.4	2.8	8.8	0.9
	1992	2 667.3	74.9	2.4	21.8	4.9	2.3	3.3	9.8	1.2
Economies in transition	1980	155.1	27.9	50.7	20.9	3.3	2.8	3.8	2.0	2.7
	1985	172.2	24.0	53.2	21.4	4.0	2.5	3.0	2.2	3.7
	1990	171.9	38.3	37.8	23.0	4.8	2.1	2.5	2.6	5.0
	1992	92.9	61.6	19.1	17.6	1.5	1.8	3.8	3.2	5.2
Developing countries	1980	586.9	68.4	3.9	26.5	7.6	2.6	4.0	11.0	0.7
	1985	494.3	61.6	5.3	31.8	5.7	2.7	5.5	14.7	2.4
	1990	774.8	60.6	3.6	33.0	3.7	2.5	3.8	19.2	3.4
	1992	907.4	58.1	2.3	38.9	4.9	2.6	4.0	22.1	5.1
of which:										
Latin America	1980	107.8	64.4	6.5	27.5	21.3	2.2	1.5	1.3	0.7
	1985	109.2	69.0	8.0	20.8	11.9	2.5	1.9	2.8	1.5
	1990	133.6	62.8	4.9	21.4	13.6	1.5	1.6	3.7	0.8
	1992	138.6	68.0	2.8	27.6	19.5	1.3	1.7	4.1	0.8
Africa	1980	94.9	82.9	2.6	13.7	6.2	3.1	1.9	1.2	0.4
	1985	59.3	80.4	4.1	14.3	3.9	5.0	2.0	1.7	0.3
	1990	66.7	82.6	3.3	13.1	1.1	5.9	2.6	2.3	0.5
	1992	68.7	82.1	2.8	14.4	1.5	6.9	2.6	2.5	0.3
West Asia	1980	211.0	71.6	1.6	25.4	5.6	1.7	5.3	12.2	0.1
	1985	104.8	50.2	2.5	46.3	8.8	2.9	13.6	20.0	0.1
	1990	106.0	59.0	3.9	36.3	2.3	5.4	12.2	15.4	0.4
	1992	114.5	56.6	3.1	39.0	2.5	5.8	12.5	17.6	0.2
South and East Asia	1980	141.6	62.2	2.5	34.3	2.6	3.0	5.3	21.1	1.9
	1985	178.5	62.7	2.0	34.0	1.7	2.0	4.1	20.6	5.2
	1990	385.5	61.1	1.4	36.5	1.7	1.7	2.7	23.9	6.2
	1992	490.2	56.2	1.1	42.3	2.5	1.8	3.2	25.6	8.9
Other Asia ^b	1980	20.4	43.5	13.1	43.4	1.8	5.6	4.9	30.6	0.0
	1985	30.1	39.2	12.6	48.2	2.2	1.9	6.0	36.3	1.7
	1990	65.8	33.3	9.0	55.9	1.2	1.1	1.7	51.0	0.8
	1992	88.3	34.6	6.2	59.1	1.2	1.5	2.0	53.2	1.0

Source: UNCTAD secretariat computations, based on data from the Statistical Division/DESIPA.

^a Including South Africa.

^b Including China, Democratic People's Republic of Korea, Mongolia and Viet Nam.

Table A.16.
DIRECTION OF TRADE: IMPORTS, (F.O.B.) 1980-1992

Origin		Destination								
		World	Developed market economies ^a	Economies in transition	Developing countries (total)	Latin America	Africa	West Asia	South and East Asia	Other Asia ^b
		Billions of dollars								
World	1980	2000.9	1336.0	144.0	504.0	126.1	84.4	96.5	150.7	22.8
	1985	1933.4	1283.4	151.7	475.3	92.6	63.6	89.0	165.5	43.3
	1990	3391.9	2429.7	142.9	772.7	132.1	81.9	101.5	369.6	56.8
	1992	3667.6	2581.8	103.0	951.2	176.0	85.4	128.7	465.2	83.5
		Percentage								
Developed market economies ^a	1980	62.9	66.7	29.3	62.7	60.5	77.0	69.5	55.1	63.2
	1985	65.5	73.1	22.2	59.2	61.9	71.9	63.4	53.6	57.7
	1990	72.1	78.0	34.9	61.8	72.1	72.0	67.0	58.5	38.7
	1992	72.7	77.4	62.3	61.2	74.1	70.8	69.2	56.3	38.7
	Economies in transition	1980	7.8	3.2	54.7	6.4	4.1	5.2	6.0	2.1	18.3
1985		8.9	3.2	60.4	7.8	7.5	6.8	5.9	2.3	14.6
1990		5.1	2.7	45.5	5.1	6.2	4.3	4.3	1.2	15.3
1992		2.5	2.2	17.2	1.7	0.8	1.9	2.7	0.6	5.8
Developing countries		1980	29.3	30.0	16.0	30.8	35.4	17.8	24.5	42.9	18.5
	1985	25.6	23.7	17.3	33.0	30.6	21.3	30.7	44.0	27.6
	1990	22.8	19.3	19.6	33.1	21.7	23.7	28.7	40.3	46.0
	1992	24.7	20.4	20.4	37.1	25.1	27.3	28.1	43.1	55.5
	of which:									
Latin America	1980	5.4	5.2	4.8	5.9	18.2	2.8	1.6	0.9	3.3
	1985	5.6	5.9	5.8	4.8	14.1	4.3	2.3	1.9	3.9
	1990	3.9	3.5	4.5	3.7	13.8	2.4	2.1	1.3	2.0
	1992	3.8	3.6	3.8	4.0	15.3	2.1	1.9	1.2	1.4
	Africa	1980	4.7	5.9	1.7	2.6	4.7	3.5	1.9	0.7
1985		3.1	3.7	1.6	1.8	2.5	4.6	1.3	0.6	0.4
1990		2.0	2.3	1.5	1.1	0.5	4.8	1.7	0.4	0.6
1992		1.9	2.2	1.8	1.0	0.6	5.6	1.4	0.4	0.3
West Asia		1980	10.5	11.3	2.3	10.6	9.3	4.2	11.5	17.1
	1985	5.4	4.1	1.7	10.2	9.9	4.7	16.1	12.7	0.4
	1990	3.1	2.6	2.9	5.0	1.9	7.0	12.7	4.4	0.7
	1992	3.1	2.5	3.4	4.7	1.6	7.8	11.1	4.3	0.3
	South and East Asia	1980	7.1	6.6	2.5	9.6	2.9	5.0	7.7	19.8	11.7
1985		9.2	8.7	2.3	12.8	3.2	5.7	8.3	22.2	21.4
1990		11.4	9.7	3.6	18.2	4.8	7.9	10.4	24.9	41.8
1992		13.4	10.7	5.3	21.8	7.0	10.2	12.2	26.9	52.4
Other Asia ^b		1980	1.0	0.7	1.9	1.8	0.3	1.4	1.0	4.1	0.0
	1985	1.6	0.9	2.5	3.0	0.7	0.9	2.0	6.6	1.2
	1990	1.9	0.9	4.1	4.8	0.6	0.8	1.1	9.1	0.9
	1992	2.4	1.2	5.3	5.5	0.6	1.5	1.4	10.1	1.1

Source: UNCTAD secretariat computations, based on data from the Statistical Division/DESIPA.

^a Including South Africa.

^b Including data for China, Democratic People's Republic of Korea, Mongolia and Viet Nam.

Table A.17.

COMMODITY COMPOSITION OF WORLD TRADE: EXPORTS, 1980-1992

Billions of dollars and percentage

Exporting country group	Total exports (billions of dollars)			Primary commodities											
				Food			Agricultural raw materials			Fuels			Ores and metals		
	1980	1985	1992	1980	1985	1992	1980	1985	1992	1980	1985	1992	1980	1985	1992
World (billions of dollars)	2 000.9	1 933.4	3 438.6	221.1	199.2	328.1	73.9	61.2	92.5	480.8	361.6	325.0	93.5	70.6	110.8
World				(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
Developed market economies ^a	1 258.9	1 266.9	2 507.1	64.4	61.1	68.8	61.2	64.5	69.6	18.3	27.9	33.1	67.5	64.5	69.1
Economies in transition	155.2	172.2	91.0	4.4	4.6	2.1	8.8	9.0	4.1	8.8	14.7	7.1	5.2	6.3	3.1
Developing countries	586.8	494.3	840.5	31.2	34.3	29.1	30.0	26.5	26.3	72.9	57.4	59.8	27.3	29.2	27.8
Latin America	107.8	109.2	136.6	14.2	15.8	10.9	4.6	4.0	4.6	9.5	11.0	11.5	10.9	13.3	13.5
Africa	94.9	59.3	70.1	4.6	3.9	2.9	4.0	3.9	3.6	14.9	11.5	13.0	6.0	4.7	3.5
West Asia	211.0	104.8	105.1	1.2	1.5	1.6	1.3	1.1	1.0	41.5	24.7	23.5	1.2	1.4	1.8
South and East Asia	141.6	178.5	440.7	8.0	9.5	10.3	17.1	13.7	13.9	6.3	8.2	10.2	6.4	6.5	6.1
China ^b	20.4	30.1	75.1	2.3	2.6	2.8	2.1	3.1	2.4	0.6	2.0	1.5	1.2	1.9	1.5
Exporting country group	Manufactures														
	Textiles			Chemicals			Machinery and transport			Metal			Other		
	1980	1985	1992	1980	1985	1992	1980	1985	1992	1980	1985	1992	1980	1985	1992
World (billions of dollars)	96.0	103.2	236.0	140.7	152.4	300.6	513.1	601.1	256.0	114.1	104.8	179.2	221.1	227.3	515.6
World	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
Developed market economies ^a	61.3	52.7	48.0	87.1	83.2	85.2	85.0	82.3	84.7	85.7	77.9	79.6	80.1	76.2	75.1
Economies in transition	5.0	4.6	1.4	5.5	7.1	1.9	9.0	8.3	1.5	6.8	8.2	3.0	5.2	4.6	1.5
Developing countries	33.7	42.7	50.6	7.4	9.7	12.9	6.0	9.4	13.9	7.5	13.9	17.4	14.7	19.2	23.5
Latin America	2.2	2.3	1.7	2.0	2.9	2.3	1.0	1.5	1.2	1.6	4.2	4.3	1.7	2.4	1.8
Africa	1.2	1.3	1.7	0.6	0.8	0.9	0.1	0.1	0.1	0.2	0.3	0.3	0.5	0.4	0.4
West Asia	1.5	2.8	2.9	1.0	0.9	1.4	0.3	0.4	0.2	0.4	1.5	1.2	0.6	0.9	0.8
South and East Asia	23.1	29.8	34.9	2.3	3.4	6.7	3.9	6.6	11.0	4.0	6.4	9.1	9.9	13.6	17.5
China ^b	4.8	5.6	9.2	0.8	1.0	1.3	0.1	0.2	1.1	0.6	0.6	1.9	1.2	1.0	2.6

Source: UNCTAD secretariat computations, based on data from the Statistical Division/DESIPA.

^a Including South Africa.^b Including China, Democratic People's Republic of Korea, Mongolia and Viet Nam; China accounts for more than 90 per cent of amounts shown.

Table A.18.

COMMODITY COMPOSITION OF WORLD TRADE: IMPORTS, 1980-1992

Billions of dollars and percentage

Importing country group	Total imports (billions of dollars)			Primary commodities											
				Food			Agricultural raw materials			Fuels			Ores and metals		
	1980	1985	1992	1980	1985	1992	1980	1985	1992	1980	1985	1992	1980	1985	1992
World (billions of dollars)	2 000.9	1 933.4	3 483.6	221.1	199.2	328.1	73.9	61.2	92.5	480.8	361.6	325.0	93.5	70.6	110.8
World				(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
Developed market economies ^a	1 336.0	1 283.3	2 447.7	61.4	63.0	72.1	68.3	67.5	70.3	75.3	68.2	71.4	79.1	73.1	77.1
Economies in transition	144.0	151.7	109.3	10.3	10.5	5.5	7.5	7.5	2.7	3.9	7.9	3.5	5.5	6.0	2.4
Developing countries	504.0	475.3	850.4	27.3	25.8	22.0	24.0	24.7	26.5	18.9	21.6	22.4	13.2	17.6	20.1
Latin America	126.1	92.6	150.0	6.0	4.8	4.4	3.1	3.1	3.4	6.7	5.5	4.1	3.1	3.8	2.8
Africa	84.4	63.6	81.9	6.0	6.1	3.6	2.3	2.6	2.1	1.6	1.7	2.6	1.4	1.4	1.3
West Asia	96.5	89.0	113.9	5.6	6.1	4.0	2.1	2.1	1.8	2.0	2.5	2.6	1.5	1.8	2.1
South and East Asia	150.7	165.5	422.7	7.0	7.2	8.2	10.5	11.2	14.9	7.4	10.0	11.7	5.1	6.9	12.1
China ^b	22.8	43.3	62.5	1.7	1.0	1.1	4.1	3.8	3.7	0.1	0.4	0.7	0.7	2.1	1.5
Importing country group	Manufactures														
	Textiles			Chemicals			Machinery and transport			Metal			Other		
	1980	1985	1992	1980	1985	1992	1980	1985	1992	1980	1985	1992	1980	1985	1992
World (billions of dollars)	96.0	103.2	236.0	140.7	152.4	300.6	513.1	601.1	256.0	114.1	104.8	179.2	221.1	227.3	515.6
World	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
Developed market economies ^a	69.7	70.8	69.3	63.8	65.1	68.7	59.5	65.6	70.6	56.3	56.9	69.1	72.2	73.9	76.3
Economies in transition	6.8	6.5	3.1	7.4	6.8	3.3	8.7	8.0	2.8	9.3	9.1	2.8	5.5	5.0	2.2
Developing countries	23.1	22.2	27.3	28.5	27.5	27.2	31.3	25.7	26.3	33.9	33.2	27.9	22.0	20.9	21.1
Latin America	3.6	2.4	3.2	8.0	6.6	5.3	7.8	5.2	4.9	6.4	3.5	4.3	4.9	3.6	3.6
Africa	4.4	2.5	2.2	4.7	3.6	2.3	6.2	3.7	2.5	6.4	5.0	3.0	3.9	2.6	1.6
West Asia	5.8	6.0	3.5	4.2	4.1	2.9	6.9	5.1	3.5	8.7	8.2	4.6	5.6	5.3	2.9
South and East Asia	7.3	8.0	14.4	8.7	9.5	12.9	8.1	8.0	13.2	8.5	8.5	13.3	6.2	7.3	11.0
China ^b	1.1	2.4	3.2	1.6	2.5	3.1	1.3	3.0	1.7	2.3	6.6	2.2	0.7	1.5	1.5

Source: UNCTAD secretariat computations, based on data from the Statistical Division/DESIPA.

^a Including South Africa.^b Including China, Democratic People's Republic of Korea, Mongolia and Viet Nam; China accounts for more than 90 per cent of amounts shown.

Table A.19.

WORLD TRADE: CHANGES IN VALUE AND VOLUME OF EXPORTS AND IMPORTS, BY MAJOR COUNTRY GROUP, 1985-1995

Annual percentage change											
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a	1995 ^b
Dollar value of exports											
World	1.3	9.5	16.7	13.8	8.1	13.5	2.3	7.0	-0.2	12.0	11.5
Developed market economies of which:	3.4	16.1	16.6	14.4	7.1	15.3	2.0	5.9	-3.0	11.3	11.3
North America	-1.4	2.5	11.0	24.8	10.5	7.3	5.3	6.1	4.7	10.7	11.3
Western Europe	5.4	21.5	20.1	10.8	6.7	20.7	-0.5	5.6	-7.7	11.8	12.6
Japan	4.4	19.0	9.7	14.5	3.4	5.0	9.5	8.0	6.6	9.6	6.5
Economies in transition	-2.6	5.2	4.1	-0.8	-1.5	-4.2	♦-15.5	7.3	♦ 2.2	14.8	..
Eastern Europe	2.9	5.6	2.7	0.5	-3.2	-3.2	♦ -8.7	-1.0	♦ 0.1	20.5	..
Former Soviet Union	-8.1	4.7	5.6	-2.2	0.4	-5.2	-21.0	15.2	4.1	9.6	..
Developing countries	-3.0	-6.8	20.2	15.6	13.1	11.2	5.4	10.3	7.7	13.7	13.3
Latin America	-4.6	-16.2	11.3	13.8	10.0	8.1	-2.0	2.7	4.7	15.0	15.0
Africa	-1.4	-23.8	12.5	-2.0	15.1	30.9	-5.4	-2.4	-9.2	3.3	8.3
West Asia	-8.0	-21.2	8.7	3.0	24.3	3.0	-12.5	25.4	4.8	-1.9	5.0
South and East Asia	-2.4	8.8	29.5	23.6	12.1	10.4	14.0	11.5	11.4	15.6	15.1
China	10.3	14.1	25.7	20.2	9.1	18.1	15.0	14.3	13.0	31.9	15.0
Mediterranean	6.4	-4.0	21.6	12.9	3.8	9.9	1.4	-4.2	-3.4	4.8	4.7
Memo items											
Net energy exporters	-7.4	-28.2	12.0	1.2	20.5	16.1	-7.3	10.7	2.2	1.9	8.1
Net energy importers	0.2	7.7	24.0	21.5	10.6	9.3	10.4	10.1	9.5	17.3	14.6
Dollar value of imports											
World	1.2	9.4	16.2	14.0	8.5	13.8	2.5	6.4	-1.8	12.4	11.2
Developed market economies of which:	2.6	12.6	18.2	13.0	8.3	14.9	0.7	4.4	-5.4	12.1	12.0
North America	2.1	8.0	10.5	10.7	7.1	4.5	-1.1	7.9	8.7	13.8	9.4
Western Europe	4.2	18.2	22.2	12.4	7.8	20.8	1.5	3.9	-12.4	10.7	12.9
Japan	-4.2	-2.2	18.4	24.1	11.9	12.2	0.7	-1.6	3.6	13.9	12.8
Economies in transition	4.0	7.0	-0.6	2.1	4.5	1.5	♦-17.0	2.3	♦-3.8	10.2	..
Eastern Europe	6.4	13.2	0.7	-2.7	-2.2	3.1	♦ 1.8	7.8	♦ 5.3	12.3	..
Former Soviet Union	1.5	0.5	-2.2	7.9	12.0	0.0	-30.1	-3.3	-15.8	6.8	..
Developing countries	-3.5	0.1	13.8	20.3	10.2	12.6	11.3	12.8	8.3	13.3	10.4
Latin America	0.1	1.9	8.9	11.3	6.1	11.5	16.3	19.1	8.2	17.0	2.0
Africa	-12.9	0.6	-1.2	11.5	2.1	15.5	-2.0	4.8	-5.4	1.5	6.4
West Asia	-15.9	-10.5	1.3	9.5	4.9	3.7	10.9	16.7	-9.8	-3.2	2.5
South and East Asia	-5.2	4.3	28.2	29.6	15.0	16.5	13.8	11.6	9.9	17.7	14.5
China	62.0	1.2	0.0	27.4	5.7	-10.1	19.1	22.0	35.0	11.2	12.0
Mediterranean	2.9	-2.1	17.6	4.4	11.9	32.9	-11.2	-3.6	15.3	5.8	4.9
Memo items											
Net energy exporters	-13.2	-11.4	-0.2	16.0	6.8	9.3	16.4	16.2	-6.7	2.5	-4.1
Net energy importers	1.1	4.7	18.7	21.6	11.1	13.5	10.0	11.9	12.5	15.8	13.4

Table A.19 (continued)											
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a	1995 ^b
Volume of exports											
World	3.7	5.5	5.0	8.8	7.3	4.4	* 5.6	5.7	5.3	9.4	7.1
Developed market economies of which:	4.7	2.4	4.4	8.7	7.4	5.1	3.8	4.4	3.0	8.4	6.5
North America	2.7	5.8	6.6	17.9	8.7	7.0	6.2	8.2	6.8	11.1	9.6
Western Europe	5.0	1.8	4.3	6.0	7.5	4.2	2.5	3.3	1.9	8.2	6.9
Japan	5.6	-0.7	0.4	5.9	4.3	5.3	2.5	1.5	-1.7	2.0	-4.0
Economies in transition	-0.8	4.0	2.4	4.5	-1.5	-9.5	..	..	..	..	..
Eastern Europe	2.1	-0.7	1.7	4.3	-2.9	-6.2	* -9.3	-0.1	* 0.3	19.1	..
Former Soviet Union	-4.3	10.0	3.3	4.8	0.0	-13.1	..	..	..	..	..
Developing countries	1.0	17.5	7.5	10.0	8.9	4.6	11.3	9.6	11.7	11.8	8.6
Latin America	-0.2	-1.5	4.8	5.7	7.1	2.8	4.9	3.9	8.7	9.2	10.0
Africa	1.9	18.4	1.1	0.4	5.8	14.6	5.9	-0.3	-2.2	1.5	1.9
West Asia	-5.6	48.1	-14.0	14.3	9.0	-15.7	0.5	25.4	16.1	1.2	-1.4
South and East Asia	0.8	19.8	17.3	13.0	10.9	7.5	16.2	10.3	13.8	13.6	10.8
China	13.5	18.9	10.3	10.0	6.9	14.4	17.6	13.0	15.2	30.0	10.8
Mediterranean	9.1	-4.2	10.8	0.9	2.6	8.4	2.9	-4.9	-1.3	0.9	1.2
Memo items											
Net energy exporters	-4.6	20.7	-5.3	5.5	9.0	-2.4	4.0	11.7	8.4	0.9	6.3
Net energy importers	4.3	14.5	13.7	10.2	9.2	6.8	13.0	9.5	11.8	14.3	10.3
Volume of imports											
World	3.6	4.1	5.5	9.5	7.6	4.3	* 5.4	6.6	3.9	9.7	6.9
Developed market economies of which:	5.4	7.2	6.9	8.7	7.4	4.7	3.1	5.0	1.3	9.4	7.7
North America	6.6	9.6	3.7	6.2	4.5	1.4	1.3	10.3	12.2	13.0	5.8
Western Europe	5.5	6.1	8.3	8.2	8.4	6.2	3.9	3.6	-4.0	6.8	8.1
Japan	1.1	9.5	9.2	17.9	7.9	5.7	4.0	-0.4	2.9	13.7	9.6
Economies in transition	5.1	-0.8	1.0	3.7	4.5	-5.2	..	..	..	..	..
Eastern Europe	5.6	4.6	3.5	3.4	0.2	-8.9	* 2.3	5.9	* 5.9	10.8	..
Former Soviet Union	4.7	-6.0	-1.6	4.0	9.3	-1.4	..	..	..	..	..
Developing countries	-1.7	-3.9	2.0	13.5	8.8	4.9	12.8	11.3	11.3	10.4	4.9
Latin America	3.1	1.2	0.0	4.7	4.3	5.6	18.3	19.7	11.6	15.3	-1.4
Africa	-12.0	-7.5	-12.9	6.3	1.7	2.2	1.0	3.3	1.2	-1.2	1.2
West Asia	-14.8	-16.1	-10.4	4.2	3.7	-6.7	13.3	14.8	-5.1	-5.4	-2.7
South and East Asia	-3.1	2.0	15.0	21.6	13.4	10.1	14.5	9.7	11.5	14.5	8.5
China	65.0	-6.4	-9.3	18.6	5.0	-14.5	19.7	20.1	36.1	7.5	5.8
Mediterranean	4.3	-4.3	2.3	1.4	10.4	17.0	-8.2	-5.1	23.7	3.1	-0.3
Memo items											
Net energy exporters	-11.6	-16.2	-10.0	9.2	5.5	1.6	17.9	15.3	-3.4	0.5	-8.0
Net energy importers	3.1	1.7	6.2	14.4	9.5	6.1	11.2	10.2	15.0	12.6	7.5

Source: UN/DESIPA, based on data of United Nations and estimates of ECE from national data.

Note: As of 1993, transactions between the Czech Republic and Slovakia are recorded as foreign trade.

* Indicates break in the series.

^a Preliminary estimates.

^b Forecast.

Table A.20.

**WORLD TRADE: CHANGES IN PRICES OF EXPORTS AND IMPORTS AND TERMS OF TRADE,
BY MAJOR COUNTRY GROUP, 1985-1995**

Annual percentage change in dollar-based indices											
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a	1995 ^b
Unit value of exports											
World	-1.7	5.8	11.4	4.9	0.7	8.8	♦-2.5	1.1	-5.3	2.4	4.6
Developed market economies of which:	-1.2	13.3	11.7	5.4	-0.2	9.6	-1.7	1.4	-5.8	2.6	4.6
North America	-3.7	-3.4	4.2	6.5	1.8	-0.2	-0.9	-2.3	-2.0	-0.5	1.6
Western Europe	0.3	19.3	15.1	4.6	-0.8	15.8	-3.0	2.2	-9.4	3.4	5.4
Japan	-1.2	19.8	9.3	8.1	-0.8	-0.3	6.8	6.4	8.4	7.5	10.8
Economies in transition	-1.8	1.1	1.6	-5.1	0.1	5.9	..	..	..	..	..
Eastern Europe	0.8	6.4	1.0	-3.6	-0.3	3.2	♦ 0.7	-0.9	♦-0.1	1.2	..
Former Soviet Union	-4.0	-4.8	2.2	-6.7	0.4	9.1	..	..	..	..	..
Developing countries	-3.2	-16.7	12.2	5.6	3.9	6.7	-4.9	0.3	-3.8	1.8	4.5
Latin America	-4.4	-15.0	6.2	7.7	2.7	5.2	-6.6	-1.2	-3.7	5.3	4.5
Africa	-3.2	-35.6	11.3	-2.4	8.8	14.2	-10.7	-2.1	-7.1	1.8	6.3
West Asia	-2.5	-46.8	26.5	-9.9	14.1	22.2	-13.0	0.0	-9.8	-3.0	6.5
South and East Asia	-3.2	-9.2	10.4	9.4	1.1	2.7	-1.9	1.1	-2.1	1.8	3.9
China	-2.8	-4.0	14.0	9.3	2.0	3.3	-2.2	1.1	-1.9	1.5	3.8
Mediterranean	-2.5	0.2	9.7	11.9	1.2	1.4	-1.5	0.8	-2.1	3.9	3.4
Memo items											
Net energy exporters	-2.9	-40.5	18.3	-4.1	10.6	18.9	-10.8	-0.9	-5.7	1.0	1.7
Net energy importers	-3.9	-5.9	9.0	10.2	1.3	2.4	-2.3	0.6	-2.1	2.6	3.9
Unit value of imports											
World	-2.5	5.0	10.3	4.4	0.8	9.1	♦-2.1	0.0	-5.9	2.3	4.3
Developed market economies of which:	-2.7	5.2	10.6	4.2	0.7	9.7	-2.3	-0.5	-6.5	2.2	4.0
North America	-4.2	-1.1	6.7	4.9	2.2	2.6	-2.1	-2.0	-2.6	0.3	3.3
Western Europe	-1.3	11.4	12.8	3.9	-0.5	13.7	-2.4	0.3	-8.8	3.6	4.5
Japan	-5.2	-10.7	8.4	5.2	3.8	6.1	-3.2	-1.2	0.7	0.2	3.0
Economies in transition	-1.1	7.9	-1.6	-1.5	0.0	7.1	..	..	..	..	..
Eastern Europe	0.8	8.2	-2.7	-5.8	-2.3	13.1	♦-0.5	1.8	♦-0.6	1.4	..
Former Soviet Union	-3.1	6.9	-0.6	3.8	2.4	1.4	..	..	..	..	..
Developing countries	-2.0	3.8	11.6	6.1	1.3	7.5	-1.3	1.4	-2.9	2.6	5.2
Latin America	-2.9	0.7	8.9	6.3	1.8	5.6	-1.7	-0.5	-3.1	1.5	3.4
Africa	-1.0	8.8	13.5	4.9	0.4	13.0	-3.0	1.4	-6.5	2.7	5.1
West Asia	-1.3	6.6	13.0	5.1	1.2	11.1	-2.1	1.6	-4.9	2.4	5.3
South and East Asia	-2.2	2.3	11.5	6.6	1.4	5.8	-0.6	1.8	-1.5	2.8	5.5
China	-1.8	8.1	10.2	7.4	0.7	5.1	-0.5	1.6	-0.8	3.4	5.9
Mediterranean	-1.3	2.3	14.9	3.0	1.4	13.6	-3.3	1.6	-6.8	2.6	5.2
Memo items											
Net energy exporters	-1.8	5.8	10.9	6.2	1.2	7.6	-1.2	0.8	-3.4	2.0	4.3
Net energy importers	-2.0	3.0	11.7	6.3	1.4	7.0	-1.1	1.5	-2.2	2.8	5.5

Table A.20 (continued)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a	1995 ^b
Terms of trade											
Developed market economies of which:	1.6	7.7	1.0	1.1	-1.0	-0.1	* 0.6	1.9	0.8	0.3	0.6
North America	0.6	-2.3	-2.3	1.5	-0.4	-2.7	1.2	-0.3	0.6	-0.8	-1.7
Western Europe	1.6	7.1	2.0	0.7	-0.4	1.9	-0.6	1.9	-0.7	-0.3	0.9
Japan	4.2	34.2	0.9	2.8	-4.4	-6.1	10.3	7.6	7.7	7.3	7.7
Economies in transition	-0.7	-6.3	3.3	-3.6	0.0	-1.1	..	..	..	..	..
Eastern Europe	0.0	-1.7	3.8	2.4	2.1	-8.8	* 1.2	-2.6	* 0.4	-0.2	..
Former Soviet Union	-0.9	-10.9	2.9	-10.0	-1.9	7.6	..	..	..	..	..
Developing countries	-1.3	-19.8	0.6	-0.5	2.6	-0.7	-3.7	-1.1	-1.0	-0.8	-0.6
Latin America	-1.5	-15.6	-2.5	1.3	0.9	-0.4	-5.0	-0.7	-0.6	3.7	1.1
Africa	-2.2	-40.8	-1.9	-7.0	8.4	1.1	-7.9	-3.5	-0.6	-0.9	1.1
West Asia	-1.2	-50.1	11.9	-14.3	12.7	10.0	11.1	-1.6	-5.2	-5.3	1.1
South and East Asia	-1.0	-11.2	-1.0	2.6	-0.3	-2.9	-1.3	-0.7	-0.6	-1.0	-1.5
China	-1.0	-11.2	3.4	1.8	1.3	-1.7	-1.7	-0.5	-1.1	-1.8	-2.0
Mediterranean	-1.2	-2.1	-4.5	8.6	-0.2	-10.7	1.9	-0.8	5.0	1.3	-1.7
Memo items											
Net energy exporters	-1.1	-43.8	6.7	-9.7	9.3	10.5	-9.7	-1.7	-2.4	-1.0	-2.5
Net energy importers	-1.9	-8.6	-2.4	3.7	-0.1	-4.3	-1.2	-0.9	0.1	-0.2	-1.5

Source: UN/DESIPA, based on data of United Nations and IMF.

Note: As of 1993, transactions between the Czech Republic and Slovakia are recorded as foreign trade.

* Indicates break in the series.

^a Preliminary estimates.

^b Forecast.

Table A.21.
INDICES OF PRICES OF NON-FUEL PRIMARY COMMODITIES
EXPORTED BY DEVELOPING COUNTRIES, 1984-1994

1985 = 100											
	Food	Tropical beverages	Vegetable oil-seeds and oils	Agricultural raw materials	Minerals and metals	Combined index		Prices of manufactures ^a	Real prices of commodities ^b	Memo item: crude petroleum ^c	
						Dollar	SDR				
1984	116	110	144	111	105	114	112	100	114	102	
1985	100	100	100	100	100	100	100	100	100	100	
1986	110	124	62	102	95	104	90	120	87	47	
1987	117	81	73	119	113	107	84	135	79	62	
1988	152	82	96	129	164	135	102	144	94	52	
1989	161	70	85	129	164	135	107	143	94	63	
1990	151	62	74	135	148	127	95	158	80	81	
1991	141	57	80	127	134	118	88	157	75	68	
1992	138	49	86	124	129	115	83	162	71	67	
1993	139	52	85	120	110	111	81	157	71	59	
1994	153	91	107	136	125	130	92	158	82	56	
1993	I	139	51	84	124	120	113	83	155	73	60
	II	138	46	82	120	110	109	79	159	69	61
	III	133	54	86	118	108	108	78	156	70	57
	IV	146	58	90	119	102	113	82	158	71	52
1994	I	159	59	96	127	109	121	88	153	79	49
	II	151	77	102	132	118	124	89	155	80	57
	III	149	122	107	139	129	135	94	162	83	61
	IV	154	107	121	147	144	140	97	163	86	59

Sources: UNCTAD, *Monthly Commodity Price Bulletin*, and United Nations, *Monthly Bulletin of Statistics*.

^a Unit value of exports of manufactures from developed market economies. The base of the original index has been shifted to 1985.

^b Dollar index deflated by unit values of manufactured exports of developed market economies.

^c OPEC oil price, which is the average spot price of a basket of seven OPEC country crudes (Saharan Blend, Minas, BonnyLight, Arab Light, Dubai, T. J. Light and Isthmus).

III. INTERNATIONAL FINANCE AND FINANCIAL MARKETS

Table A.22.

WORLD BALANCE OF PAYMENTS ON CURRENT ACCOUNT, BY COUNTRY GROUP, 1984-1994^a

Billions of dollars											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b
Developed market economies	-31.1	-38.0	-4.2	-238.8	-20.6	-40.8	-56.1	-2.1	17.5	77.4	53.9
Major developed market economies of which:	-34.4	-36.9	0.6	-233.3	-14.7	-19.3	-33.7	10.7	29.6	53.2	17.3
Germany ^c	15.9	23.3	47.7	56.9	62.5	70.0	61.8	9.9	1.3	3.1	-4.4
Japan	36.4	50.5	87.3	89.7	82.6	60.3	40.4	84.7	120.9	135.3	134.2
United States	-88.9	-112.0	-137.1	-154.6	-115.3	-89.5	-71.1	-27.4	-49.1	-85.5	-136.9
Other industrialized countries	3.3	-1.0	-4.9	-5.4	-5.9	-21.5	-22.4	-12.9	-12.1	24.2	36.6
Economies in transition ^d	10.0	2.6	3.9	7.4	3.7	-2.9	10.5	♦ -3.0	-6.5	-4.9	-7.7
Eastern Europe	3.3	2.5	1.2	0.1	0.8	-2.1	-5.7	♦ -2.2	-1.5	-8.0	-4.4
Former Soviet Union	6.7	0.1	2.7	7.3	2.9	-0.8	-4.8	♦ -0.8	-5.5	2.9	-2.9
Developing countries	-23.5	-30.3	-41.5	-11.1	-26.9	-20.9	-9.0	-71.0	-86.2	-109.3	-101.6
Capital-surplus countries	6.8	2.9	-3.4	-2.1	-4.0	2.7	15.2	-24.2	-21.4	-11.1	-16.7
Capital-importing countries	-30.3	-33.2	-38.1	-9.0	-22.8	-23.5	-24.2	♦ -46.9	-64.8	-98.3	-85.0
Energy exporters	-2.7	-4.5	-19.3	-1.7	-16.7	-8.7	2.1	-19.9	-33.0	-37.0	-41.6
Energy importers	-27.6	-28.7	-18.8	-7.2	-6.1	-14.9	-26.3	-26.9	-31.8	-61.3	-43.3
Four exporters of manufactures	7.2	11.0	23.2	30.9	28.3	24.8	14.8	10.7	11.1	13.8	11.2
Other	-34.7	-39.7	-42.0	-38.2	-34.5	-39.7	-41.1	-37.7	-42.9	-75.1	-54.5
World residual ^e of which:	44.6	65.7	41.9	242.4	43.7	64.6	75.6	76.1	70.2	39.8	52.2
Trade residual (imports, f.o.b.)	-29.7	-15.8	-22.7	-34.0	-37.3	-20.3	-23.7	-32.6	-54.4	-79.5	-82.0
Services and private transfers	74.3	81.5	64.5	276.4	81.0	85.0	99.3	108.8	124.6	119.4	134.2

Source: UN/DESIPA, based on data of IMF and other national and international sources.

♦ Indicates break in series.

^a Balance on goods, services and private transfers.

^b Preliminary estimate.

^c Including transactions of the former German Democratic Republic as from July 1990.

^d Balance in convertible currencies; total includes the former German Democratic Republic until 1990.

^e Unreported trade, services and private transfers, as well as errors and timing asymmetries in reported data.

Table A.23.

CURRENT ACCOUNT TRANSACTIONS: DEVELOPED MARKET ECONOMIES, 1984-1994^a

Billions of dollars											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b
All developed market economies											
Merchandise exports	1204.8	1243.8	1447.7	1693.2	1951.0	2089.5	2399.0	2436.7	2592.2	2503.0	2797.6
Merchandise imports (f.o.b.)	-1253.6	-1287.1	-1450.8	-1722.9	-1959.0	-2122.9	-2436.3	-2428.0	-2546.4	-2404.8	-2704.7
Trade balance	-48.8	-43.3	-3.1	-29.6	-8.0	-33.4	-37.3	8.7	45.8	98.2	92.9
Net services and private transfers of which:											
investment income	17.7	5.3	-1.2	-209.2	-12.6	-7.5	-18.8	-10.8	-28.3	-20.8	-39.0
Current account balance	14.7	2.1	-2.1	-1.5	2.2	5.9	-1.9	-7.8	-17.9	-16.8	-38.3
	-31.1	-38.0	-4.2	-238.8	-20.6	-40.8	-56.1	-2.1	17.5	77.4	53.9
Major developed market economies											
Merchandise exports	898.5	926.7	1072.0	1239.6	1435.2	1541.6	1748.1	1787.3	1902.2	1861.2	2057.8
Merchandise imports (f.o.b.)	-945.5	-966.4	-1071.9	-1251.2	-1426.8	-1549.1	-1758.4	-1760.0	-1845.7	-1780.5	-1990.5
Trade balance	-47.0	-39.6	0.1	-11.6	8.3	-7.5	-10.3	27.3	56.4	80.6	67.3
Net services and private transfers of which:											
investment income	12.6	2.7	0.5	-221.8	-23.1	-11.8	-23.3	-16.6	-26.8	-27.4	-50.0
Current account balance of which:											
Germany ^c											
Merchandise exports	161.4	173.7	231.0	278.5	308.6	324.9	391.3	378.6	406.7	363.3	411.3
Merchandise imports (f.o.b.)	-139.2	-145.1	-175.3	-208.3	-228.9	-247.2	-320.2	-355.4	-373.9	-318.8	-360.2
Trade balance	22.1	28.6	55.8	70.2	79.7	77.7	71.0	23.2	32.8	44.4	51.1
Net services and private transfers of which:											
investment income	-6.3	-5.3	-8.0	-13.3	-17.3	-7.7	-9.3	-13.4	-31.5	-41.4	-55.5
Current account balance	3.6	3.3	4.2	3.9	5.2	11.8	17.8	19.8	15.6	9.1	-4.5
	15.9	23.3	47.7	56.9	62.5	70.0	61.8	9.9	1.3	3.1	-4.4
Japan											
Merchandise exports	168.3	174.0	205.6	224.6	259.8	269.5	280.3	306.6	330.9	351.3	384.0
Merchandise imports (f.o.b.)	-124.0	-118.0	-112.8	-128.2	-164.8	-192.7	-216.8	-203.5	-198.5	-209.7	-238.2
Trade balance	44.3	56.0	92.8	96.4	95.0	76.9	63.6	103.1	132.4	141.6	145.8
Net services and private transfers of which:											
investment income	-7.9	-5.4	-5.5	-6.7	-12.4	-16.6	-23.2	-18.4	-11.4	-6.2	-11.6
Current account balance	4.2	6.8	9.5	16.7	21.0	23.4	23.2	26.7	36.2	41.4	40.9
	36.4	50.5	87.3	89.7	82.6	60.3	40.4	84.7	120.9	135.3	134.2
United States											
Merchandise exports	219.9	215.9	223.4	250.2	320.2	362.1	389.3	416.9	440.4	456.9	502.7
Merchandise imports (f.o.b.)	-332.4	-338.1	-368.4	-409.8	-447.2	-477.4	-498.3	-491.0	-536.5	-589.4	-669.1
Trade balance	-112.5	-122.2	-145.1	-159.6	-127.0	-115.3	-109.0	-74.1	-96.1	-132.6	-166.4
Net services and private transfers of which:											
investment income	23.6	10.2	8.0	5.0	11.7	25.8	37.9	46.7	47.0	47.1	29.5
Current account balance	30.1	19.7	11.7	7.9	11.6	15.4	20.7	14.9	4.6	3.9	-15.2
	-88.9	-112.0	-137.1	-154.6	-115.3	-89.5	-71.1	-27.4	-49.1	-85.5	-136.9
Other industrialized countries											
Merchandise exports	306.3	317.0	375.7	453.7	515.9	547.9	650.9	649.4	690.0	641.9	739.8
Merchandise imports (f.o.b.)	-308.1	-320.7	-378.9	-471.7	-532.2	-573.8	-677.9	-668.0	-700.7	-624.3	-714.1
Trade balance	-1.8	-3.7	-3.2	-18.0	-16.3	-25.8	-27.0	-18.6	-10.6	17.6	25.6
Net services and private transfers of which:											
investment income	5.1	2.6	-1.7	12.6	10.4	4.3	4.6	5.8	-1.5	6.7	11.0
Current account balance	-11.3	-12.6	-13.9	-13.7	-16.6	-19.7	-28.1	-29.5	-36.6	-29.4	-27.2
	3.3	-1.0	-4.9	-5.4	-5.9	-21.5	-22.4	-12.9	-12.1	24.2	36.6

Source: UN/DESIPA, based on data of IMF and national sources.

^a Balance on goods, services and private transfers.^b Preliminary (based in part on United Nations Secretariat estimates).^c Including transactions of the former German Democratic Republic as from July 1990.

Table A.24.

CURRENT ACCOUNT TRANSACTIONS: ECONOMIES IN TRANSITION, 1984-1994^a

Billions of dollars											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b
Economies in transition^c											
Merchandise exports	76.8	70.3	57.7	65.2	70.6	74.0	73.2	♦ 76.1	96.8	♦ 100.0	115.3
Merchandise imports (f.o.b.)	-63.4	-63.9	-51.6	-55.0	-63.0	-72.9	-79.5	♦ -76.1	-90.2	♦ -89.2	-103.2
Trade balance	13.4	6.4	6.1	10.3	7.6	1.1	-6.3	♦ 0.1	6.6	10.8	12.1
Net services and private transfers	-3.4	-3.8	-2.2	-2.9	-3.9	-4.0	-4.2	♦ -3.1	-13.2	-15.7	-19.8
Current account balance	10.0	2.6	3.9	7.4	3.7	-2.9	-10.5	♦ -3.0	-6.5	-4.9	-7.7
Eastern Europe^c											
Merchandise exports	33.5	33.4	30.9	33.9	37.2	38.8	39.6	♦ 38.4	43.1	♦ 44.0	54.0
Merchandise imports (f.o.b.)	-26.8	-27.7	-28.4	-31.9	-34.3	-37.5	-44.2	♦ -40.8	-46.3	♦ -52.2	-63.8
Trade balance	6.7	5.7	2.5	2.1	2.9	1.3	-4.6	♦ -2.3	-3.2	-8.2	-9.8
Net services and private transfers	-3.4	-3.2	-1.3	-2.0	-2.1	-3.4	-1.1	♦ 0.1	1.7	0.2	5.4
Current account balance	3.3	2.5	1.2	0.1	0.8	-2.1	-5.7	♦ -2.2	-1.5	-8.0	-4.4
of which:											
former Czechoslovakia											
Merchandise exports	4.0	3.9	4.3	4.5	5.0	5.4	6.0	8.3	11.3		
Merchandise imports (f.o.b.)	-3.1	-3.2	-4.1	-4.7	-5.1	-5.0	-6.8	-8.8	-12.9		
Trade balance	0.9	0.7	0.2	-0.2	-0.1	0.4	-0.8	-0.4	-1.6		
Net services and private transfers	0.2	0.0	0.2	0.3	0.2	-0.1	-0.3	0.8	1.8		
Current account balance	1.1	0.7	0.4	0.1	0.1	0.3	-1.1	0.4	0.2		
Czech Republic											
Merchandise exports										10.4	12.0
Merchandise imports (f.o.b.)										-10.6	-12.6
Trade balance										-0.2	-0.7
Net services and private transfers										0.5	1.3
Current account balance										0.3	0.7
Slovakia											
Merchandise exports										3.1	4.2
Merchandise imports (f.o.b.)										-4.0	-4.7
Trade balance										-0.9	-0.5
Net services and private transfers										0.2	0.4
Current account balance										-0.7	-0.1
Hungary											
Merchandise exports	4.9	4.2	4.2	5.1	5.5	6.4	6.4	9.3	10.0	8.1	10.7
Merchandise imports (f.o.b.)	-4.0	-4.1	-4.7	-5.0	-5.0	-5.9	-6.1	-9.1	-10.1	-11.4	-14.6
Trade balance	0.9	0.1	-0.5	0.0	0.5	0.5	0.3	0.2	-0.1	-3.3	-3.9
Net services and private transfers	-1.0	-1.3	-1.2	-1.2	-1.3	-1.9	-0.2	0.1	0.4	-0.2	-0.0
Current account balance	-0.1	-1.2	-1.7	-1.2	-0.8	-1.4	0.1	0.3	0.3	-3.5	-3.9
Poland											
Merchandise exports	5.3	5.1	5.6	6.4	7.7	8.3	11.3	13.8	13.9	13.6	17.0
Merchandise imports (f.o.b.)	-3.9	-4.0	-4.7	-5.4	-6.9	-8.4	-9.9	-14.6	-14.0	-16.9	-21.4
Trade balance	1.4	1.1	0.9	1.0	0.8	-0.1	1.4	-0.8	-0.1	-3.3	-4.3
Net services and private transfers	-2.2	-1.7	-0.2	-1.4	-1.4	-1.7	-0.7	-0.6	-0.2	1.0	3.4
Current account balance	-0.8	-0.6	0.7	-0.4	-0.6	-1.8	0.7	-1.4	-0.3	-2.3	-0.9
Former Soviet Union^d											
Merchandise exports	43.3	36.9	26.8	31.3	33.4	35.2	33.6	37.7	51.6	52.1	57.0
Merchandise imports (f.o.b.)	-36.6	-36.2	-23.2	-23.1	-28.7	-35.4	-35.3	-35.3	-42.1	-32.8	-34.3
Trade balance	6.7	0.7	3.6	8.2	4.7	-0.2	-1.7	2.4	9.5	19.3	22.7
Net services and private transfers	-0.0	-0.6	-0.9	-0.9	-1.8	-0.6	-3.1	-3.2	-15.0	-16.4	-25.6
Current account balance	6.7	0.1	2.7	7.3	2.9	-0.8	-4.8	-0.8	-5.5	2.9	-2.9

Source: UN/DESIPA, based on data of IMF, ECE and national sources.

♦ Indicates break in series.

a Balance in convertible currencies on goods, services and private transfers.

b Preliminary (based in part on United Nations Secretariat estimates).

c Including transactions of the former German Democratic Republic until 1990.

d From 1992, data for the Commonwealth of Independent States.

Table A.25.

CURRENT ACCOUNT TRANSACTIONS: DEVELOPING COUNTRIES, 1984-1994^a

Billions of dollars	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b
All developing countries (129 economies)											
Merchandise exports	526.5	500.2	448.6	566.6	649.7	729.8	829.5	869.6	946.3	1006.4	1134.3
Merchandise imports (f.o.b.)	-461.4	-447.4	-428.9	-513.3	-612.0	-677.2	-762.2	-845.7	-952.2	-1034.8	-1146.3
Trade balance	65.1	52.7	19.7	53.3	37.7	52.6	67.3	23.9	-5.9	-28.4	-11.9
Net services and private transfers of which:	-88.6	-83.0	-61.2	-64.3	-64.5	-73.4	-76.3	-94.9	-80.3	-80.9	-86.8
investment income	-49.5	-48.6	-41.1	-46.8	-48.0	-50.0	-48.1	-48.4	-49.4	-53.7	-56.8
Current account balance	-23.5	-30.3	-41.5	-11.1	-26.9	-20.9	-9.0	-71.0	-86.2	-109.3	-98.7
Totals by region											
Latin America											
Merchandise exports	107.0	99.2	82.3	93.5	106.5	116.7	128.3	127.1	133.4	140.1	159.5
Merchandise imports (f.o.b.)	-70.3	-68.4	-67.8	-75.8	-85.9	-92.5	-103.8	-121.3	-146.6	-159.4	-181.0
Trade balance	36.7	30.8	14.5	17.7	20.6	24.2	24.6	5.8	-13.2	-19.3	-21.5
Net services and private transfers of which:	-39.0	-35.9	-34.6	-30.7	-32.5	-34.6	-29.9	-26.6	-24.6	-28.1	-29.0
investment income	-38.1	-36.4	-33.2	-32.3	-35.3	-39.4	-35.3	-32.4	-31.9	-33.7	-35.7
Current account balance	-2.3	-5.2	-20.1	-13.0	-11.9	-10.4	-5.3	-20.8	-37.8	-47.5	-50.5
Africa											
Merchandise exports	83.1	82.8	67.8	76.3	77.1	83.8	103.2	98.3	96.3	91.4	94.2
Merchandise imports (f.o.b.)	-77.8	-67.7	-62.9	-69.2	-77.1	-80.1	-89.5	-88.8	-91.8	-90.3	-93.0
Trade balance	5.3	15.1	5.0	7.0	0.0	3.7	13.7	9.4	4.5	1.1	1.2
Net services and private transfers of which:	-18.8	-18.6	-17.5	-17.2	-17.5	-18.8	-19.7	-19.0	-15.4	-14.1	-15.0
investment income	-10.9	-11.8	-11.8	-14.4	-14.9	-15.9	-17.9	-17.8	-14.8	-13.4	-16.0
Current account balance	-13.5	-3.6	-12.5	-10.1	-17.5	-15.1	-6.1	-9.6	-10.9	-13.0	-13.8
West Asia											
Merchandise exports	113.8	99.8	69.2	87.1	88.1	108.4	132.5	118.9	128.0	128.0	126.7
Merchandise imports (f.o.b.)	-89.0	-77.0	-69.1	-75.6	-77.9	-82.5	-89.9	-101.5	-112.9	-105.4	-102.7
Trade balance	24.8	22.9	0.1	11.6	10.3	25.9	42.6	17.5	15.1	22.5	24.0
Net services and private transfers of which:	-28.2	-32.7	-11.8	-21.0	-21.2	-26.0	-33.4	-51.8	-46.6	-43.4	-47.5
investment income	13.9	13.5	16.7	13.4	14.5	15.5	13.5	9.9	7.8	5.6	6.5
Current account balance	-3.5	-9.8	-11.7	-9.4	-10.9	-0.1	9.2	-34.3	-31.5	-20.8	-23.5
South and East Asia											
Merchandise exports	199.9	196.7	216.3	284.3	350.0	390.8	433.6	493.2	560.0	619.9	734.0
Merchandise imports (f.o.b.)	-199.0	-206.1	-213.5	-263.9	-339.0	-384.3	-431.4	-493.5	-560.1	-632.7	-745.2
Trade balance	0.9	-9.4	2.8	20.5	11.0	6.5	2.2	-0.3	-0.1	-12.8	-11.2
Net services and private transfers of which:	-8.1	-5.6	-1.5	-1.1	-3.4	-5.9	-4.4	-4.6	-5.9	-9.4	-0.6
investment income	-12.0	-11.5	-11.5	-12.2	-11.3	-10.6	-10.5	-9.7	-11.6	-13.2	-11.0
Current account balance	-7.2	-15.0	1.3	19.3	7.7	0.5	-2.2	-4.9	-5.9	-22.2	-11.8

Table A.25 (continued)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b
Totals by trade grouping											
Surplus energy exporters (8 economies)											
Merchandise exports	112.5	94.9	53.9	78.0	76.6	96.0	119.3	105.4	112.0	108.0	103.3
Merchandise imports (f.o.b.)	-76.9	-63.9	-45.2	-59.7	-63.3	-70.4	-74.3	-80.9	-90.9	-80.1	-72.4
Trade balance	35.7	31.0	8.8	18.4	13.3	25.6	45.0	24.5	21.1	27.9	31.0
Net services and private transfers	-28.9	-28.1	-12.2	-20.5	-17.3	-22.9	-29.7	-48.6	-42.4	-38.9	-47.6
of which:											
investment income	15.4	15.8	20.5	18.3	20.0	20.8	19.4	16.3	16.3	13.4	11.0
Current account balance	6.8	2.9	-3.4	-2.1	-4.0	2.7	15.2	-24.2	-21.4	-11.1	-16.7
Deficit energy exporters (19 economies)											
Merchandise exports	133.5	127.3	91.8	111.0	113.7	134.8	169.3	170.6	179.6	188.1	209.9
Merchandise imports (f.o.b.)	-99.8	-95.1	-81.9	-86.1	-103.4	-113.0	-135.6	-157.4	-177.9	-190.2	-212.1
Trade balance	33.7	32.2	9.9	24.9	10.3	21.8	33.7	13.2	1.7	-2.1	-2.2
Net services and private transfers	-36.4	-36.7	-29.2	-26.6	-27.0	-30.5	-31.6	-33.1	-34.7	-34.9	-39.4
of which:											
investment income	-26.2	-25.8	-22.4	-25.1	-26.2	-29.6	-29.7	-31.6	-34.4	-32.6	-32.8
Current account balance	-2.7	-4.5	-19.3	-1.7	-16.7	-8.7	2.1	-19.9	-33.0	-37.0	-41.6
Energy-importing countries (102 economies)											
Merchandise exports	280.4	278.0	302.8	377.5	459.4	499.0	540.9	593.7	654.7	710.4	821.1
Merchandise imports (f.o.b.)	-284.7	-288.4	-301.8	-367.5	-445.3	-493.8	-552.3	-607.5	-683.4	-764.6	-861.8
Trade balance	-4.3	-10.5	1.0	10.0	14.1	5.2	-11.4	-13.8	-28.6	-54.2	-40.7
Net services and private transfers	-23.3	-18.3	-19.8	-17.3	-20.2	-20.0	-14.9	-13.1	-3.1	-7.1	0.3
of which:											
investment income	-38.7	-38.6	-39.3	-40.1	-41.8	-41.3	-37.8	-33.1	-31.2	-34.4	-34.9
Current account balance	-27.6	-28.7	-18.8	-7.2	-6.1	-14.9	-26.3	-26.9	-31.8	-61.3	-40.4
of which:											
Four exporters of manufactures (4 economies)											
Merchandise exports	107.6	108.6	130.2	175.5	221.1	244.0	263.2	300.5	338.8	371.6	433.6
Merchandise imports (f.o.b.)	-101.0	-99.8	-111.1	-150.0	-198.9	-224.3	-255.6	-297.6	-338.5	-371.4	-443.0
Trade balance	6.5	8.8	19.1	25.5	22.2	19.7	7.6	2.9	0.3	0.2	-9.4
Net services and private transfers	0.6	2.2	4.1	5.4	6.1	5.1	7.2	7.9	10.8	13.5	20.6
of which:											
investment income	-2.2	-1.4	-0.7	-0.4	1.8	3.4	4.1	4.7	4.5	3.0	3.1
Current account balance	7.2	11.0	23.2	30.9	28.3	24.8	14.8	10.7	11.1	13.8	11.2

Source: UN/DESIPA, based on data of IMF and national and other sources.

^a Balance on goods, services and private transfers.

^b Preliminary estimate.

Table A.26.

NET TRANSFER OF FINANCIAL RESOURCES OF INDUSTRIALIZED COUNTRIES, 1984-1994

Billions of dollars											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a
United States											
Net capital flow	100.6	122.6	137.9	154.1	122.3	131.0	102.7	49.6	65.1	118.2	148.2
Private grants ^b	-4.7	-4.2	-4.4	-4.3	-5.5	-5.4	-5.2	-6.7	-6.2	-6.5	-7.7
Official grants	-10.8	-13.4	-14.0	-12.5	-13.0	-13.3	-20.6	20.6	-18.8	-18.4	-21.0
Direct investment ^c	28.1	21.3	27.7	47.7	52.1	62.2	48.2	27.9	-5.0	2.5	28.2
Portfolio	25.0	68.5	81.5	61.7	66.0	73.6	-6.8	12.8	26.4	-9.6	78.5
Medium- and long-term loans	-12.8	8.0	-5.1	-0.6	11.7	3.2	22.6	14.0	0.5	4.3	28.3
Short-term capital	50.0	17.7	36.7	66.3	11.2	8.4	17.0	-3.9	85.4	124.8	75.1
Errors and omissions	25.9	24.7	15.5	-4.2	0.0	2.4	47.5	-15.2	-17.3	21.1	-33.3
Use of IMF credit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net dividends and interest	16.6	8.5	6.2	-5.7	2.2	-8.9	-16.5	-20.1	-21.6	-35.0	-41.7
Net transfer of resources (financial basis)	117.2	131.1	144.0	148.4	124.5	122.1	86.2	29.5	43.5	83.1	106.5
Use of official reserves ^d	-3.1	-3.8	0.3	9.1	-3.9	-25.3	-2.2	5.8	3.9	-1.4	5.3
Net transfer of resources (expenditure basis)	114.0	127.2	144.3	157.5	120.6	96.8	84.0	35.2	47.4	81.8	111.9
United Kingdom											
Net capital flow	-2.4	-5.1	4.4	29.6	38.7	29.3	34.5	26.3	15.4	-17.9	13.2
Private grants ^b	0.5	0.4	0.1	-0.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.4	-0.4
Official grants	-2.9	-4.4	-3.3	-5.3	-5.9	-7.0	-8.2	-1.9	-8.6	-7.4	-8.1
Direct investment ^c	-5.2	-3.5	-3.7	-9.0	-5.3	3.7	24.4	10.2	5.4	-3.2	-4.6
Portfolio	-11.4	-8.3	-15.5	46.0	9.1	-32.7	-16.5	-17.2	-17.5	-64.4	69.9
Medium- and long-term loans	-2.4	2.0	6.5	2.1	4.3	9.5	11.9	24.2	1.4	22.3	-14.4
Short-term capital	9.4	7.7	14.2	-0.7	25.8	51.9	11.2	10.3	28.5	66.8	-39.2
Errors and omissions	9.6	1.0	5.9	-3.2	11.1	4.3	12.2	1.2	6.7	4.3	9.9
Use of IMF credit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net dividends and interest	2.7	1.3	2.0	-0.5	-2.7	-3.1	-8.3	-9.5	-1.4	-4.8	0.0
Net transfer of resources (financial basis)	0.2	-3.8	6.4	29.0	36.0	26.2	26.1	16.8	14.0	13.1	13.1
Use of official reserves ^d	1.3	-0.6	-1.4	-20.2	-4.9	8.8	-0.1	-5.0	2.6	-4.3	-9.9
Net transfer of resources (expenditure basis)	1.5	-4.4	5.0	8.8	31.1	35.0	26.0	11.8	16.6	8.8	3.2
Germany^e											
Net capital flow	-15.9	-20.9	-41.7	-36.8	-79.1	-68.1	-52.7	-16.9	32.4	-22.6	-16.5
Private grants ^b	-0.9	-1.0	-1.5	-1.6	-2.1	-1.7	-2.8	-3.2	-3.3	-8.2	-4.2
Official grants	-6.3	-6.3	-7.6	-10.6	-11.7	-12.3	-15.5	-28.9	-24.3	-23.1	-25.4
Direct investment ^c	-3.9	-2.0	-7.8	-7.5	-10.9	-6.8	-15.0	-12.8	-9.0	-10.1	-13.0
Portfolio	1.3	1.8	23.6	-1.9	-43.8	-4.6	-2.4	23.1	47.9	119.3	-7.5
Medium- and long-term loans	-4.3	-1.9	0.1	-3.6	4.2	0.1	-15.6	-20.2	-1.9	5.0	-5.1
Short-term capital	-3.9	-14.5	-49.9	-10.6	-17.3	-47.3	-16.4	17.0	23.0	-106.6	49.2
Errors and omissions	2.1	3.0	1.4	-1.0	2.5	4.5	15.0	8.1	0.0	1.0	-10.5
Use of IMF credit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net dividends and interest	2.3	2.1	2.2	3.8	4.2	11.1	12.2	17.6	10.7	7.3	2.3
Net transfer of resources (financial basis)	-13.6	-18.8	-39.5	-33.1	-74.9	-57.1	-40.5	0.8	43.1	-15.3	-14.2
Use of official reserves ^d	0.4	-2.2	-5.4	-21.5	15.4	-2.8	-7.3	6.0	-34.9	15.3	-6.1
Net transfer of resources (expenditure basis)	-13.2	-21.0	-44.9	-54.6	-59.5	-59.9	-47.8	6.7	8.2	-0.1	-20.3

Table A.26 (continued)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a
Japan											
Net capital flow	-34.4	-51.4	-73.0	-52.8	-67.2	-74.0	-48.0	-92.0	-121.6	-109.9	-86.9
Private grants ^b	-0.1	-0.3	-0.6	-1.0	-1.1	-1.0	-1.0	-0.7	-1.3	-2.2	-2.7
Official grants	-1.4	-1.4	-1.5	-2.7	-3.0	-3.3	-4.5	-11.8	-3.3	-3.9	-4.8
Direct investment ^c	-6.0	-5.8	-14.3	-18.4	-34.7	-45.2	-46.3	-29.4	-14.5	-13.7	-17.7
Portfolio	-24.0	-41.8	-102.0	-91.3	-52.8	-32.5	-14.5	35.5	-28.4	-65.6	-44.8
Medium- and long-term loans	-20.1	-15.7	-15.8	-24.3	-29.6	-16.0	7.7	25.3	12.2	-2.0	7.8
Short-term capital	13.4	9.7	58.6	88.6	50.9	45.8	31.5	-103.2	-75.8	-22.2	-5.3
Errors and omissions	3.7	3.8	2.5	-3.7	3.1	-21.8	-20.9	-7.7	-10.5	-0.3	-19.5
Use of IMF credit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net dividends and interest	4.2	6.8	9.5	16.7	21.0	23.4	23.2	26.7	36.2	41.4	32.2
Net transfer of resources (financial basis)	-30.2	-44.6	-63.6	-36.1	-46.2	-50.6	-24.8	-65.3	-85.4	-68.4	-54.7
Use of official reserves ^d	-2.1	0.6	-14.8	-37.9	-16.5	12.8	6.6	6.6	-0.6	-27.8	-25.8
Net transfer of resources (expenditure basis)	-32.3	-44.0	-78.4	-74.0	-62.7	-37.8	-18.2	-58.7	-86.1	-96.2	-80.5
Other industrialized countries											
Net capital flow	14.2	4.0	5.1	56.3	57.3	69.1	115.7	57.4	6.0	28.7	29.7
Private grants ^b	-0.2	-0.2	-1.1	-0.3	0.2	-0.9	-2.6	-3.6	-4.6	-1.4	-3.1
Official grants	-3.6	-3.1	-7.4	-7.5	-7.8	-9.9	-13.7	-8.6	-9.3	-9.3	16.4
Direct investment ^c	-4.4	-10.2	-9.8	-10.3	-7.8	-16.3	-16.7	-14.7	8.1	1.6	2.8
Portfolio	10.3	17.2	16.0	20.4	27.9	55.0	50.9	43.1	33.4	130.4	-62.6
Medium- and long-term loans	10.8	5.5	6.7	30.3	15.7	35.2	51.5	50.5	17.3	34.4	16.8
Short-term capital	2.4	6.5	9.7	25.0	37.9	18.6	72.3	-9.5	-24.4	-169.5	92.2
Errors and omissions	-1.3	-11.7	-9.0	-1.0	-8.4	-12.6	-26.1	0.2	-14.4	-14.9	0.0
Use of IMF credit	0.2	0.0	0.0	-0.3	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
Net dividends and interest	-28.3	-27.8	-32.1	-35.7	-44.6	-50.9	-68.1	-71.0	-84.2	-71.7	-74.4
Net transfer of resources (financial basis)	-14.1	-23.8	-27.0	20.6	12.7	18.1	47.5	-13.6	-78.1	-100.3	-44.7
Use of official reserves ^d	-15.7	0.4	-4.0	-39.1	-28.7	-20.1	-54.2	-1.4	34.4	-7.5	-52.2
Net transfer of resources (expenditure basis)	-29.8	-23.4	-31.0	-18.5	-15.9	-1.9	-6.7	-15.0	-43.7	-107.8	-96.9

Source: UN/DESIPA, based on data of IMF and national sources.

^a Preliminary estimate.

^b Excluding workers' remittances.

^c Net of reinvested earnings.

^d Additions to reserves are shown as negative numbers.

^e Including transactions of the former German Democratic Republic as from July 1990.

Table A.27.

NET TRANSFER OF FINANCIAL RESOURCES OF CAPITAL-IMPORTING DEVELOPING COUNTRIES, 1984-1994^a

Billions of dollars	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b
All countries											
Transfer through direct investment											
Net investment flow	7.1	8.6	7.0	9.5	15.5	17.3	17.0	22.0	30.4	45.3	54.0
Net dividends and other income	-8.6	-8.0	-7.1	-8.1	-8.6	-10.4	-11.4	-10.4	-11.6	-12.5	-13.5
Net transfer	-1.5	0.6	-0.1	1.5	6.8	6.9	5.5	11.6	18.8	32.8	40.5
Transfer through medium- and long-term foreign private borrowing											
Net credit flow	18.3	13.1	8.8	4.1	11.0	2.2	9.7	15.9	24.2	32.9	47.7
Interest paid	-40.3	-39.1	-34.5	-33.6	-39.1	-32.3	-29.5	-28.9	-28.0	-26.2	-28.6
Net transfer	-22.0	-26.0	-25.7	-29.5	-28.1	-30.1	-19.8	-13.0	-3.7	6.6	19.1
Transfer through net stock transactions, short-term borrowing and domestic outflows ^c											
Net transfer	-16.5	-12.8	-5.3	-8.1	-16.9	-7.5	-10.9	23.2	27.6	36.8	30.5
Transfer through private grants (net)	2.6	3.0	3.8	4.1	4.8	3.5	5.4	6.9	9.7	7.5	8.7
Transfer through official flows											
Official transfers (grants)	10.8	11.6	11.2	12.5	13.4	14.3	29.4	20.6	18.1	15.1	16.4
Net official credits	25.1	19.0	18.5	16.3	15.0	19.7	22.2	18.6	15.2	17.6	16.2
Interest paid	-11.1	-12.8	-15.7	-16.7	-18.2	-18.7	-20.6	-21.9	-21.6	-23.5	-26.4
Net transfer	24.8	17.8	14.1	12.1	10.3	15.2	31.1	17.3	11.8	9.2	6.2
Total net transfer (financial basis)	-12.6	-17.3	-13.3	-19.9	-23.0	-12.1	11.4	45.9	64.1	93.0	104.9
Use of official reserves ^d	-16.5	-0.0	8.9	-14.0	-9.1	-17.4	-38.5	-46.7	-47.6	-47.7	-56.5
Total net transfer (expenditure basis)	-29.1	-17.3	-4.5	-33.9	-32.1	-29.4	-27.1	-0.8	16.5	45.3	48.4
Latin America											
Grants											
Private	0.7	1.0	0.9	1.1	1.5	1.4	3.1	3.8	5.2	4.1	4.8
Official	1.3	2.4	1.5	2.1	2.2	2.3	3.5	3.2	3.0	2.5	2.9
Net direct investment	0.4	1.1	-0.6	1.1	1.9	0.3	0.8	5.3	6.4	8.2	10.1
Foreign official credit	6.2	2.2	1.5	-1.6	-1.8	-2.0	-0.0	-7.4	-9.9	-6.4	-8.3
Foreign private credit ^e	-19.1	-32.3	-22.2	-19.0	-24.4	-22.3	-11.1	-7.1	-5.1	5.4	-3.1
Other ^c	-12.6	-3.8	-0.9	1.7	-7.7	-4.6	-7.1	12.4	34.8	23.5	7.9
Total net transfer (financial basis) of which:	-23.1	-29.5	-19.9	-14.7	-28.5	-24.8	-10.8	10.1	34.5	37.3	14.2
Net capital flow ^f	13.7	5.1	11.6	15.8	4.5	12.1	22.8	40.0	64.3	68.9	48.0
Use of official reserves ^d	-12.1	-0.8	7.7	-3.6	6.5	-2.7	-16.0	-18.3	-23.4	-19.4	5.3
Total net transfer (expenditure basis)	-35.1	-30.3	-12.2	-18.3	-21.9	-27.6	-26.8	-8.2	11.1	17.8	19.5

Table A.27 (continued)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b
Africa											
Grants											
Private	0.5	0.9	1.1	1.0	0.9	1.0	0.9	1.3	1.6	1.4	1.5
Official	4.3	4.9	5.4	6.2	6.8	8.1	21.4	11.3	10.1	8.3	8.2
Net direct investment	-1.4	0.3	-0.5	-0.7	-0.1	2.1	-0.5	0.4	1.2	0.2	-1.4
Foreign official credit	4.5	2.1	1.8	2.0	1.2	1.5	1.4	1.2	1.9	-0.0	0.7
Foreign private credit ^e	-2.7	-3.7	-1.3	-0.7	-0.3	-2.8	-4.9	-5.5	-5.7	-3.3	-5.4
Other ^e	-2.7	-2.5	0.4	-5.1	-2.6	-4.3	-16.0	-4.1	-2.0	-1.0	-4.9
Total net transfer (financial basis) of which:	2.8	2.3	6.7	2.7	5.9	5.7	2.8	4.9	6.9	4.1	-2.7
Net capital flow ^f	11.2	11.6	15.6	14.1	18.2	19.0	17.1	19.3	18.6	15.4	10.0
Use of official reserves ^d	1.4	-4.6	0.7	-0.5	1.1	-1.6	-8.1	-6.2	-5.3	0.0	-2.3
Total net transfer (expenditure basis)	4.2	-2.3	7.4	2.2	7.0	4.1	-5.2	-1.4	1.6	4.1	-5.1
Sub-Saharan Africa											
Grants											
Private	0.5	0.7	0.6	0.8	0.8	0.7	0.9	1.2	1.6	1.2	1.2
Official	3.2	3.7	4.3	5.1	5.7	6.6	7.0	6.9	7.5	6.5	6.5
Net direct investment	-0.6	-0.4	-0.6	-0.6	-0.6	-0.8	-1.4	-0.3	-0.7	-0.7	-0.7
Foreign official credit	2.5	1.5	1.8	2.3	2.5	2.8	3.0	2.3	3.7	2.5	3.7
Foreign private credit ^e	-0.8	-1.3	-0.8	-2.0	-2.5	-1.9	-2.9	-3.1	-2.3	-4.3	-0.5
Other ^e	-1.7	-0.3	1.3	1.3	2.6	-1.0	2.0	1.2	-0.5	3.4	0.0
Total net transfer (financial basis) of which:	3.1	3.9	6.6	6.9	8.5	6.4	8.5	8.2	9.3	8.6	10.1
Net capital flow ^f	6.7	8.3	11.1	12.2	14.6	13.1	15.4	15.3	16.0	15.1	16.4
Use of official reserves ^d	-0.4	-0.8	-0.6	-0.8	-0.9	-0.6	-0.5	0.4	0.8	-0.9	-2.4
Total net transfer (expenditure basis)	2.8	3.1	6.0	6.0	7.6	5.8	8.0	8.6	10.1	7.7	7.7

Table A.27 (continued)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^b
Asia											
Grants											
Private	0.8	0.7	1.3	1.6	1.8	0.4	0.5	1.3	2.4	1.7	2.3
Official	5.5	4.8	4.9	4.6	4.9	4.5	4.3	4.8	4.7	3.5	2.4
Net direct investment	-0.7	-0.6	1.7	2.6	2.9	-0.8	2.6	8.5	13.9	31.2	38.1
Foreign official credit	3.7	3.3	1.5	1.1	0.4	4.6	2.5	6.3	4.9	2.9	0.6
Foreign private credit ^e	2.0	3.1	-1.0	-10.0	-5.5	-5.2	-2.0	1.0	4.6	-0.1	15.8
Other ^c	-1.6	3.5	7.0	10.6	-5.6	0.3	0.4	17.7	-9.4	13.8	0.5
Total net transfer (financial basis) of which:	9.9	14.7	15.4	10.6	-1.1	3.9	8.2	-39.6	21.1	53.0	59.8
Net capital flow ^f	22.0	26.6	27.1	23.3	11.0	15.0	19.3	-50.9	33.5	67.2	71.7
Use of official reserves ^d	-10.6	-7.2	-23.7	-39.3	-14.1	-15.8	-18.5	-43.5	-22.4	-39.5	-56.1
Total net transfer (expenditure basis)	-0.7	7.5	-8.3	-28.7	-15.2	-11.9	-10.3	-3.9	-1.3	13.5	3.7
Fifteen heavily indebted countries											
Grants											
Private	0.9	1.1	1.0	1.3	1.4	1.6	3.5	3.8	5.1	4.0	4.6
Official	0.8	0.9	0.9	1.2	1.4	1.7	2.9	2.7	3.0	2.3	2.4
Net direct investment	0.7	1.5	-0.6	0.9	3.3	2.0	0.5	4.9	6.4	7.0	8.4
Foreign official credit	4.4	0.1	-0.5	-2.5	-4.1	-3.8	-2.1	-9.8	-9.1	-7.6	-9.0
Foreign private credit ^e	-23.1	-26.4	-25.6	-21.5	-27.6	-25.5	-14.7	-10.7	-10.2	5.0	-4.2
Other ^c	-11.0	-16.5	-3.1	-3.4	-9.5	-7.0	-3.4	12.9	31.1	22.4	9.2
Total net transfer (financial basis) of which:	-27.3	-39.5	-27.9	-24.0	-35.0	-31.0	-13.1	3.9	26.2	33.2	11.4
Net capital flow ^f	13.2	-0.2	7.4	11.9	3.7	11.8	25.6	38.6	59.7	69.0	48.6
Use of official reserves ^d	-13.2	-1.1	5.6	-4.6	3.7	-5.7	-19.6	-16.8	-23.1	-20.4	4.2
Total net transfer (expenditure basis)	-40.5	-40.6	-22.3	-28.6	-31.3	-36.7	-32.8	-12.9	3.1	12.8	15.6

Source: UN/DESIPA, based on data of IMF and World Bank and United Nations Secretariat estimates.

Note: Direct investment is net of reinvested earnings (cash flow approach); official credits include use of IMF credit; interest includes IMF charges; private grants include net flow of gifts from overseas residents (excluding workers' remittances) and grants by non-governmental organizations.

- a Sample of 93 countries.
b Preliminary estimate.
c Calculated as a residual (including short-term trade financing, normal and unusual outflows ("capital flight"), arrears of interest due, stock transactions and other flows captured in balance-of-payments data as errors and omissions and presumed to be financial flows).
d Additions to reserves are shown as negative numbers.
e Medium- and long-term foreign borrowing.
f Total net capital flow before the payment of interest and dividends.

Table A.28.

**OFFICIAL RESERVES AND COVERAGE OF CURRENT EXPENDITURES
OF CAPITAL-IMPORTING DEVELOPING COUNTRIES, 1984-1994**

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a
Level of reserves^b <i>(billions of dollars)</i>											
All countries	119.1	129.8	148.9	195.5	195.5	229.2	278.4	341.8	364.3	425.8	505.2
Energy exporters	36.2	38.6	34.3	44.5	31.8	37.3	53.8	73.0	83.8	102.4	87.3
Energy importers	82.9	91.2	114.6	151.0	163.8	192.0	224.6	268.8	280.5	323.4	417.8
Four exporters of manufactures	29.0	38.5	62.8	96.0	104.0	109.4	115.7	130.9	140.0	152.8	177.0
Other	53.9	52.7	51.8	55.1	59.8	82.5	108.9	137.9	140.5	170.5	240.8
Memo items											
Latin America	40.3	41.2	33.4	38.2	31.1	33.4	48.6	66.2	89.1	109.3	104.0
Sub-Saharan Africa	3.0	4.0	5.0	5.8	6.3	6.9	8.2	9.5	9.2	10.1	12.5
Fifteen heavily indebted countries	39.6	40.9	34.4	38.7	32.9	38.1	57.2	74.5	92.4	112.8	108.6
Coverage of current expenditures^c <i>(months of import coverage)</i>											
All countries	2.7	2.6	2.5	2.7	2.5	2.5	3.0	3.6	3.5	4.0	4.2
Energy exporters	2.6	2.8	2.8	3.6	2.2	2.4	2.9	3.6	3.6	4.4	3.3
Energy importers	2.7	2.5	2.4	2.3	2.6	2.6	3.0	3.5	3.4	3.8	4.7
Memo items											
Latin America	3.6	3.8	3.1	3.4	2.5	2.4	3.2	4.0	4.8	5.5	4.7
Sub-Saharan Africa	1.1	1.4	1.6	1.7	1.7	1.9	2.0	2.4	2.3	2.8	3.2
Fifteen heavily indebted countries	3.0	3.2	2.8	2.9	2.2	2.3	3.0	3.8	4.5	5.2	5.7

Source: UN/DESIPA, based on data of IMF and national estimates.

^a Partly estimated.

^b Total reserves, end of period (with gold valued at SDR 35 per ounce).

^c Expenditures on goods and services (including interest payments) for given year relative to total reserves at end of year, sample of 93 countries.

Table A.29.

NET IMF LENDING TO DEVELOPING COUNTRIES, BY FACILITY, 1984-1994

Billions of dollars											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Regular facilities	4.4	1.1	0.0	-3.9	-4.0	-3.0	-1.6	-1.2	-0.1	-0.2	-0.9
Repayment terms:											
3-5 years (Credit tranche)	0.2	0.6	1.3	-0.6	-0.4	-0.2	-1.7	0.2	1.4	-0.2	0.1
3.5-7 yrs (SFF/EAP) ^a	2.6	0.6	-1.0	-2.7	-2.7	-2.8	-0.7	-0.8	-1.5	-1.5	-1.5
4-10 years (Extended Facility)	1.6	0.0	-0.2	-0.5	-0.9	0.1	0.7	-0.7	0.0	1.5	0.5
Concessional facilities	-0.2	-0.3	-0.5	-0.2	-0.3	0.9	0.2	1.1	0.8	0.2	0.9
In order created:											
Trust Fund ^b	-0.2	-0.3	-0.6	-0.7	-0.7	-0.5	-0.4	-0.1	0.0	-0.1	0.0
SAF ^c	-	-	0.1	0.5	0.3	0.7	0.1	0.2	0.0	-0.1	-0.2
ESAF ^c	-	-	-	-	-	0.8	0.5	0.9	0.7	0.4	1.1
Additional facilities ^d	0.0	-0.5	-1.9	-1.1	-0.4	0.2	-0.8	1.2	-0.9	-0.2	-0.9
In order created:											
Compensatory financing ^e	0.0	-0.4	-1.8	-1.1	-0.4	0.2	-0.8	1.2	-0.9	-0.2	-0.9
Buffer stock ^f	..	-0.2	-0.2	-0.1	..	..	..	..	..	..	..
Total	4.3	0.3	-2.4	-5.2	-4.7	-1.9	-2.3	1.0	-0.2	-0.2	-0.8
Memo items											
Selected characteristics of higher conditionality-lending agreements											
Number initiated during year	20	26	31	25	28	23	13	24	17	13	26
Average length (months)	14	16	22	26	25	25	19	22	26	24	25
Total amount committed (billions of dollars)	4.0	3.4	4.0	4.4	5.4	13.8	1.9	6.4	7.1	3.0	6.6

Source: Data of IMF, *International Financial Statistics and IMF Survey*.

- ^a The Supplementary Financing Facility (SFF) (1979-1981) and the Enhanced Access Policy (EAP) (1981-present) have provided resources from funds borrowed by IMF from member States, on which the Fund pays a higher interest rate than the remuneration paid to countries that have a net creditor position with the Fund. Thus, users of SFF and EAP resources have paid a higher interest rate than that on drawings from ordinary resources, which are partly subsidized (for example, in fiscal 1981/82: 6.3 per cent versus 14.8 per cent for SFF and 13.2 per cent for EAP; by 1985/86, the spread was much reduced: 7 per cent versus 9.4 per cent and 9.2 per cent). However, up to a 3 percentage point subsidy was made available for IDA-eligible countries and up to half that for countries with GDP per capita above International Development Association (IDA) limits but under the maximum for Trust Fund eligibility, in order to reduce interest on SFF drawings towards the rate on ordinary drawings. There has been no subsidy on EAP drawings.
- ^b Mainly using resources from IMF gold sales, the Trust Fund lent during 1977-1981 under one-year adjustment programmes. Eligibility was based on maximum per capita income criteria and loans had 10-year maturities, with repayments beginning in the sixth year. The interest rate was 0.5 per cent per year.
- ^c The Structural Adjustment Facility (SAF) and the Enhanced Structural Adjustment Facility (ESAF) (the first financed mainly from Trust Fund reflows and the second from loans and grants) have made loans to IDA-eligible countries with protracted balance-of-payments problems; funds are disbursed over 3 years (under Policy Framework Paper arrangements), with repayments beginning in 5.5 years and ending in 10 years; the interest rate is 0.5 per cent.
- ^d All having final maturity of 7 years and repayments beginning in 3.5 years.
- ^e Compensatory Financing Facility from 1963 to 1988; Compensatory and Contingency Financing Facility from August 1988.
- ^f Helps to finance buffer stock purchases under approved international buffer stock arrangements; established June 1969.

Table A.30.

NET IMF LENDING TO ECONOMIES IN TRANSITION: BY FACILITY, 1984-1994

Billions of dollars											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Regular facilities	0.6	-0.1	-0.2	-0.6	-0.5	-0.3	0.3	2.1	1.9	0.1	0.2
Repayment terms:											
3-5 years (Credit tranche)	0.2	-0.1	-0.2	-0.4	0.0	0.0	0.5	1.1	1.8	0.1	0.5
3.5-7 years (SFF/EAP)	0.4	-0.0	-0.1	-0.2	-0.4	-0.3	-0.1	0.3	0.0	0.0	-0.3
4-10 years (Extended Facility)								0.8	0.1	0.0	0.0
Additional facilities											
Compensatory financing	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	1.5	-0.1	0.0	-0.7
STF										2.0	2.7
Total	0.5	-0.3	-0.3	-0.6	-0.5	-0.3	0.3	3.6	1.8	2.1	2.2

Source: Data of IMF, International Financial Statistics.

Note: The Systemic Transformation Facility (STF), created in 1993 on a temporary basis, assists economies in transition with severe balance-of-payments problems arising from discontinuance of trade arrangements under planning. For members that have not yet had a stand-by arrangement, drawings can be made in two tranches in support of a written statement of policy reform intentions, the second 6-18 months after the first, assuming satisfactory progress towards an upper credit tranche arrangement (repayment terms are the same as for the Extended Facility). See table A.29 above for description of other facilities.

Table A.31.

FUNDS RAISED ON INTERNATIONAL CREDIT MARKETS, 1984-1994

Billions of dollars											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
World total	228.8	279.1	321.4	303.7	371.9	385.3	361.4	432.5	458.3	625.8	634.5
Grouped by borrower											
Developed market economies	181.2	230.5	285.2	260.2	330.3	345.0	312.4	374.0	398.4	537.3	554.2
Economies in transition	3.4	5.3	3.9	3.7	4.3	4.7	4.7	1.7	1.5	6.3	3.7
Developing countries	34.4	30.1	22.2	27.8	26.9	22.7	28.9	42.2	37.5	61.5	64.3
Multilateral institutions	9.8	13.2	10.1	11.9	10.5	12.9	15.4	14.7	20.9	20.7	12.4
Grouped by instrument											
Bonds	111.5	169.1	228.1	180.8	229.7	255.8	229.9	308.7	333.7	481.0	426.9
International bonds	81.4	136.5	187.7	140.5	178.9	212.9	180.1	258.2	276.1	394.6	368.4
Foreign and special placements	30.1	32.5	40.4	40.3	50.8	42.9	49.8	50.6	57.6	86.4	58.4
Loans	117.3	110.1	93.3	122.9	142.2	129.5	131.5	123.8	124.6	144.8	207.7
Bank loans	62.0	61.1	63.2	91.7	125.6	121.2	124.5	116.0	117.9	136.7	202.8
Other facilities	55.3	48.9	30.0	31.2	16.6	8.4	7.0	7.7	6.7	8.2	4.9

Source: OECD, Financial Statistics Monthly.

Table A.32.
NET ODA FROM MAJOR SOURCES, BY TYPE, 1982-1993

Donor group or country	Growth rate of ODA ^a (1992 prices and exchange rates)		ODA as percentage of GNP ^a	Total ODA ^a (millions of dollars)	Percentage distribution of ODA by type, 1993					
	1982- 1987	1988- 1993			Bilateral			Multilateral		
			1993	1993	Grants ^b	Technical cooperation	Loans	United Nations	IDA	Other
Total DAC countries	2.1	1.4	0.30	55 963	59.1	23.2	10.5	7.2	8.9	14.4
Total EC	0.7	2.9	..	29 751	50.1	22.9	17.1	6.1	8.2	18.5
of which:										
Austria	-9.0	12.8	0.30	544	61.4	16.2	14.2	5.5	10.3	8.6
Belgium	-1.8	-1.6	0.39	808	57.4	17.5	1.6	4.1	11.0	25.9
Denmark	6.1	3.9	1.03	1 340	57.4	12.2	-1.0	19.8	6.1	17.8
Finland	14.3	-2.9	0.45	355	63.9	10.4	4.2	14.9	10.4	6.5
France ^c	-1.4	3.0	0.63	7 915	57.7	26.4	20.1	2.1	5.4	14.7
Germany	-1.2	3.2	0.37	6 954	52.0	27.9	13.0	4.9	8.8	21.4
Ireland	4.3	6.2	0.20	81	50.6	27.2	-	7.4	7.4	35.8
Italy	15.4	-0.1	0.31	3 043	45.0	4.3	18.5	6.1	7.7	22.8
Luxembourg	-	18.0	0.35	50	62.0	2.0	-	8.0	6.0	22.0
Netherlands	0.2	-0.2	0.82	2 525	77.0	34.4	-6.7	10.5	5.3	13.8
Portugal	-	23.4	0.29	246	43.9	33.3	32.9	1.2	-	22.0
Spain	-	24.6	0.25	1 213	15.8	6.0	53.9	1.8	0.9	27.5
Sweden	3.4	2.1	0.98	1 769	75.3	19.9	-	14.1	6.9	3.7
United Kingdom	-4.1	3.4	0.31	2 908	53.5	23.6	-1.5	6.8	10.6	30.6
Australia	0.5	4.2	0.35	953	74.3	25.1	-	8.6	8.3	8.8
Canada	5.2	0.6	0.45	2 373	74.7	21.7	-0.7	10.2	9.0	13.5
Japan	3.8	1.2	0.26	11 259	40.0	16.6	31.5	5.3	12.6	10.7
New Zealand	-0.5	-0.2	0.25	98	75.5	31.6	-	8.2	6.1	10.2
Norway	8.4	0.1	1.01	1 014	64.6	9.7	0.4	20.8	7.5	6.8
Switzerland	5.9	2.3	0.33	793	80.7	30.0	-0.5	13.1	-	6.8
United States	3.9	-2.4	0.15	9 721	84.2	34.0	-12.1	9.9	10.9	7.2
Arab countries	..	..	..	..	—	..	—	—	..	—
of which:										
Saudi Arabia	..	..	0.43	539	—	..	—	—	..	—
Kuwait	..	..	1.30	381	—	..	—	—	..	—
United Arab Emirates	..	..	0.66	236	—	..	—	—	..	—
Other developing countries	..	..	..	..	—	..	—	—	..	—
China	..	..	..	..	—	..	—	—	..	—
India	..	..	..	34	—	41.2 ^d	—	—	58.8 ^e	—
Republic of Korea	..	..	0.04	85	—	63.5 ^d	—	—	36.5 ^e	—
Taiwan	..	..	..	..	—	..	—	—	..	—
Province of China	..	..	0.05	61	—	..	—	—	..	—

Source: UN/DESIPA, based on OECD, *Development Co-operation*, various issues.

^a 1991 and 1992 data include forgiveness of non-ODA debt, except for the DAC total;

1993 data include forgiveness of export credit debt, both for individual DAC countries and for the DAC total, but exclude military debt forgiveness.

^b Including technical cooperation.

^c Excluding flows from France to the *Départements d'outre-mer*, namely Guadeloupe, French Guiana, Martinique and Réunion.

^d Total bilateral: grants and loans.

^e Total multilateral: United Nations, IDA and "other".

Table A.33.

REGIONAL DISTRIBUTION OF ODA FROM MAJOR SOURCES, 1982-1993

Donor group or country	All developing countries		Latin America		Africa		West Asia		South and East Asia		Mediterranean	
	1982-1983	1992-1993	1982-1983	1992-1993	1982-1983	1992-1993	1982-1983	1992-1993	1982-1983	1992-1993	1982-1983	1992-1993
Total ODA^a <i>(billions of dollars)</i>	51.9	97.6	5.5	10.1	20.5	44.8	8.0	6.2	16.8	31.7	1.1	4.7
Percentage share												
DAC countries, bilateral	60.5	67.8	72.4	74.8	63.4	64.0	37.1	79.3	62.9	69.8	79.3	58.9
Australia	2.0	1.4	0.1	0.0	0.6	0.3	0.1	0.0	5.5	3.8	0.1	0.0
Austria	0.5	0.8	0.5	0.4	0.8	0.2	0.2	0.6	0.3	0.9	1.3	6.4
Belgium	1.0	0.8	0.6	1.2	2.0	1.3	0.0	0.1	0.4	0.3	0.9	0.0
Canada	2.6	2.0	3.5	3.6	3.0	2.0	0.1	0.3	3.1	2.0	0.6	0.0
Denmark	0.8	1.1	0.2	0.9	1.2	1.6	0.1	0.2	0.9	0.7	0.0	0.0
Finland	0.3	0.6	0.2	0.5	0.5	0.6	0.0	0.2	0.2	0.5	0.0	0.8
France ^b	7.8	11.4	5.3	4.7	12.8	17.2	1.1	3.7	6.1	8.1	4.3	2.7
Germany	7.6	8.8	9.8	11.2	8.5	8.1	3.7	8.1	7.2	6.5	12.0	26.7
Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Italy	1.2	3.8	1.1	6.6	2.2	4.4	0.4	1.5	0.2	2.2	6.5	5.4
Japan	8.9	15.1	7.8	14.9	3.6	5.2	1.8	5.7	19.4	33.1	4.2	0.8
Netherlands	3.1	2.9	7.7	7.8	3.0	2.7	0.4	2.4	3.3	1.5	0.2	4.5
New Zealand	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.0	0.0
Norway	1.1	1.2	0.4	1.1	1.7	1.7	0.1	0.2	1.2	0.9	0.5	0.8
Sweden	1.8	2.4	1.1	3.0	2.6	2.8	0.1	0.8	2.1	1.7	0.0	4.9
Switzerland	0.6	1.0	0.9	1.4	0.8	1.0	0.2	0.8	0.6	0.9	0.4	1.2
United Kingdom	2.8	2.5	3.9	2.1	3.2	2.7	0.3	0.9	3.2	2.5	2.7	2.7
United States	18.0	11.9	29.4	15.1	17.1	12.1	28.4	35.8	8.7	3.8	45.9	2.1
DAC countries, multilateral	25.0	29.8	27.3	25.2	24.6	32.8	8.9	13.8	33.4	29.9	7.6	31.9
Arab countries, bilateral ^c	13.3	1.9	0.0	0.0	10.2	2.3	52.8	5.2	2.6	0.3	12.8	9.2
Arab countries, multilateral	1.2	0.5	0.4	0.0	1.7	0.8	1.2	1.7	1.1	0.0	0.2	0.0
Total ODA	100	100	100	100	100	100	100	100	100	100	100	100

Source: UNCTAD calculations, based on data supplied by OECD.

^a Excluding ODA provided by centrally planned economies, owing to measurement difficulties.

^b Excluding flows from France to the *Départements d'outre-mer*, namely Guadeloupe, French Guiana, Martinique and Réunion.

^c Approximately 35-40 per cent of Arab bilateral aid is geographically unallocated, depending on the year.

Table A.34.

RESOURCE COMMITMENTS OF MULTILATERAL DEVELOPMENT INSTITUTIONS, 1984-1994^a

Millions of dollars											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Financial institutions	20 300	23 809	24 960	26 640	27 636	32 410	34 766	39 859	39 716	39 530	40 421
African Development Bank	897	1 154	1 640	2 140	2 194	2 841	3 191	3 445	2 982	2 518	1 434
Asian Development Bank	2 257	1 845	2 044	2 508	3 220	3 760	4 095	4 914	5 226	5 426	3 864
Caribbean Development Bank	65	50	67	41	58	73	109	111	71	71	42
European Bank for Reconstruction and Development								66	1 071	1 925	2 232
Inter-American Development Bank	3 615	3 102	3 057	2 408	1 738	2 694	4 005	5 661	6 246	6 191	5 298
of which:											
Inter-American Investment Corporation						15	67	102	158	124	43
International Fund for Agricultural Development	211	131	147	233	244	277	323	281	331	383	364
World Bank group	13 255	17 527	18 005	19 310	20 182	22 765	23 043	25 381	23 844	23 016	27 187
International Bank for Reconstruction and Development	9 448	12 952	13 593	14 066	14 411	16 251	15 176	17 021	15 551	15 098	16 427
of which:											
International Development Association	3 222	3 541	3 373	3 841	4 350	4 924	6 300	7 160	6 310	5 345	7 282
International Finance Corporation	585	1 034	1 039	1 403	1 421	1 590	1 567	1 200	1 983	2 573	3 478
Operational agencies of the United Nations system	2 028	2 032	1 933	2 064	2 602	2 708	2 823	3 653	3 616	3 177	3 157
United Nations Development Programme ^b	531	567	656	809	942	1 063	1 111	1 159	960	834	717
United Nations Population Fund	134	141	116	134	169	194	211	212	164	206	278
United Nations Children's Fund	204	452	248	330	454	498	545	947	917	655	769
World Food Programme	1 159	872	913	791	1 037	953	956	1 335	1 575	1 482	1 393
Total commitments	22 328	25 841	26 893	28 704	30 238	35 118	37 589	43 512	43 387	42 707	43 578
Memo item											
Commitments in units of 1980 purchasing power ^c	25 963	30 048	26 110	24 745	24 385	28 551	27 639	32 231	31 214	32 601	32 043

Source: Annual reports and information supplied by individual institutions.

^a Loans, grants, technical assistance and equity participation, as appropriate; all data are on a calendar-year basis.

^b Including United Nations Development Programme (UNDP)-administered funds.

^c Total commitments deflated by the United Nations index of manufactured export prices in dollars of developed market economies, 1980=100.

Table A.35.

EXTERNAL DEBT AND DEBT INDICATORS FOR ECONOMIES IN TRANSITION, 1984-1994

External debt (billions of dollars)	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a
Russian Federation/ former Soviet Union^b											
Total external debt	17.6	28.3	30.7	38.3	42.2	53.9	59.8	67.5	78.7	83.1	92.4
Long-term debt	17.6	21.4	23.3	29.7	31.0	35.7	48.0	54.9	65.7	75.2	83.4
Concessional	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.9
of which: bilateral	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.9
Official, non-concessional	0.3	0.4	0.4	1.4	1.9	2.2	7.5	13.3	13.7	25.0	32.0
Bilateral	0.3	0.4	0.4	1.3	1.7	2.0	7.1	12.9	12.4	21.3	26.7
Multilateral	0.0	0.0	0.0	0.1	0.2	0.2	0.4	0.4	0.3	1.2	1.2
IMF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.5	4.1
Private creditors	17.3	21.0	22.9	28.4	29.1	33.5	40.5	41.6	52.0	46.5	47.5
of which:											
Bonds ^c	0.0	0.0	0.0	0.0	0.3	1.5	2.0	2.0	1.9	1.7	1.8
Commercial banks ^c	9.3	12.1	13.5	15.4	16.2	18.3	18.5	17.1	17.7	17.2	..
Short-term debt	0.0	6.9	7.4	8.6	11.2	18.2	11.8	12.6	13.0	7.9	9.0
Eastern Europe											
Total external debt	47.0	62.7	72.0	83.7	80.9	82.7	91.4	100.7	96.3	101.5	104.0
Long-term debt	36.8	53.6	60.4	69.9	64.3	65.4	73.7	85.3	84.0	90.4	95.3
Concessional	3.4	3.8	3.7	3.4	3.1	2.2	2.2	2.1	8.6	8.5	11.2
of which: bilateral	3.4	3.8	3.6	3.3	3.1	2.1	2.1	2.0	8.5	8.3	10.9
Official, non-concessional	7.9	21.2	24.0	27.4	24.6	25.9	31.4	43.5	38.2	39.3	42.0
Bilateral	4.3	16.8	18.4	21.3	19.9	22.3	26.7	33.1	25.8	25.9	26.2
Multilateral	1.7	2.8	3.8	4.8	3.9	3.1	3.9	5.7	7.2	8.1	9.7
IMF	1.9	1.6	1.7	1.3	0.8	0.5	0.8	4.6	5.2	5.2	6.1
Private creditors	25.5	28.6	32.7	39.1	36.6	37.3	40.1	39.8	37.2	42.5	42.1
of which:											
Bonds ^c	0.1	0.6	1.0	1.8	2.6	3.8	5.6	7.3	8.0	12.8	25.9
Commercial banks ^c	18.6	20.8	24.2	28.4	26.1	27.2	28.5	27.4	24.5	23.5	..
Short-term debt	10.2	9.1	11.6	13.8	16.6	17.3	17.7	15.4	12.3	11.1	8.6
<i>of which: Hungary</i>											
Total external debt	11.0	14.0	16.9	19.6	19.6	20.4	21.3	22.6	22.0	24.8	27.6
Long-term debt	8.0	10.9	13.4	16.5	16.2	17.1	18.3	20.4	19.7	22.8	25.5
Concessional	0.8	0.8	0.7	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3
of which: bilateral	0.8	0.8	0.6	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2
Official, non-concessional	1.2	1.5	2.0	2.1	2.3	2.4	3.0	5.0	4.9	4.9	5.8
Bilateral	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.6	0.6	0.7
Multilateral	0.2	0.4	0.8	1.2	1.6	1.8	2.5	3.3	3.2	3.1	3.6
IMF	1.0	1.0	1.0	0.8	0.6	0.5	0.3	1.3	1.2	1.2	1.5
Private creditors	6.0	8.6	10.8	14.2	13.9	14.6	15.3	15.3	14.7	17.6	19.4
of which:											
Bonds ^c	0.1	0.6	1.0	1.8	2.5	3.4	4.7	6.0	6.8	10.6	12.3
Commercial banks ^c	5.0	6.4	8.2	10.7	9.9	10.2	9.6	8.1	6.4	5.1	..
Short-term debt	3.0	3.0	3.5	3.1	3.4	3.3	2.9	2.2	2.3	2.0	2.1

Table A.35 (continued)											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a
Poland											
Total external debt	21.1	33.3	36.6	42.6	42.1	43.1	49.4	53.6	48.7	45.3	43.8
Long-term debt	16.3	29.7	31.9	36.0	33.6	34.5	39.8	46.0	44.2	42.6	42.4
Concessional	2.5	2.8	2.8	2.9	2.9	1.9	1.8	1.7	8.2	7.9	9.4
of which: bilateral	2.5	2.8	2.8	2.9	2.9	1.9	1.8	1.7	8.2	7.9	9.4
Official, non-concessional	3.1	16.1	17.9	20.5	19.0	21.7	26.4	33.0	25.5	25.3	25.9
Bilateral	3.1	15.5	17.0	19.6	18.3	21.2	25.4	31.3	23.5	23.1	23.0
Multilateral	0.1	0.6	0.9	0.9	0.7	0.5	0.5	0.9	1.2	1.5	2.1
IMF	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.9	0.8	0.7	0.9
Private creditors	10.7	10.8	11.1	12.6	11.7	10.9	11.5	11.3	10.5	9.5	7.1
of which:											
Bonds ^c	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0
Commercial banks ^c	6.9	7.7	8.8	9.9	9.2	9.0	10.0	9.9	9.3	8.7	..
Short-term debt	4.8	3.6	4.7	6.6	8.5	8.6	9.6	7.6	4.5	2.7	1.4
Debt indicators (Percentage)											
Ratio of external debt to GNP											
<i>Russian Federation/former Soviet Union</i>	4.7	7.7	7.4	8.2	7.6	9.0	9.9	13.2	21.2	25.9	30.6
Eastern Europe	25.1	32.7	34.0	41.0	38.8	37.5	47.2	55.5	50.5	50.0	49.8
of which:											
Bulgaria	14.9	22.0	29.1	29.4	39.6	48.0	57.0	124.3	118.3	124.9	106.8
Former Czechoslovakia	12.1	12.8	13.5	14.2	15.6	17.5	20.2	29.5	23.8	27.5	30.7
Hungary	56.3	70.6	74.3	78.1	71.4	73.4	67.2	71.2	62.3	67.1	75.7
Poland	28.9	48.7	51.4	69.8	63.9	54.5	83.8	70.0	59.2	52.7	48.0
Romania	20.6	14.9	13.6	17.4	7.3	2.6	3.1	7.5	14.9	18.1	22.6
Ratio of external debt to exports											
<i>Russian Federation/former Soviet Union^d</i>	24.1	41.8	45.9	52.3	57.8	72.7	71.8	126.2	165.9	165.5	184.1
Eastern Europe	75.1	106.1	115.8	124.4	117.2	126.2	162.6	200.0	156.2	180.8	168.1
of which:											
Bulgaria	23.2	32.3	57.5	71.4	84.6	114.1	239.3	330.7	281.8	235.6	194.6
Former Czechoslovakia	33.2	34.7	37.1	39.3	42.7	48.9	59.8	71.1	44.5	88.4	96.6
Hungary	102.8	139.4	153.4	162.8	161.3	159.4	186.3	185.6	171.5	227.9	219.8
Poland	164.1	278.7	264.2	306.7	270.3	292.1	265.6	351.9	300.2	283.0	218.9
Romania	57.0	63.5	66.1	57.7	23.8	9.4	17.5	42.6	71.5	78.1	94.0
Ratio of debt service to exports											
<i>Russian Federation/former Soviet Union^d</i>	0.8	8.1	11.8	11.9	11.3	12.2	14.2	25.3	3.4	4.6	8.3
Eastern Europe	10.7	17.2	17.5	17.4	19.4	17.2	14.2	13.8	15.2	15.7	16.5
of which:											
Bulgaria	4.1	9.9	15.2	17.2	22.1	29.1	30.4	7.5	9.6	5.7	7.1
Former Czechoslovakia	1.8	8.3	8.0	7.7	8.9	9.5	9.8	11.2	9.5	13.0	18.0
Hungary	25.4	36.8	37.9	31.2	28.9	27.9	37.0	32.8	38.7	40.8	35.9
Poland	9.2	17.1	13.1	14.8	11.3	10.4	5.2	6.6	9.3	10.6	10.1
Romania	15.6	18.7	18.7	21.9	33.3	16.3	0.1	2.2	9.0	6.2	11.1

Source: UN/DESIPA, based on data of IMF and World Bank.

a Estimate.

b In 1992, the Russian Federation assumed the debt of the former Soviet Union.

c Government or government-guaranteed debt only.

d Merchandise exports only.

Table A.36.

EXTERNAL DEBT OF CAPITAL-IMPORTING DEVELOPING COUNTRIES, 1984-1994

Billions of dollars											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a
All countries^b											
Total external debt	886.6	970.9	1 066.6	1 201.9	1 203.2	1 228.0	1 316.1	1 380.9	1 435.2	1 517.1	1 627.2
Long-term debt	740.7	825.1	925.4	1 046.2	1 043.0	1 052.4	1 106.8	1 148.1	1 179.0	1 233.1	1 322.8
Concessional	148.8	172.1	198.9	236.8	259.8	283.1	313.0	329.5	341.1	357.5	391.7
Bilateral	111.6	129.6	150.6	180.1	199.8	217.3	238.0	246.0	252.0	261.0	282.7
Multilateral ^c	37.2	42.5	48.3	56.8	60.0	65.9	75.0	83.5	89.2	96.5	109.0
Official, non-concessional	148.3	180.5	218.5	263.1	251.1	254.8	279.3	297.9	300.8	308.6	312.8
Bilateral	69.5	80.2	95.0	113.7	110.0	112.9	117.8	129.7	134.8	137.3	142.5
Multilateral	47.1	64.2	85.7	110.9	108.8	113.4	131.2	139.3	139.2	146.2	147.4
IMF	31.7	36.1	37.8	38.5	32.3	28.6	30.3	28.8	26.7	25.1	22.8
Private creditors	443.6	472.5	508.1	546.3	532.0	514.5	514.6	520.8	537.1	567.0	618.3
of which:											
Bonds ^d	26.7	34.8	37.8	40.6	43.6	47.1	105.3	112.1	123.5	161.6	227.4
Commercial banks ^d	229.6	245.1	272.9	301.0	297.1	283.9	209.5	201.1	191.4	169.2	..
Short-term debt	145.9	145.8	141.2	155.7	160.3	175.6	209.3	232.8	256.2	284.0	304.4
Memo items											
Principal arrears on long-term debt	11.8	16.4	24.0	31.2	38.1	42.3	54.0	58.3	65.0	73.1	78.0
Interest arrears on long-term debt	5.8	6.4	9.0	15.6	18.9	29.8	40.6	43.3	39.9	37.9	32.0
Latin America											
Total external debt	398.3	412.5	434.8	474.9	456.1	452.4	476.5	491.5	501.0	526.8	548.0
Long-term debt	346.8	366.4	397.8	429.3	406.3	392.1	398.4	403.1	407.8	429.9	451.5
Concessional	31.8	35.1	39.4	44.6	45.4	46.9	49.6	52.1	53.3	54.2	58.9
Bilateral	27.1	30.1	34.0	38.8	39.5	40.7	42.9	45.1	46.0	46.6	49.5
Multilateral	4.7	5.0	5.4	5.8	5.9	6.2	6.7	7.0	7.3	7.6	9.4
Official, non-concessional	49.1	62.6	77.0	96.9	96.2	97.7	113.5	118.3	117.3	120.1	119.6
Bilateral	18.6	22.0	25.1	32.7	34.9	36.0	41.8	45.4	47.5	48.3	48.1
Multilateral	19.0	26.1	35.6	46.1	45.0	46.1	53.7	55.8	55.0	58.0	58.6
IMF	11.5	14.5	16.3	18.1	16.3	15.6	18.1	17.1	14.8	13.9	12.9
Private creditors	265.9	268.7	281.0	287.5	264.4	247.1	235.0	231.9	236.4	254.7	272.1
of which:											
Bonds ^d	15.6	17.8	17.6	16.8	18.1	20.2	77.5	80.4	83.1	114.7	173.4
Commercial banks ^d	164.9	173.7	189.1	201.1	190.5	178.8	104.5	99.4	97.6	75.6	..
Short-term debt	51.5	46.1	37.0	45.5	49.9	60.3	78.1	88.4	93.1	96.8	96.6
Memo items											
Principal arrears on long-term debt	6.8	7.0	9.6	12.4	15.1	18.5	25.9	26.4	25.6	26.4	22.8
Interest arrears on long-term debt	3.3	2.9	3.7	8.6	9.0	17.1	26.0	27.8	21.6	14.9	8.5

Table A.36 (continued)											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a
Africa											
Total external debt	180.1	206.0	232.3	270.0	272.5	280.8	291.7	295.3	292.8	296.9	313.2
Long-term debt	144.3	168.5	193.3	237.8	240.7	246.1	256.3	260.1	254.7	253.4	268.4
Concessional	43.2	50.0	57.8	69.3	72.2	77.0	85.0	88.5	91.9	95.9	107.0
Bilateral	31.2	36.1	41.4	48.7	50.1	52.0	56.7	56.6	57.9	58.9	64.7
Multilateral ^e	12.0	13.8	16.4	20.6	22.2	25.1	28.3	31.9	34.0	37.0	42.3
Official, non-concessional	41.2	51.0	64.3	81.2	79.8	82.9	84.1	91.8	90.7	90.0	93.8
Bilateral	26.2	32.0	41.6	52.9	52.8	55.6	54.4	60.6	60.0	59.1	62.4
Multilateral	8.0	11.0	15.1	20.1	19.6	20.7	23.6	25.4	25.7	26.7	27.4
IMF	7.0	8.1	7.6	8.1	7.4	6.6	6.1	5.7	5.0	4.2	4.0
Private creditors	59.9	67.5	71.2	87.3	88.6	86.1	87.1	79.8	72.1	67.5	67.6
of which:											
Bonds ^d	5.4	5.6	5.0	5.2	4.7	4.5	3.6	3.1	5.1	2.9	3.0
Commercial banks ^d	20.2	20.6	22.4	31.2	33.0	31.5	30.9	29.0	23.4	23.0	..
Short-term debt	35.8	37.5	39.0	32.3	31.9	34.7	35.5	35.3	38.1	43.5	44.8
Memo items											
Principal arrears on long-term debt	4.4	8.1	13.4	16.7	20.4	20.3	23.5	23.3	27.1	33.0	37.1
Interest arrears on long-term debt	2.4	3.3	5.2	6.8	9.1	11.4	12.3	12.5	14.7	18.7	18.6
Sub-Saharan Africa											
Total external debt	66.7	80.1	93.4	112.9	114.8	122.3	139.0	144.8	147.9	153.0	160.6
Long-term debt	59.2	70.7	83.5	100.7	101.3	105.7	118.9	122.9	123.8	126.0	133.6
Concessional	23.4	28.0	33.6	42.1	44.4	48.7	57.8	62.8	65.7	69.5	78.0
Bilateral	14.6	17.5	20.7	25.2	25.9	27.4	31.9	33.4	34.2	35.2	38.8
Multilateral ^e	8.8	10.5	13.0	16.9	18.5	21.3	25.8	29.4	31.5	34.4	39.2
Official, non-concessional	18.9	23.3	28.4	35.0	34.2	34.3	37.7	37.3	36.4	35.1	35.3
Bilateral	9.5	11.9	15.2	19.4	19.5	20.9	23.5	23.5	23.2	22.2	22.8
Multilateral	4.1	5.4	6.9	9.0	8.6	8.7	9.7	10.0	9.9	10.0	10.1
IMF	5.3	6.0	6.4	6.6	6.0	4.7	4.4	3.8	3.2	3.0	2.4
Private creditors	16.9	19.4	21.4	23.6	22.7	22.7	23.4	22.8	21.7	21.3	20.3
of which:											
Bonds ^d	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2
Commercial banks ^d	6.3	6.6	7.5	8.3	8.0	8.0	8.6	7.9	7.7	7.7	..
Short-term debt	7.5	9.3	9.9	12.2	13.6	16.6	20.1	21.9	24.1	27.0	26.9
Memo items											
Principal arrears on long-term debt	2.6	4.0	5.3	7.9	10.3	13.0	16.0	20.2	23.0	26.9	29.0
Interest arrears on long-term debt	1.2	1.8	2.5	3.8	5.4	7.5	9.0	11.2	12.9	15.6	15.0

Table A.36 (continued)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a
Asia											
Total external debt	224.6	257.1	292.9	335.1	354.4	375.3	418.9	460.5	500.3	544.2	604.0
Long-term debt	176.9	207.8	242.8	274.6	290.9	308.7	343.3	371.7	401.6	432.1	479.7
Concessional	55.7	65.8	77.2	93.9	113.0	129.1	147.1	155.6	163.4	174.4	191.0
Bilateral	36.7	43.9	52.9	66.1	83.7	97.3	110.1	114.1	118.6	125.7	137.3
Multilateral ^c	19.0	21.9	24.3	27.8	29.3	31.8	37.1	41.4	44.8	48.6	53.7
Official, non-concessional	35.2	41.6	48.7	53.5	50.6	51.5	58.5	64.7	70.5	78.2	79.5
Bilateral	10.7	11.9	12.8	12.0	11.4	11.1	11.9	13.9	17.5	20.8	22.4
Multilateral	14.8	19.7	25.2	32.0	32.4	34.8	41.1	45.2	46.4	50.5	51.3
IMF	9.7	10.0	10.6	9.5	6.9	5.6	5.5	5.6	6.7	6.9	5.7
Private creditors	86.1	100.5	117.0	127.2	127.3	128.1	137.7	151.4	167.7	179.6	209.1
of which:											
Bonds ^d	5.5	11.1	14.9	17.9	17.4	17.3	18.4	22.2	26.5	30.7	36.5
Commercial banks ^d	34.4	37.5	44.9	48.8	51.4	51.0	51.5	51.8	50.4	52.8	..
Short-term debt	47.7	49.3	50.1	60.4	63.5	66.6	75.6	88.8	98.7	112.1	124.3
Memo items											
Principal arrears on long-term debt	0.4	0.9	0.2	0.9	1.2	1.8	1.9	4.1	6.3	6.7	8.2
Interest arrears on long-term debt	0.1	0.1	0.0	0.1	0.5	0.9	1.5	1.9	2.2	2.4	2.2
Fifteen heavily indebted countries											
Total external debt	423.3	440.7	463.1	507.3	485.5	480.3	506.4	519.4	525.0	552.6	576.4
Long-term debt	359.7	384.4	423.4	464.0	439.3	424.4	432.8	433.8	432.6	450.9	474.9
Concessional	15.1	18.0	21.9	23.9	24.0	24.6	28.1	27.6	29.3	30.8	36.7
Bilateral	11.9	14.6	18.3	20.1	20.2	20.7	23.6	22.7	24.3	25.4	30.0
Multilateral ^c	3.2	3.4	3.6	3.8	3.8	3.9	4.5	4.9	5.0	5.4	6.8
Official, non-concessional	53.0	68.4	90.8	116.5	114.6	121.3	141.7	147.0	144.8	145.3	144.1
Bilateral	17.4	21.0	30.2	41.5	43.9	50.0	58.8	62.2	63.5	63.1	63.1
Multilateral	22.1	30.3	41.7	54.5	52.5	54.3	63.9	67.2	66.3	68.4	68.6
IMF	13.5	17.0	18.9	20.5	18.2	17.0	18.9	17.5	15.0	13.8	12.5
Private creditors	291.6	298.1	310.6	323.6	300.7	278.5	263.0	259.3	258.5	274.9	294.1
of which:											
Bonds ^d	15.7	17.8	17.5	16.7	17.9	19.9	77.1	79.7	87.8	119.8	178.6
Commercial banks ^d	172.3	182.6	201.6	218.4	208.1	195.7	118.8	112.5	100.5	77.5	..
Short-term debt	63.6	56.2	39.8	43.4	46.2	55.8	73.6	85.6	92.4	101.7	101.5
Memo items											
Principal arrears on long-term debt	5.7	5.9	6.7	7.8	9.5	9.9	17.0	19.8	21.1	25.3	24.4
Interest arrears on long-term debt	2.7	1.8	1.5	5.8	5.7	12.5	21.6	24.9	19.9	15.8	10.0

Source: UN/DESIPA, based on data of IMF, OECD and World Bank.

^a Estimate.

^b Debt of 122 economies, drawn primarily from the data of the Debtor Reporting System of the World Bank (107 countries).

For non-reporting countries, data are drawn from the Creditor Reporting System of OECD (15 economies), excluding, however, non-guaranteed bank debt of offshore financial centres, much of which is not the debt of the local economies.

^c Including concessional facilities of IMF.

^d Government or government-guaranteed debt only.

Table A.37.

**DEBT INDICATORS AND DEBT-SERVICE PAYMENTS FOR CAPITAL-IMPORTING
DEVELOPING COUNTRIES, 1984-1994**

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a
Debt indicators (percentage)											
Ratio of external debt to GNP											
All countries of which:	40.5	44.4	47.2	49.7	44.9	41.8	39.7	40.3	39.5	38.6	38.7
Latin America	57.4	60.3	62.1	64.2	55.0	48.7	44.1	44.1	41.3	36.5	35.7
Africa	51.5	61.2	70.5	78.8	77.4	78.9	75.1	77.7	74.6	74.6	78.4
Asia	22.8	25.7	28.1	29.6	27.4	26.5	26.9	28.0	28.7	29.9	30.1
Memo items											
Sub-Saharan Africa	67.1	81.3	82.0	95.0	92.9	96.9	105.2	108.7	111.5	115.3	130.8
Fifteen heavily indebted countries	54.3	57.0	60.3	63.6	53.8	47.5	43.1	43.4	40.9	37.2	36.6
Ratio of external debt to exports											
All countries of which:	162.8	180.9	200.0	187.0	159.8	145.3	138.4	135.8	134.0	135.6	132.9
Latin America	285.3	310.1	376.6	369.6	309.3	272.5	259.7	264.8	254.4	253.8	240.2
Africa	189.4	218.1	270.8	284.9	271.6	261.1	234.6	240.6	231.4	243.5	227.0
Asia	88.3	102.5	106.0	94.5	81.8	77.2	77.1	74.4	75.5	77.1	78.1
Memo items											
Sub-Saharan Africa	218.0	262.8	302.3	337.6	326.1	325.2	334.0	358.4	364.9	398.7	352.0
Fifteen heavily indebted countries	267.2	282.7	334.8	328.7	278.2	242.8	223.2	239.4	236.5	236.7	236.5
Ratio of debt service to exports											
All countries of which:	22.7	23.5	24.5	21.7	20.0	17.4	15.6	14.3	14.6	15.2	14.2
Latin America	38.3	36.6	42.5	36.7	37.5	31.0	25.3	25.1	27.5	28.6	27.8
Africa	26.8	26.7	29.5	24.1	26.4	24.8	24.5	23.6	22.3	22.6	18.1
Asia	12.5	15.6	15.4	15.3	11.7	10.5	9.8	8.5	8.6	9.7	9.2
Memo items											
Sub-Saharan Africa	19.3	21.6	24.8	23.1	22.5	19.5	18.0	17.7	15.4	14.4	13.2
Fifteen heavily indebted countries	39.5	36.4	40.7	34.8	36.1	30.4	24.4	25.0	27.6	26.7	28.1

Table A.37 (continued)											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 ^a
Debt-service payments (billions of dollars)											
All countries											
Total debt service	123.9	125.9	130.8	139.7	150.4	146.7	148.5	145.5	156.2	169.9	173.8
Interest payments	70.8	70.1	65.5	64.5	73.7	68.5	66.6	69.0	65.9	66.7	72.0
of which:											
non-concessional	68.7	67.6	62.5	61.4	70.1	64.4	61.8	64.0	60.7	60.5	65.6
Latin America											
Total debt service	53.5	48.6	49.1	47.1	55.3	51.5	46.4	46.6	54.2	59.3	63.4
Interest payments	35.7	35.3	30.6	28.9	33.5	26.4	23.0	24.3	23.1	24.0	26.5
of which:											
non-concessional	35.3	34.8	30.1	28.4	33.0	25.8	22.0	23.4	22.2	23.1	25.4
Africa											
Total debt service	25.5	25.2	25.3	22.9	26.5	26.7	30.5	28.9	28.2	27.5	25.0
Interest payments	11.5	11.1	10.7	9.6	11.6	12.1	12.3	11.9	10.8	10.0	10.2
of which:											
non-concessional	11.0	10.5	10.1	9.0	10.8	11.2	11.4	11.1	10.0	8.6	9.2
Asia											
Total debt service	31.8	39.2	42.6	54.3	50.7	50.9	53.1	52.5	57.2	68.7	71.1
Interest payments	16.6	17.1	17.1	18.7	20.2	22.9	23.6	25.5	24.7	26.3	28.7
of which:											
non-concessional	15.6	15.9	15.6	17.1	18.3	20.7	21.1	22.7	21.6	22.8	24.9
Memo items											
Sub-Saharan Africa											
Total debt service	5.9	6.6	7.7	7.7	7.9	7.3	7.5	7.2	6.2	5.5	6.0
Interest payments	3.0	3.0	3.3	3.1	3.2	3.1	3.2	3.2	2.7	2.3	2.5
of which:											
non-concessional	2.7	2.8	2.9	2.7	2.8	2.7	2.7	2.7	2.3	1.9	1.9
Fifteen heavily indebted countries											
Total debt service	62.6	56.8	56.2	53.7	63.0	60.1	55.4	54.3	61.3	62.2	68.5
Interest payments	41.5	39.6	34.3	32.4	38.2	31.3	27.3	28.4	25.9	25.8	29.1
of which:											
non-concessional	41.2	39.3	34.0	32.1	37.9	30.9	26.8	27.8	25.4	24.5	28.2

Source: UN/DESIPA, based on data of IMF, OECD and World Bank.

^a Preliminary estimate.

Table A.38.

DEBT RESTRUCTURING WITH OFFICIAL CREDITORS, 1984-1994

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Number of agreements											
Developing countries, total	14	22	19	17	15	24	17	14	16	10	13
Middle-income countries	2	9	3	4	3	5	1	2	4	1	1
Lower-middle-income countries ^a	5	4	6	5	3	5	6	8	4	3	6
Low-income countries	7	9	10	7	8	12	9	3	8	6	5
Sub-Saharan Africa	9	10	15	9	9	16	9	6	9	4	9
Amounts rescheduled^b (millions of dollars)											
Developing countries, total	3 764	6 457	12 183	19 969	9 362	18 600	6 075	44 308	12 522	3 394	14 020
Middle-income countries	704	3 789	2 201	6 670	6 721	6 016	200	1 825	7 287	57	293
Lower-middle-income countries	1 939	1 692	7 502	10 962	1 342	9 312	3 320	34 150	2 628	2 615	11 360
Low-income countries	1 121	976	2 480	1 987	973	2 518	2 445	390	2 607	722	1 007
Sub-Saharan Africa	1 494	1 192	9 466	2 904	1 299	10 330	3 374	1 810	3 687	633	5 289
Average consolidation period (years)											
Developing countries, total	1.2	1.2	1.2	1.2	1.3	1.4 ^c	1.5	.. ^d	1.9	2.3	1.4
Middle-income countries	1.0	1.1	1.2	1.1	1.4	1.6	1.4	0.8	1.5	-	0.5
Lower-middle-income countries	1.2	1.2	1.2	1.4	1.4	1.4	1.4	.. ^d	1.5	3.1	1.8
Low-income countries	1.1	1.3	1.2	1.2	1.2	1.3 ^c	1.7	1.2	2.1	2.1	1.2
Sub-Saharan Africa	1.1	1.2	1.2	1.2	1.2	1.3 ^c	1.6	1.2	2.0	2.3	1.4
Average maturity on consolidated debt (years)											
Developing countries, total	10.7	9.9	10.3	13.1	16.1	13.7	15.3	.. ^d	.. ^e	.. ^e	.. ^e
Middle-income countries	8.8	9.1	9.9	8.1	9.4	9.4	9.3	9.8	9.5	4.5	6.5
Lower-middle-income countries	10.0	10.1	10.1	10.4	9.0	10.1	14.0	.. ^d	.. ^e	.. ^e	.. ^e
Low-income countries	11.8	10.6	10.5	17.6	22.0	17.6	17.4	17.4 ^f	.. ^e	.. ^e	.. ^e
Sub-Saharan Africa	11.4	10.5	10.3	15.9	20.7	15.2	17.1	15.2 ^f	.. ^e	.. ^e	.. ^e

Source: UNCTAD, based on Paris Club Agreed Minutes.

Note: In 1988, Paris Club creditors adopted new concessional debt-relief measures for low-income countries, which are known as the Toronto terms.

^a This group of countries is likely to comprise the main beneficiaries of the Houston terms, although a small number have benefited from the Toronto terms.

^b Including previously rescheduled debt.

^c Excluding Equatorial Guinea.

^d Owing to the menu options for Egypt, it is not possible to calculate consolidation periods and maturity averages for 1991.

^e Owing to the options under the Enhanced Toronto terms it is not possible to calculate consolidation periods and maturity averages for Bolivia, Ethiopia, Guinea, Honduras, Mali, Sierra Leone, Togo, Uganda, United Republic of Tanzania and Zambia for 1992; for Benin, Burkina Faso, Guyana, Mauritania, Mozambique and Viet Nam for 1993; for Cameroon, Central African Republic, Côte d'Ivoire, Niger, Senegal and Sierra Leone for 1994.

^f Excluding Benin and Nicaragua, which received Enhanced Toronto terms.

Table A.39.
DEBT-RESTRUCTURING AGREEMENTS WITH COMMERCIAL BANKS:
ALL DEVELOPING COUNTRIES, 1983-1995

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1994
Number of agreements	27	26	14	12	19	10	4	5	0	1	1
Amounts rescheduled ^a (billions of dollars)	91.3	23.2	72.7	89.7	79.7	6.8	5.4	-	-	0.2	0.2
Average consolidation period (years)	1.5	2.8	2.8	2.8	4.0	6.5	3.3	7.3	-	4.0	..
Average repayment terms											
Maturity (years)	6	9	11	10	15	19	16	13	-	13	..
Grace (years)	3	3	4	4	5	7	5	4	-	3	..
Spread over LIBOR (percentage)	2.0	1.8	1.5	1.3	1.0	0.8	0.9	0.8	-	0.8	..
Concluded debt and debt-service reduction agreements (billions of dollars)											
	1990				1991		1992				
	Mexico	Philippines	Costa Rica	Venezuela	Uruguay	Philippines	Nigeria				
Debt reduction											
Debt buyback	-	1.3	1.0	1.4	0.5	1.3	3.3				
Discount bonds	20.6	-	-	1.8	-	-	-				
Debt-service reduction	22.4	-	0.5	10.3	0.4	2.6	2.0				
New money	4.4	-	-	6.1	0.4	0.5	-				
Total debt restructured	48.1 ^b	1.3	1.5 ^c	19.6	1.3	4.4	5.3				
Total financing required	7.0	0.7	0.2	2.4	0.5	1.2	1.7				
of which: own resources	1.2	0.05	0.04	0.4	0.3	1.0	1.7				
	1993		1994			1995					
	Argentina	Jordan		Brazil	Dominican Republic		Ecuador				
Debt reduction											
Debt buyback	-	..			0.3						
Discount bonds	6.6	..		4.0	0.5		2.6				
Debt-service reduction	12.2	..		4.0	0.2		1.9				
New money	-	..		4.0	..		..	
Total debt restructured	27.0 ^d	0.9		46.6	1.2		7.4				
Total financing required	4.0 ^e	0.15		4.6	..		..	
of which: own resources	0.8 ^e	0.15		4.6	..		..	

Sources: World Debt Tables, 1994-1995, and IMF.

^a Including previously rescheduled debt.

^b Including portion (\$693 million) not committed to any option.

^c Overdue interest amounting to \$114 million was converted into bonds by those banks that chose the buyback option.

^d Total including \$8.3 billion past-due interest.

^e Financing proposal, as reported in World Bank, *Financial Flows to Developing Countries*, January 1993.

IV. THE INTERNATIONAL OIL MARKET

Table A.40.

WORLD OIL DEMAND, 1986-1995^a

Millions of barrels per day										
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995 ^b
Developed market economies	35.4	36.0	37.5	37.8	38.0	38.2	38.9	39.0	39.9	40.4
North America	18.0	18.5	19.2	19.3	18.9	18.6	18.9	19.2	19.7	19.9
Western Europe	12.2	12.3	12.8	12.8	13.0	13.4	13.7	13.6	13.7	13.9
Pacific ^c	5.2	5.2	5.5	5.7	6.1	6.2	6.3	6.2	6.6	6.5
Economies in transition	11.0	11.1	10.8	10.6	10.1	9.7	8.1	6.8	6.2	5.8
Eastern Europe	2.0	2.1	1.9	1.8	1.6	1.4	1.2	1.2	1.4	1.4
Former Soviet Union ^d	9.0	9.0	8.9	8.8	8.5	8.3	6.9	5.6	4.8	4.4
Developing countries	15.2	15.8	16.6	17.6	18.4	19.1	20.1	21.2	22.1	23.2
Latin America	4.7	4.8	4.9	5.0	5.1	5.3	5.4	5.6	5.7	5.8
Africa	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2
West Asia	2.9	3.0	3.0	3.3	3.5	3.4	3.6	3.8	3.9	4.2
South and East Asia	3.8	4.0	4.5	4.9	5.5	5.9	6.4	6.8	7.3	7.7
China ^d	2.0	2.1	2.2	2.4	2.3	2.5	2.7	2.9	3.1	3.3
World total ^e	61.6	62.9	64.9	66.0	66.5	66.9	67.1	67.0	68.2	69.4

Source: UN/DESIPA, based on International Energy Agency, Monthly Oil Market Report, various issues.

^a Including deliveries from refineries/primary stocks and marine bunkers, and refinery fuel and non-conventional oils.

^b Estimate.

^c Australia, Japan and New Zealand.

^d Based on estimates of apparent domestic demand derived from official production figures and quarterly trade data.

^e Totals may not add up because of rounding.

Table A.41.

WORLD CRUDE OIL PRODUCTION, 1970-1994

Millions of barrels per day											
	1970	1980	1985	1986	1987	1988	1989	1990	1993	1994	Percentage change between 1985 and 1994
Developed market economies	11.24	12.60	14.36	14.25	14.20	14.12	13.50	13.27	13.72	14.48	0.8
Economies in transition	7.42	12.40	12.24	12.62	12.79	12.81	12.54	11.74	8.10	7.28	-40.5
Developing countries	26.84	34.58	26.60	29.12	28.76	31.47	33.35	35.3	37.80	38.65	45.3
OPEC members	23.31	26.60	15.79	18.11	17.41	19.72	21.42	22.92	24.69	24.94	
Non-OPEC developing countries	3.53	7.98	10.81	10.97	11.35	11.76	11.94	12.37	13.11	13.71	26.8
World total	45.50	59.58	53.20	55.99	55.75	58.40	59.39	60.31	59.62	60.41	13.6

Source: UN/DESIPA, based on *Oil and Gas Journal*, various issues.

Table A.42.
OPEC CRUDE OIL PRODUCTION, 1994

Thousands of barrels per day												
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Algeria	740	745	760	750	750	750	745	740	745	750	750	750
Gabon	300	300	295	320	330	330	330	330	330	340	340	340
Indonesia	1 280	1 300	1 310	1 310	1 320	1 320	1 330	1 330	1 330	1 350	1 340	1 330
Iran (Islamic Republic of)	3 530	3 475	3 715	3 430	3 535	3 730	3 510	3 580	3 615	3 490	3 700	3 685
Iraq	500	500	500	500	500	500	500	500	500	500	540	540
Kuwait ^a	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000
Libyan Arab Jamahiriya	1 370	1 390	1 400	1 400	1 385	1 395	1 400	1 400	1 380	1 380	1 400	1 400
Nigeria	2 000	2 000	2 000	1 920	1 920	1 930	1 780	1 470	1 820	1 920	1 860	1 900
Qatar	400	400	400	400	400	400	400	400	400	360	400	400
Saudi Arabia ^a	8 000	8 000	8 000	8 000	8 000	8 000	8 000	8 000	8 000	8 000	8 000	8 000
United Arab Emirates	2 160	2 200	2 160	2 160	2 160	2 215	2 215	2 200	2 160	2 160	2 180	2 195
Venezuela	2 360	2 450	2 450	2 450	2 460	2 450	2 450	2 500	2 500	2 500	2 450	2 450
Total	24 640	24 760	24 990	24 640	24 760	25 020	24 690	24 450	24 780	24 750	24 960	24 990

Source: Middle East Economic Survey, 18 January 1995.

^a Including share of the Neutral Zone.

Table A.43.
VALUE OF OIL EXPORTS OF OPEC MEMBER COUNTRIES, 1970-1994^a

Millions of dollars										
	1970	1980	1985	1988	1989	1990	1991	1992	1993	1994 ^b
Algeria	681	12 647	9 170	4 988	7 000	8 854	9 590	8 167	7 980	7 600
Gabon	62	1 745	1 629	779	1 200	1 967	1 740	1 712	1 506	1 450
Indonesia	446	12 850	7 670	5 189	6 059	6 481	5 745	6 200	5 283	4 700
Iran (Islamic Republic of)	2 358	13 286	15 590	9 210	10 809	16 700	15 280	15 700	14 241	13 000
Iraq	788	26 296	10 685	10 952	14 500	9 463	380	326	364	-
Kuwait	1 596	17 678	9 817	6 391	9 306	5 536	1 400	6 220	9 986	10 000
Libyan Arab Jamahiriya	2 356	21 378	9 962	5 169	7 500	9 800	10 025	9 200	7 607	7 000
Nigeria	716	25 290	12 353	6 267	7 470	13 200	12 150	11 690	11 024	9 500
Qatar	227	5 406	3 068	1 709	1 955	2 960	2 187	3 200	2 594	2 500
Saudi Arabia	2 418	105 813	24 180	20 206	24 096	40 128	43 656	47 560	41 353	38 000
United Arab Emirates	523	19 558	11 842	7 352	11 300	15 600	14 765	14 490	13 546	12 500
Venezuela	2 371	17 562	12 956	8 158	10 001	13 953	12 305	11 782	10 565	9 800
Total	14 541	279 309	128 922	86 366	111 196	144 642	129 223	136 247	126 049	116 050

Source: OPEC Annual Statistical Bulletin, various issues.

^a Where appropriate, petroleum product exports are included. Data for some countries may include exports of condensate. Starting in 1980, Saudi Arabia data exclude natural gas liquids.

^b Preliminary estimate by UN/DESIPA.

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