SUPPLEMENT TO

World Economic Survey 1984

- Exchange rate volatility in an interdependent world economy
- Some changes in trade among developing countries, 1965-1980
- Wage behaviour in the developed economies

United Nations

ST/ESA/158

Department of International Economic and Social Affairs

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I. EXCHANGE RATE VOLATILITY IN AN INTERDEPENDENT WORLD ECONOMY

Introduction

The pronounced stagnation of the world economy in the early 1980s followed a decade in which growth in industrial market economies was slower and more unstable than expected. Expectations of fast and stable growth were formed in the post-war belle epoque, during which macro-economic policies yielded a satisfactory level of employment and reasonable price stability at home, while allowing for a rapid expansion of international trade and capital movements. Judged by this yardstick, the macro-economic performance of the past decade has been a matter of major concern.

The relatively poor economic performance of the industrial countries since the beginning of the 1970s has in part reflected the substantial changes in their external economic environment, brought about most markedly by the series of sharp and sudden oil price increases. There has also emerged a growing sense of scepticism about the effectiveness of the traditional domestic instruments of macro-economic policy to achieve the objectives of full employment and price stability in the context of an interdependent world economy.

Higher interdependence among the major industrial countries, brought about by the successive lowering of trade barriers, the rapid expansion of direct foreign investment and the growth of world financial markets, has resulted in less autonomy over the management of the domestic economy. This is perhaps most starkly manifested by the recent volatile and unpredictable behaviour of major currencies and the uncertainty prevailing over world economic conditions and prospects.

Being a shared instrument without any international agreement about reciprocal movements, exchange rates have behaved to reflect the tension generated by the growth of market interdependence and the quest for national policy independence. To what extent have their movements in the past decade helped to insulate national economies from external disturbances? Alternatively, to what extent have they intensified national policy conflicts?

In the early 1970s, when the Bretton Woods system collapsed, most economists advocated the desirability of a system of flexible exchange rates. Floating exchange rates were then viewed as a step that would help to insulate national economies from external disturbances and hence would furnish Governments with the desired degree of policy autonomy. However, in retrospect, the volatility of major currency prices has been much greater than anticipated by the early advocates of the system. This has been a cause for concern because the recent volatility in nominal exchange rates has been transmitted to real exchange rates.

The present essay places exchange rate volatility in the perspective of a growing tension between global market interdependence and national policy autonomy. Current explanations for exchange rate movements are then criticized in so far as they do not account for the evolution of the world's central currency, the United States dollar. Allowing for the volatility of expectations about equilibrium real exchange rates and their fundamental determinants provides a better explanation of the effective exchange value of the United States dollar in the past decade. It is also suggested that international policy co-ordination rather than occasional intervention in the foreign exchange market, is required to stabilize expectations and thus to reduce exchange rate volatility.

Policy interdependence under flexible exchange rates

The interaction of national objectives and constraints implied by the growth of increasing market interdependence among the major industrial countries has been a feature of the international monetary system for some time. For example, from the 1850s to 1914, the international economic system was based on free trade and the gold standard, and the international political system was centred on the acceptance of the Pax Britannica. The "rules of the game" of the gold standard implied policy interdependence. In effect, central banks were supposed to let gold flow in and out of the country, as required by the surplus or deficit in the balance of payments. Since this often involved sacrificing the attainment of internal objectives, it was accordingly resisted by national monetary authorities. 1/ The conflict between internal and external objectives became quite severe in the 1930s and led to the demise of the classical world system.

The international monetary system, which was adopted at the Bretton Woods conference in 1944, was, like the gold standard, based on the convertibility of national currencies, with the pound sterling and the United States dollar to be used in financing temporary balance-of-payments deficits. In the 1950s, the structural interdependence brought about through growing trade and capital movements, especially among industrial countries, resulted in an overvaluation of the reserve currencies, which gradually ran into conflict with the domestic policy objectives of the United Kingdom of Great Britain and Northern Ireland and the United States of America. Yet the balance of payments imposed a more immediate constraint on the attainment of domestic policy objectives in the remaining countries, which could not use their currencies in international settlements.

This constraint was also more acute because there were substantial differences in national policy objectives. For example, in the 1960s, the Federal Republic of Germany and most other members of the European Community showed a greater aversion to inflation, while the reserve countries showed a greater aversion to unemployment, leading to a permanent deficit in their balance of payments. Eventually, sterling was devalued in November 1967. After that, the convertibility of the United States dollar into gold became less and less credible, undermining confidence in the very foundation of the Bretton Woods system of fixed exchange rates.

In the context of recent experience, much of the concern over the performance of the flexible exchange rate system has related to the substantial rise in the value of the United States dollar against other major currencies and the consequent widening of the United States current account deficit. For example, the dollar appreciated by 36 per cent vis-à-vis the deutsche mark between the first quarter of 1980 and the first quarter of 1983. Moreover, over the same period, United States domestic prices rose at a higher rate than those of the Federal Republic of Germany, so that, in real terms, the dollar appreciated by about 44 per cent relative to the deutsche mark. In other words, the competitiveness of United States products in international markets declined substantially, thereby providing a powerful inducement to shift demand away from them.

The large and rapid rise in the real exchange rate of the dollar relative to the deutsche mark is indicative of the trend in the world-wide real value of the dollar in the past three years. Changes in the structures underlying the United States comparative advantage in international markets do not warrant such a rise. On the contrary, the deteriorating United States trade account position and the

corresponding improvements in the trade positions of the Federal Republic of Germany and particularly Japan, should have weakened the dollar. A weaker dollar would have narrowed the United States cost-price competitive disadvantage and would have strengthened the fundamental determinants of the currency's value. Those adjustments have, however, been delayed by the sustained demand for dollar-denominated assets.

The dollar's appreciation has a stimulative impact on the exports of other countries, but its continued rise carries the more serious danger of fostering protectionist sentiments in the United States, as the United States trade position deteriorates. If other countries retaliate to United States protection, world trade would decline. Even in the absence of tariff increases, high United States real interest rates and a strong appreciation of the dollar tend to slow the pace of recovery in countries of Europe and in Japan since those countries are compelled to raise interest rates to prevent further weakening of their currencies. The appreciation of the dollar also produces a contractionary wealth effect on world aggregate demand, because the overwhelming part of foreign countries' external debt is in dollar-denominated assets.

Could monetary authorities correct this excessive volatility by intervening in the foreign exchange market? Given the highly efficient and speculative nature of the foreign exchange market of major currencies, where changes in expectations of future events can be abruptly reflected in the actual movement of exchange rates, official intervention can only be successful and have lasting effect if it is credible. Credibility, in turn, requires the design and implementation of a co-ordinated package of national macro-economic policies that would ensure that expectations of exchange rate changes conform to some equilibrium value. Otherwise, expectations remain volatile and the same occurs with exchange rates and with cost-price competitiveness.

However, while credible government intervention in the foreign exchange market to limit exchange rate volatility is surely desirable, it would require operations of a scale which does not seem viable under the present international financial régime. The degree of international monitoring required goes well beyond tolerable policy interdependence among sovereign nations.

This scepticism about the effectiveness of intervention in foreign exchange markets derives not only from the lack of credibility of national government policies but also from the asymmetry implied by the special role of the United States dollar. Except for a brief period during 1978-1979, the stance of the United States monetary authorities has been a passive one. On the other hand, the creation of the European Monetary System (EMS) implied an attempt at co-ordinating the intervention policies of major European countries. Particularly since the dollar shock of the early 1980s, the so-called overvaluation of the United States dollar has been an explicit concern of policy-makers in most countries, except the United States, where intervention is reserved for disorderly situations. In a sense, this is not surprising because the United States dollar has continued to play the role of reserve currency even after it ceased to be convertible into gold.

Exchange rate volatility: recent experience

During the post-war belle epoque, exchange rates were pegged to the United States dollar, which in turn was pegged to gold. There were certainly rounds of devaluations and revaluations against the numéraire currency, but the dollar price of gold remained fixed at 35 dollars per ounce from January 1934 to August 1971, when the United States Government unilaterally severed the convertibility of the dollar into gold. After two years of repeated unsuccessful attempts by the major industrial countries to agree on a realignment of exchange rates, the second devaluation of the numéraire, in February 1973, led to "generalized floating". This was later on codified in the second amendment of the Articles of Agreement of the International Monetary Fund (IMF), which recognized the right of member countries to adopt exchange rate arrangements of their choice. In accordance, the major currencies are now floating against each other either individually or co-operatively as in EMS, while the currencies of the developing countries are pegged to one of the major currencies or to a composite of currencies, including the special drawing rights (SDRs). 2/

Thus, it a country now pegs to the United States dollar it floats relative to other major currencies, and vice versa. If a country pegs to a basket of currencies, it floats against all individual countries, except those whose peg is to the same basket. For example, while most developing countries have followed some kind of pegging arrangement, their exchange rates have nevertheless floated against several of the major currencies. Even among industrial countries, "generalized floating" has been restricted by various regional arrangements, particularly among members of the European Communities, and by central bank intervention.

Yet this has not eliminated volatility in the foreign exchange markets. Table I-1 summarizes some quantitative measurements of volatility in the bilateral exchange rate movements of the currencies of six major industrial countries, namely, Canada, France, the Federal Republic of Germany, Italy, Japan and the United Kingdom, vis-à-vis the United States dollar for the period from the second quarter of 1973 to the second quarter of 1984. Though those currencies have fared differently so far as their average exchange rate changes vis-à-vis the dollar is concerned, they all have exhibited a pronounced degree of volatility in terms of both their wide range of fluctuations and their high coefficients of variation. In this respect, the deutsche mark, the Italian lira, the yen and the French franc have been particularly volatile. 3/

The importance of the bilateral exchange rate changes notwithstanding, it is preferable to emphasize an average measure of the dollar's exchange value relative to the combined values of other currencies called its effective exchange rate. The broad pattern of the nominal effective exchange rate of the dollar in the past 10 years seems to have been characterized by three distinct phases: (a) a phase of relative stability prevailing from 1973 to early 1976, (b) a phase of devaluation with occasional interruptions extending until mid-1980 and (c) a phase of steep appreciation continuing until the present. As a result of this long-term swing, the dollar, by the end of 1982, had returned to its early 1970s level, when it was generally believed to have been overvalued.

Table I-1. Volatility of six major dollar exchange rates

(Annual end-of-quarter percentage changes from the second quarter of 1973 to the second quarter of 1984)

Country	Mean a/	Date of extreme quarterly change		Range b/
		Positive	Negative	
Canada	-2.6	1976, first quarter	1978, third quarter	38.3
France	-6.3	1973, second quarter	1981, second quarter	99.7
Germany, Federal Republic of	-0.6	1973, second quarter	1981, second quarter	113.3
Italy	-10.3	1980, second quarter	1982, first quarter	118.2
Japan	0.4	1980, second quarter	1982, first quarter	99.8
United Kingdom	-6.1	1977, fourth quarter	1981, second quarter	93.5

a/ A negative number indicates appreciation of the United States dollar.

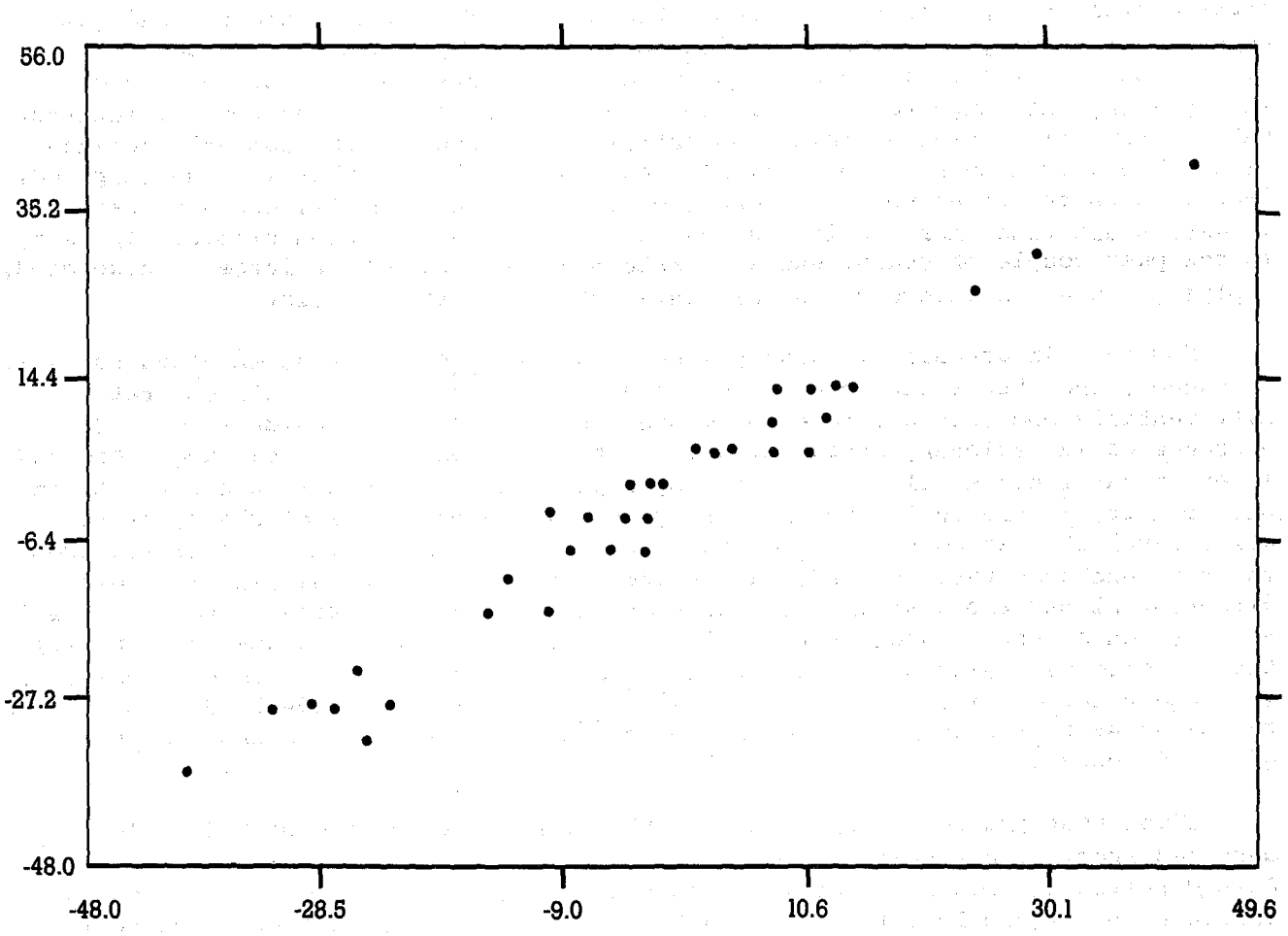
b/ The difference between the largest and smallest quarterly change as indicated in the previous column.

Furthermore, if account is taken of the inflation differentials between the United States and other industrial countries, it will be realized that, in the past 10 years, the real exchange rate of the dollar has been as volatile as its nominal exchange rate. Indeed, the variations in the real exchange rate of the United States dollar have matched variations in its nominal exchange rate. This is a startling reflection of the degree to which nominal exchange rate movements of the dollar have deviated from the path delineated by the inflation differentials between the United States and other industrial countries. In other words, the experience of the period 1973 to 1982 indicates that the relationship between changes in the nominal effective exchange rate of the dollar and relative inflation rates in the United States and other industrial countries was very weak. If anything, it was negative, because the dollar appreciated when inflation was higher in the United States than in other industrial countries.

A further illustration that nominal exchange rates did not adjust to relative inflation rates in the Organisation for Economic Co-operation and Development (OECD) area is provided by plotting the quarterly changes in the nominal and real effective exchange rate of the United States dollar against each other, as in figure I-1. If the nominal effective exchange rate of the United States dollar had adjusted to inflation in the United States relative to its major trading partners, there would have been no change in the real effective exchange rate and the observations would have shown a horizontal line at zero. Instead, the pattern converges to a 45 degree line, showing that the quarterly changes in the nominal and real exchange rate were strongly and positively correlated. 3/

Figure I-1. Relation between changes in the real and nominal effective exchange rate of the United States dollar

(Annual percentage from the second quarter of 1973 to the third quarter of 1982)



Vertical axis: real (using GDP deflator).
Horizontal axis: nominal.

Exchange rate determination

Nominal and real interest rate differentials

When the foreign exchange market is efficient and goods prices are expected to remain stable, the difference between the nominal interest rate at home and abroad will tend to equal the expected rate of change in the domestic currency price of foreign currency over the same maturity. Thus, a positive interest rate differential of 5 per cent per annum between the United States and the Federal Republic of Germany is associated with an expected 5 per cent per annum depreciation of the dollar vis-à-vis the deutsche mark. A more useful way of interpreting this important equilibrium condition is to view the nominal interest rate differential as determining the anticipated change in the nominal exchange rate. The actual change, however, also consists of a part that is unanticipated. Depending on the relative significance of those two components, exchange rate movements are thus characterized as being predictable or unpredictable. In fact, in the past couple of years, exchange rate movements have been largely unexpected, implying a weak influence of nominal interest rate differentials.

However, in actuality, goods prices cannot realistically be expected to remain unchanged, and thus their role in the determination of nominal interest rate differentials and exchange rate movements demands explicit consideration. In the presence of inflationary expectations, the relation between the exchange rate and interest rates can easily be modified by expressing the nominal interest rate in each country as the real interest rate plus the expected rate of change of the price level in that country. Then the real exchange rate today will differ from the real exchange rate yesterday according to the change in the real interest differential and the change in expectations about the real exchange rate. This explanation of the exchange rate is called "model free" when it does not specify the expected real exchange rate. If it is solved for the change in the nominal exchange rate, it will imply that higher inflation at home leads to depreciation of the exchange rate unless it is offset by an increase in the real interest rate given the expectations.

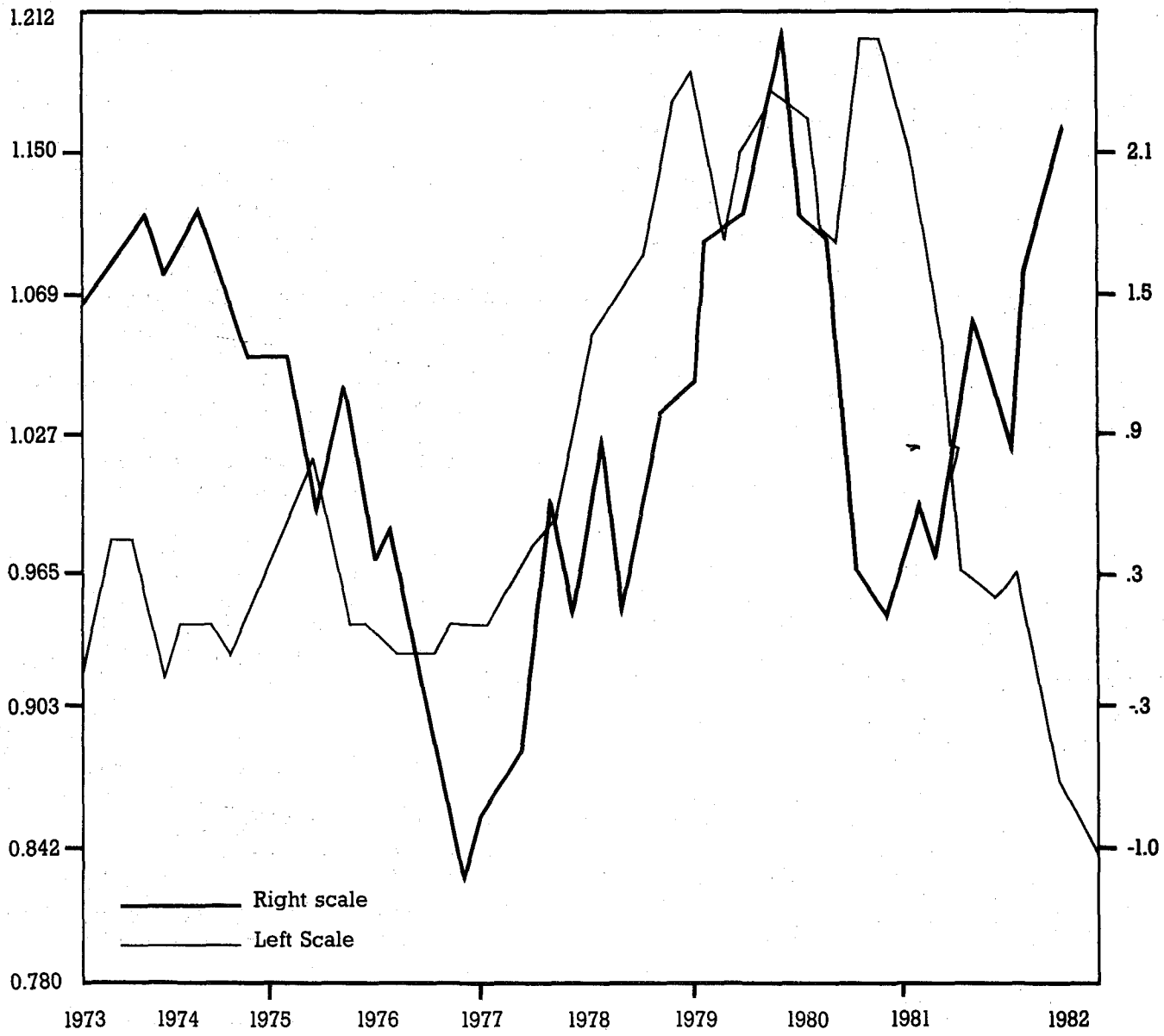
Given that changes in the nominal effective exchange rate of the dollar departed from, rather than were offset by, inflation differentials between the United States and other industrial countries during the 1973 to 1982 period, as indicated by figure I-1, the question then arises as to the influence of real interest rate differentials on exchange rates. Figure I-2 illustrates how real interest rate differentials between the United States and other industrial countries have related to the real effective exchange of the dollar.

Unlike relative prices, real interest rate differentials do seem to be correlated with the exchange rate. More specifically, regression results indicate that an increase in the real interest differential (from 1 per cent to 2 per cent, for example) leads to an appreciation of the nominal effective exchange rate of the dollar which is magnified by a factor of two. Nevertheless, only one fourth of the volatility of the nominal effective exchange rate is explained in this way.

But expectations about the equilibrium real exchange rate cannot be taken as given. Information on which they are based varies, sometimes dramatically, from day to day. Those changes are not only because of changes in the fundamental determinants, but also the existence, recognized by market participants, of some probability of a sudden return to the equilibrium value or of a change in policy

Figure I-2. Real effective exchange rate and real interest differential

(Annual percentage from the second quarter of 1973 to the third quarter of 1982)



Left scale - index 1975; 1=100.
Index of nominal effective exchange rate (1975: 1=100) constructed as a GDP-weighted average of six major industrial countries, that is Canadian dollar, French franc, deutsche mark, Italian lira, Japanese yen and pound sterling, divided by ratio of United States GDP deflator and GDP-weighted average of GDP implicit price deflators of the six major industrial countries.

Right scale - per cent per annum.
Five quarter centred moving average of the difference between the United States money market rate deflated by the change in the United States GDP deflator lagged one quarter and the same variables for the six countries averaged using relative dollar GDPs as weights.

régime. Even erroneous beliefs in the system can be a source of changes in expectations, which will be all the more important in an unstable environment. As expectations about future real exchange rate developments are predicated on some notion of long-run current accounts equilibrium, as well as other factors, unexpected imbalances in observed current accounts or changes in their underlying determinants induce revisions in expectations. Thus, the residual from an equilibrium model of the real exchange rate can be viewed as embodying the influences of changes in expectations about the long-run real exchange rates.

Fundamental determinants of the exchange rate

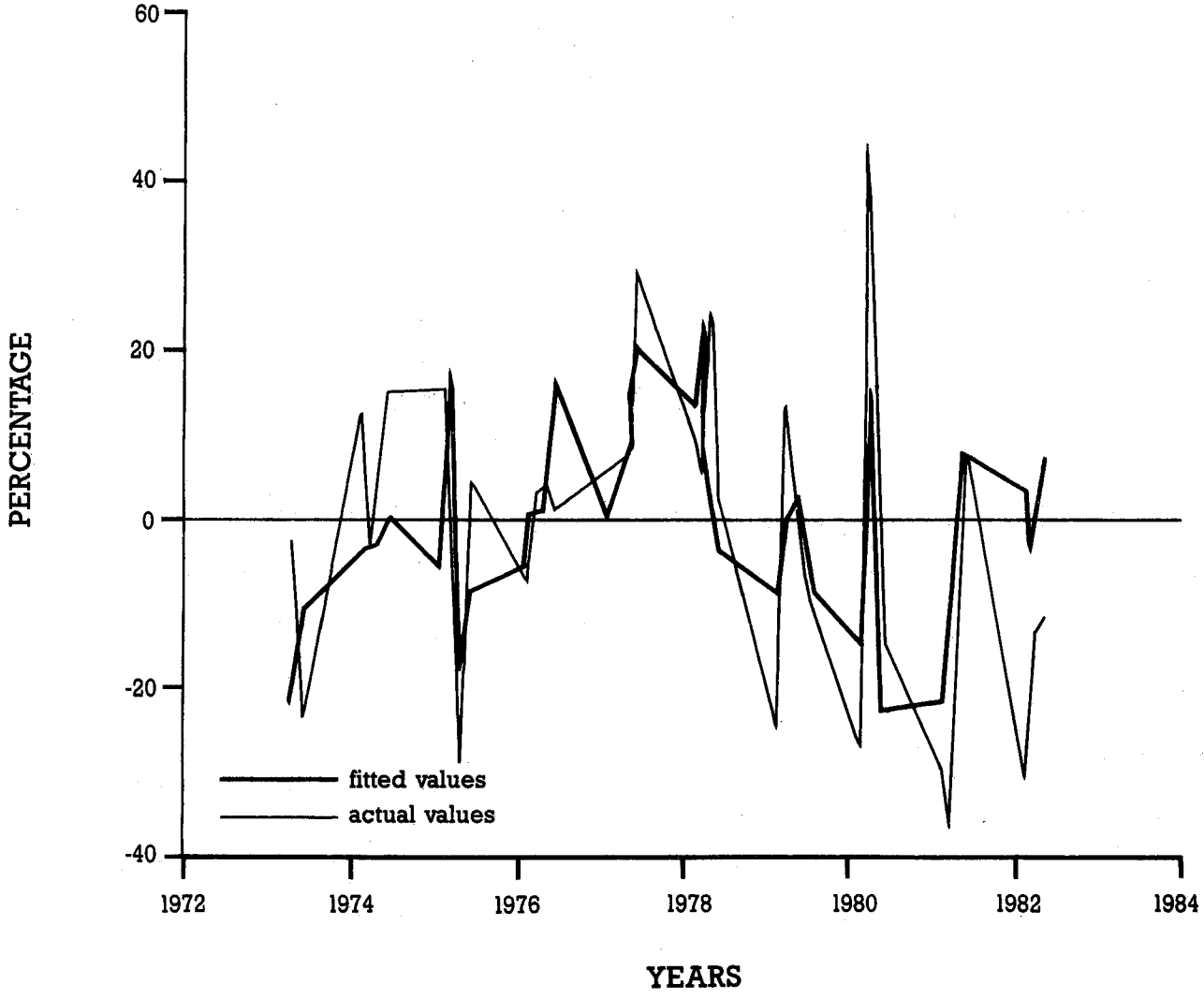
With financial markets of major industrial countries highly integrated, capital is free to move across different currencies. If international investors compare risk and return characteristics of assets, so that they exhibit risk-aversion, equilibrium exchange rates will be influenced by portfolio considerations. 4/ Take a simplified setting in which assets are restricted to two currencies and the distribution of currency portfolios as depending only on real income and real private monetary wealth. Then, given risk aversion, the change in the equilibrium real exchange rate can be expressed as a function of the relative velocity of money in the two countries and of the accumulation of foreign assets by the private sector of the home country. Constructing the model in real terms, the real exchange rate will be determined by the real current account imbalance, a proxy for real foreign asset accumulation, and changes in relative velocity, a proxy for growth conditions. 5/

When the model is estimated empirically, it yields that, on average, a unit fall in the normalized surplus induces a depreciation of the real effective exchange rate by one fourth, whereas the average effect of a fall in velocity is a one-to-one real depreciation. Changes in fundamentals account for 40 per cent of the actual volatility of the real exchange rate. Figure I-3 reports the actual and fitted values from this regression. 6/

To test for the influence of changes in expectations or "news", the residuals from the equilibrium real exchange rate equation were used as a proxy for "news" in the explanation of the changes in the nominal exchange rate, including also the change in relative prices and the change in real interest differentials, as well as allowing for a special effect owing to the policy initiative of the new United States Administration. All variables, except the "news", became insignificant and the proxy accounts for over 60 per cent of the variation of the nominal exchange rate of the dollar. 7/

The result is not surprising given the high correlation between nominal and real exchange rates evident from figure I-1, but it illustrates the advantage of relying on an equilibrium framework to explain exchange rates rather than on arbitrage conditions, which take expectations as given. Despite the simplicity of the theoretical model and of the estimation methods used, it has been possible to explain about two thirds of the volatility in the nominal effective exchange rate of the dollar. At the same time, the results confirm the difficulties in anticipating exchange rate changes. Their implication for the ability of central banks to dampen volatility by intervention are discussed in the conclusion.

Figure I-3. Actual and equilibrium changes in the real effective exchange rate of the United States dollar
(Annual percentage from the second quarter of 1973 to the third quarter of 1982)



Conclusion

Over the past 10 years, flexible exchange rates generated an erratic pattern in relative prices and made basic signals of resource allocation very noisy. Thus, the exchange rate régime may be partly responsible for the world-wide slow-down of growth.

Owing to the erratic pattern of the real exchange rates, it is very difficult to assess, let alone correct, the misalignment of the major world currencies. The preferred explanation of exchange rate volatility stressed changes in the fundamental determinants of the real exchange rate, identified as relative velocities and current accounts. National Governments can stabilize expectations about fundamentals by designing credible macro-economic policies. The overwhelming influence of "news" and the size of world financial markets relative to central bank reserves strains the credibility of unco-ordinated intervention in the foreign exchange market.

The realization that, even when the analysis is restricted to major industrial countries, intervention in foreign exchange markets cannot reduce volatility, has generated proposals designed to lessen interdependence among the major industrial countries. The large size and efficient organization of the foreign exchange market makes the effectiveness of such measures temporary at best. The adjustment via the current account and changes in the monetary velocity, inefficient and costly as it may be, is preferable to the spreading of trade and exchange restrictions. Reducing international financial intermediation among industrial countries would threaten the sustainability of world economic recovery. Given the need for expansion, there remains considerable debate about whether additional monetary expansion in the United States and other industrial countries would not rekindle inflationary expectations. Indeed, unco-ordinated macro-economic policies are likely to perpetuate the volatility of real exchange rates and real interest rates. In the presence of global shocks and volatile expectations, interdependence intensifies national policy conflicts.

An international monetary system in which greater stability in exchange rates could again be expected requires a credible commitment to co-ordinated macro-economic policies. But the lack of incentives for co-operation is a major stumbling block on the road to such a commitment. In sum, national policy autonomy will not be supported by stable exchange rates if the consequences of non-co-operative behaviour are not taken into account. As a consequence, the design and implementation of institutions providing incentives for co-operative behaviour on the part of national Governments may be a necessary step to stabilize exchange rates.

Notes

1/ R. Triffin, Gold and the Dollar Crisis (New Haven, Yale University Press, 1959) and others have convincingly argued that the "rules of the game", based on the existence of an automatic adjustment mechanism of the balance of payments, were not strictly enforced because the adjustment period was perceived to be too long.

2/ Measuring volatility by the standard deviation relative to the mean, one obtains 2 for Italy, about 4 for Canada and France, 5 for the United Kingdom, 26 for the Federal Republic of Germany and 27 for Japan.

3/ The effective exchange rate indices include the six currencies in table I-1, with weights given by their dollar gross domestic product (GDP) in 1976. To obtain the real rate, GDP deflators were used.

4/ For an exposition of the so-called "asset market view", see P. Kouri and J. de Macedo, "Exchange rates and the international adjustment process", Brookings Papers in Economic Activity, No. 1, 1978. However, J. Tobin, in "The state of exchange rate theory: some skeptical remarks", in R. Cooper and others, eds., The International Monetary System under Flexible Exchange Rates: Global, National and Regional (1982), notes that the question whether the volatility of asset prices leads to increasing divergence from the path of their fundamental determinants has not been as actively researched in the context of exchange rates as in the context of stock market prices.

5/ Some experimentation with netting changes in official reserves generated a variable that worked for the United States but not for other countries. To preserve symmetry, only the values using the current account are reported. For further details and the model, see J. de Macedo, "Policy interdependence under flexible exchange rates", Woodrow Wilson School discussion paper No. 62 (1983).

6/ Using quarterly data from the second quarter of 1973 to the third quarter of 1982, the model was estimated by the method of ordinary least squares (OLS), and the results are contained in table I-2.

Table I-2. Regression results of the real effective exchange rate of the dollar

	Constant	Normalized current account	Relative velocity
Coefficient	.98	-.26	1.03
Standard error	2.39	.06	.27
t-statistic	.41	-4.07	3.88
	R^2 = .40	Durbin-Watson = 2.06	

7/ Based on the estimation results reported in table I-3.

Table I-3. Regression results of quarterly percentage change in the nominal effective exchange rate of the United States dollar incorporating the role of the "news"

	Constant	Relative prices	Real interest rates	Dummy	"News"
Coefficient	-2.18	.23	-.09	-1.05	.97
Standard error	2.59	.84	.65	5.99	.19
t-statistic	-.84	.27	-.14	-.18	5.19

R^2 = .60 Durbin-Watson = 1.24

II. SOME CHANGES IN TRADE AMONG DEVELOPING COUNTRIES, 1965-1980

The present preliminary note is based on current research on the broader subject of economic co-operation among developing countries which is currently being carried out within the Department of International Economic and Social Affairs of the United Nations Secretariat. Because of space considerations, only some of the major preliminary findings of that research is being highlighted here. The basic information is derived from the United Nations Commodity Trade Matrices 1/ which have recently been constructed for each year period between 1965 and 1980 within the Department of International Economic and Social Affairs.

While it is widely recognized that there are many facets to the issue of economic co-operation among developing countries, the evolution of trade flows among them are perhaps the key indicator of the extent and changing nature of those interactions. Hence, the importance attached to those flows in the present chapter which is organized in two sections. To place the data presented on trade among developing countries in the larger perspective, the opening section briefly presents some information on the changes that have taken place in the share of the developing countries in world trade. The second section analyses some of the main changes that have taken place in trade among developing countries.

Growth of world trade and the share of developing countries, 1965-1980

The total value of world trade in 1980 amounted to some $1,994 billion. 2/ The comparable figure for 1965 was some $187 billion. Much of the increase over the period, which amounted to some 17 per cent per annum, reflected the strong inflation of world prices. Nevertheless, when expressed in real terms, the growth of world trade was impressive: it averaged more than 6.5 per cent per annum. 3/ This was significantly higher than the growth of world output, which advanced at a pace of about 3.9 per cent per annum 4/ over the same period.

The share of developing countries in world trade increased significantly between 1965 and 1980; it rose from close to 20 per cent in the earlier year to about 28 per cent in the later year (see table II-1). This upward shift in the share of trade took place entirely during the 1970s, and it can be explained in large part by the changes in relative prices of internationally traded goods and, more specifically, of petroleum. The forces at work can be seen quite clearly in the data presented in tables II-2 and II-3. When the composition of world exports, measured in current prices, is compared for 1965 and 1980, the most striking change is the increase in the share of mineral fuels. The offsetting reductions in shares are to be found in the categories of food, beverages and tobacco, and crude materials. The various categories of manufactures, when taken together, roughly maintained their share.

The effect of the rise in petroleum prices in raising the share of developing countries in world trade was reinforced by an increase in their share of trade in mineral fuels. Developing countries, however, also raised their share of world trade in the various categories of manufactures. Their share of world trade in chemicals and related products grew from 5.1 per cent to 7.5 per cent between 1965 and 1980; their share of trade in machinery and transport equipment rose from 1.5 per cent to 5.9 per cent; and their share in other manufactures increased from 11.3 per cent to 15.3 per cent.

While the importance of developing countries as exporters of manufactures has increased, their role as exporters of agricultural products has diminished. This indicates that significant changes have been taking place in the competitive advantage of those countries in the production of agricultural and industrial products. However, considering the magnitude of the changes in trade, as well as the fact that manufactures include processed metals, the new pattern of exports is by no means a complete reversal of the traditional characterization of the developing countries as exporters of food and raw materials, although it does reveal that a partial reversal has been under way.

The direction of exports of developing countries underwent some changes over the period. Trade among developing countries themselves took an increased share of total trade in 1980 compared with 1965. The share of their total exports destined for developed market economies remained very much the same, while the share accounted for by centrally planned economies declined (see table II-4). It is to the expansion in trade among developing countries that the present note now turns.

Trade among developing countries

The share of total exports of developing countries destined to each other increased from 18 per cent in 1965 to close to 22 per cent in 1980. Of the various categories of goods traded among developing countries, the largest absolute increase in the value of exports took place in mineral fuels (see table II-5) However, it should be noted that exports of the various categories of manufactures and semi-manufactures, when measured in current prices, increased at comparably high rates. There is thus little doubt that, in terms of volume, the most dynamic elements in the expansion of trade among developing countries were manufactures and semi-manufactures. The rates of increase in exports of food, beverages and tobacco, and of crude materials, were smaller, though still substantial. Leaving aside the effects of the increase in the relative price of energy, the changes in export composition clearly reflect the influence of the advances in industrialization made in the developing world during recent decades.

The relative, as well as the absolute, importance of developing countries for each other as markets for their exports also increased in most of the main categories of commodities shipped to other developing countries (see table II-6). Trade among developing countries took an increased share of total exports in the categories of food, beverages and tobacco, crude materials, chemicals and most manufactures. It was only in machinery and transport equipment that exports to other developing countries declined as a share of total exports.

Among the three main regions of the developing world, there are some significant differences in the role that trade among developing countries has played in their total exports (see table II-7). For Asia and Latin America, exports to other developing countries accounted for about 25 per cent of their total exports in 1980 while for Africa, the comparable share was some 7 per cent. During the period between 1965 and 1980 the share of trade among developing countries in total exports increased for both Asia and Latin America. The most marked increase occurred in the trade of Latin America.

It is worth noting that the trade linkages among countries within the Asian and Latin American regions are now sufficiently large to be of real significance

for the performance of the export sectors and the domestic economies of individual countries. Thus, contractions in economic activity in the developed market economies are being transmitted to developing countries, not only directly, but also through the effects on external demand of developing countries for the exports of each other. Conversely, recovery in growth of demand within individual developing countries is increasingly having a direct, and cumulative, effect on other developing countries.

Another notable characteristic of trade among developing countries is the share of such trade which is concentrated within each region (see table II-7). Trade within the regions accounts for some 75 per cent of total trade among the developing countries. This also holds true at the level of the individual regions of Asia and Latin America. In Africa, however, intraregional trade accounts for a very small proportion of the total exports of the continent; trade with other regions is in fact larger than the intratrade.

The predominance of intraregional over interregional trade in Asia and Latin America probably reflects the influence of several factors. For one thing, there is a substantial measure of complementarity among countries within each region in the production of primary commodities. In both regions, for example, there are major producers of petroleum able to meet the import requirements of other countries in the area; in both regions, there are food surplus, as well as food deficit, countries; and in both regions there is a diversity of production of the raw materials required by domestic industries. Again, in both regions, there are a number of semi-industrialized countries able to exploit the advantage of proximity in the export of manufactures and semi-manufactures to their neighbours. In fact, the increase in the share of manufactures in total exports to other developing countries has been quite dramatic in both Asia and Latin America. In Asia, the share of manufactures in total exports, exclusive of fuel, rose from 34 per cent in 1965 to 67 per cent in 1980; and in Latin America, the corresponding change in shares was from 38 per cent in 1965 to 59 per cent in 1980. By contrast in Africa, there is much less complementarity. In primary commodities, dependence upon other regions is greater. Food and energy imports, for example, mostly originated in countries outside the region. Further, most countries south of the Sahara are largely unindustrialized. For sub-Saharan countries, trade linkages with Western Europe remain powerful and internal developments have not been sufficient to create significant new trade linkages with other countries in the region. The data presented in table II-7 and tables II-8 to II-13 illustrate those differences among regions in degrees of complementarity. It would be interesting to assess how far the growth of trade within regions has been influenced by policies and, in particular, by preferential trading arrangements, but the present analysis is on too aggregate a level to permit any analysis in this regard. It is hoped that the question can be taken up in further results of the ongoing research currently being undertaken by the Department of International Economic and Social Affairs on the changing structure and direction of trade flows and on the underlying shifts in comparative advantage.

The importance of those issues for the understanding and forward-looking, policy-oriented discussion of the prospects of economic co-operation among developing countries is beyond dispute.

Table II-1: World exports and exports of major economic groupings, 1965-1980

(Millions of current dollars and shares)

Exports of	World		Developing countries		Developed market economies		Centrally planned economies	
	Dollars	Per cent	Dollars	Per cent	Dollars	Per cent	Dollars	Per cent
1965	187 639	100.0	37 345	19.9	128 241	68.3	22 054	11.8
1970	315 478	100.0	57 261	18.2	224 739	71.2	33 478	10.6
1975	881 022	100.0	216 881	24.6	578 155	65.6	85 985	9.8
1980	1 994 060	100.0	560 084	28.1	1 256 967	63.0	177 009	8.9

Source: Department of International Economic and Social Affairs of the United Nations Secretariat, based on the data contained in the United Nations Commodity Trade Matrix.

Table II-2. Composition of world exports in current prices by Standard International Trade Classification (SITC) categories

(Percentage)

	Food, beverages, tobacco (0 + 1)	Crude materials, inedible, except fuels, animal and veg. oils, fats and waxes (2 + 4)	Mineral fuels, lubricants and related materials (3)	Chemicals and related products (5)	Manufactured goods (6 + 8)	Machinery and transport equipment (7)	TOTAL
1965	16.0	12.6	10.3	6.4	26.5	25.0	100
1980	9.8	6.7	23.7	7.4	24.0	25.7	100

Source: See table II-1.

Note: Percentages do not add to totals, because of the omission of SITC-9.

Table II-3. Share of developing countries in world exports by SITC categories

(Percentage)

	Share in world exports of:					
	Food, beverages, tobacco (0 + 1)	Crude materials, inedible except fuels, animal and veg. oils, fats and waxes (2 + 4)	Mineral fuels, lubricants & related materials (3)	Chemicals and related products (5)	Manufactured goods (6 + 8)	Machinery and transport equipment (7)
1965	33.0	32.4	59.3	5.1	11.3	1.5
1970	31.8	29.2	61.6	5.6	12.7	2.1
1975	28.5	27.7	73.1	6.8	12.6	3.5
1980	27.8	29.0	70.9	7.5	15.3	5.9

Source: See table II-1.

Table II-4. Share of total exports of developing countries directed to the major economic groupings, 1965-1980

(Percentage)

	Exports to:			
	World	Developing countries	Developed market economies	Centrally planned economies
1965	99.5 100.0	18.0	74.7	6.8
1980	99.5 100.0	21.7	74.3	3.5

Source: See table II-1.

Note: Percentages do not necessarily add to totals, because of rounding.

Table II-5. Trade among developing countries: exports by SITC categories, 1965-1980
(In millions of dollars and percentage)

	Share in world exports of:						
	Food, beverages, tobacco (0 + 1)	Crude materials, inedible, except fuels animal and veg. oils, fats amd waxes (2 + 4)	Mineral fuels, lubricants and related materials (3)	Chemicals and related products (5)	Manufactured goods (6 + 8)	Machinery & transport equipment (7)	TOTAL
1965	1 483	953	2 223	208	1 087	266	6 220
1980	11 030	8 060	63 231	4 052	18 057	10 160	114 590
Annual growth rate 1965-1980 (percentage)	14	15	25	22	21	27	

Source: See table II-1.

Table II-6. Exports of developing countries: share destined to developing countries by SITC groups

(Percentage)

	Share in total exports of:					
	Food, beverages, tobacco (0 + 1)	Crude materials, inedible, except fuels, animal and veg. oils, fats and waxes (2 + 4)	Mineral fuels, lubricants and related materials (3)	Chemicals and related products (5)	Manufactured goods (6 + 8)	Machinery and transport equipment (7)
1965	15.4	12.6	19.5	37.5	20.7	62.3
1980	20.8	21.0	18.9	40.2	25.5	37.0

Source: See table II-1.

Table II-7. Total exports of each region: shares of trade among developing countries

(Percentage)

	Developing countries						Rest of the world		Total	
	Intraregional		Interregional		Total					
	1965	1980	1965	1980	1965	1980	1965	1980	1965	1980
Africa	4	2	5	5	9	7	91	93	100	100
Asia	18	19	5	6	23	25	77	75	100	100
Latin America	16	20	3	5	19	25	81	75	100	100
Total	14	17	4	5	18	22	82	78	100	100

Source: See table II-1.

Table II-8. Direction of exports of Africa by SITC categories, 1965

(Millions of current dollars and percentage)

	Food, beverages, tobacco (0 + 1)		Crude materials etc. (2 + 4)		Mineral fuels, lubricants and related materials (3)		Chemicals and related products (5)		Manufactured goods (6 + 8)		Machinery and transport uipment (7)	
Total Africa	123	5.82	50	2.12	93	5.92	7	14.25	63	4.41	20	28.84
Total Asia	41	1.96	77	3.27	16	1.05	9	17.37	23	1.61	2	2.59
Total Latin America	14	0.65	6	0.26	14	0.90	3	6.01	6	0.39	0	0.27
Total developing countries	178	8.43	132	5.64	123	7.88	19	37.63	92	6.40	22	31.70
European Economic Community	1 215	57.51	1 431	61.09	1 330	85.10	20	38.87	1 025	71.34	27	37.81
United States of America	327	15.46	145	6.20	49	3.14	1	2.85	46	3.21	1	0.98
Japan	23	1.07	77	3.30	1	0.08	0	0.90	75	5.21	16	22.40
Rest of developed market economies	162	7.67	202	8.62	53	3.40	5	10.33	126	8.80	1	1.29
Total developed market economies	1 726	81.71	1 855	79.21	1 434	91.72	27	52.94	1 272	88.55	44	62.49
Centrally planned economies	191	9.04	320	13.68	4	0.28	4	8.13	69	4.81	4	5.37
Rest of the world	17	0.82	34	1.47	2	0.12	1	1.29	3	0.23	0	0.43
Total world	2 113	100.00	2 343	100.00	1 563	100.00	51	100.00	1 437	100.00	70	100.00

Source: See Table II-1.

Table II-9. Direction of exports of Africa by SITC categories, 1980

(Millions of current dollars and percentage)

	Food, beverages, tobacco (0 + 1)		Crude materials etc. (2 + 4)		Mineral fuels, lubricants and related materials (3)		Chemicals and related products (5)		Manufactured goods (6 + 8)		Machinery and transport equipment (7)	
Total Africa	443	5.05	178	2.38	531	0.77	72	8.55	230	4.39	27	3.98
Total Asia	516	5.89	264	3.53	615	0.89	67	7.96	131	2.51	71	10.63
Total Latin America	20	0.23	76	1.02	2 899	4.19	28	3.37	65	1.23	1	0.11
Total developing countries	979	11.17	519	6.94	4 045	5.85	167	19.88	426	8.13	99	14.73
European Economic Community	5 102	58.18	4 431	59.26	28 675	41.44	568	67.70	3357	64.07	421	62.67
United States of America	1 122	12.79	295	3.94	28 086	40.59	11	1.31	648	12.36	9	1.29
Japan	273	3.11	503	6.72	1 104	1.60	3	0.41	444	8.48	99	14.68
Rest of developed market economies	776	8.84	989	13.23	5 700	8.24	38	4.48	154	2.94	38	5.67
Total developed market economies	7 273	82.93	6 218	83.15	63 565	91.86	620	73.89	4 603	87.85	566	84.31
Centrally planned economies	428	4.88	559	7.48	1 006	1.45	45	5.33	167	3.18	3	0.42
Rest of the world	89	1.02	182	2.43	585	0.84	8	0.90	44	0.84	4	0.54
Total World	8 769	100.00	7 478	100.00	69 201	100.00	839	100.00	5 240	100.00	672	100.00

Source: See table II-1.

Table II-10. Direction of exports of Asia by SITC categories, 1965

(Millions of current dollars and percentages)

	Food, beverages, tobacco (0 + 1)		Crude materials etc. (2 + 4)		Mineral fuels, lubricants and related materials (3)		Chemicals and related products (5)		Manufactured goods (6 + 8)		Machinery and transport equipment (7)	
Total Africa	96	3.70	29	0.95	112	1.85	5	3.53	152	5.86	23	8.35
Total Asia	756	29.20	491	16.00	588	9.68	76	57.95	514	19.85	158	58.68
Total Latin America	9	0.36	60	1.96	130	2.14	1	0.56	84	3.25	3	1.02
Total developing countries	861	33.26	580	18.91	830	13.67	82	62.03	750	28.96	184	68.05
European Economic Community	603	23.31	948	30.88	3 098	51.02	18	13.39	552	21.32	35	13.01
United States of America	380	14.70	357	11.63	307	5.05	9	6.81	782	30.23	40	14.90
Japan	257	9.92	595	19.40	1 044	17.18	7	5.06	72	2.78	4	1.46
Rest of developed market economies	166	6.42	241	7.85	784	12.90	11	8.22	298	11.52	6	2.26
Total developed market economies	1 407	54.35	2 141	69.76	5 233	86.15	44	33.48	1 705	65.84	85	31.62
Centrally planned economies	310	11.96	323	10.52	2	0.03	5	3.94	115	4.43	1	0.22
Rest of the world	11	0.43	25	0.81	9	0.14	1	0.55	20	0.76	0	0.11
Total world	2 588	100.00	3 068	100.00	6 073	100.00	132	100.00	2 589	100.00	270	100.00

Source: See table II-1.

Table II-11. Direction of exports of Asia by SITC categories, 1980

(Millions of current dollars and percentage)

	Food, beverages, tobacco (0 + 1)		Crude materials etc. (2 + 4)		Mineral fuels, lubricants and related materials (3)		Chemicals and related products (5)		Manufactured goods (6 + 8)		Machinery and transport equipment (7)	
Total Africa	628	4.15	232	1.18	2 915	1.30	112	2.33	1 275	2.48	976	4.93
Total Asia	4 821	31.87	5 080	25.81	33 634	15.06	1 858	38.70	11 256	21.90	5 622	28.42
Total Latin America	206	1.36	302	1.53	11 133	4.98	43	0.89	820	1.59	419	2.12
Total developing countries	5 655	37.38	5 614	28.52	47 681	21.34	2 012	41.92	13 350	25.98	7 018	35.48
European Economic Community	3 126	20.66	3 640	18.49	62 578	28.01	569	11.85	13 097	25.48	3 737	18.89
United States of America	1 771	11.70	1 584	8.05	23 917	10.71	239	4.98	15 263	29.70	6 659	33.67
Japan	2 939	19.42	6 011	30.54	58 768	26.31	1 445	30.11	4 193	8.16	933	4.72
Rest of developed market economies	859	5.68	1 098	5.58	25 336	11.34	383	7.97	4 536	8.83	1 099	5.55
Total developed market economies	8 695	57.47	12 333	62.66	170 600	76.37	2 636	54.91	37 089	72.16	12 427	62.83
Centrally planned economies	735	4.86	1 600	8.13	4 160	1.86	150	3.13	881	1.71	321	1.62
Rest of the world	44	0.29	135	0.69	944	0.42	2	0.04	77	0.15	13	0.07
Total world	15 129	100.00	19 682	100.00	223 385	100.00	4 800	100.00	51 397	100.00	19 779	100.00

Source: See Table II-1.

Table II-12. Direction of exports of Latin America by SITC categories, 1965

(Millions of current dollars and percentage)

	Food, beverages, tobacco (0 + 1)		Crude materials etc. (2 + 4)		Mineral fuels, lubricants and related materials (3)		Chemicals and related products (5)		Manufactured goods (6 + 8)		Machinery and transport equipment (7)	
Total Africa	74	1.51	3	0.14	91	2.41	0	0.13	1	0.09	0	0.17
Total Asia	25	0.51	47	2.20	26	0.70	3	0.77	3	0.23	1	0.79
Total Latin America	344	7.00	191	8.97	1 153	30.62	104	27.89	241	19.88	60	68.01
Total developing countries	444	9.03	241	11.31	1 270	33.73	107	28.78	245	20.20	60	68.96
European Economic Community	1 579	32.12	687	32.31	543	14.43	67	18.07	423	34.91	11	12.18
United States of America	1 400	28.48	574	26.99	1 351	35.90	106	28.66	465	38.34	11	12.59
Japan	63	1.28	343	16.10	49	1.29	2	0.67	14	1.12	3	2.93
Rest of developed market economies	484	9.84	161	7.57	548	14.55	51	13.62	54	4.43	3	3.11
Total developed market economies	3 526	71.72	1 765	82.96	2 491	66.17	226	61.02	956	78.79	27	30.80
Centrally planned economies	920	18.72	109	5.13	0	0.00	38	10.17	11	0.87	0	0.08
Rest of the world	26	0.53	13	0.60	4	0.10	0	0.02	2	0.14	0	0.17
Total world	4 916	100.00	2 127	100.00	3 765	100.00	371	100.00	1 213	100.00	88	100.00

Source: See Table II-1.

Table II-13. Direction of exports of Latin America by SITC categories, 1980

(Millions of current dollars and percentage)

	Food, beverages, tobacco (0 + 1)		Crude materials etc. (2 + 4)		Mineral fuels, lubricants and materials (3)		Chemicals and related products (5)		Manufactured goods (6 + 8)		Machinery and transport equipment (7)	
Total Africa	870	3.00	117	1.05	390	0.94	92	2.07	199	1.41	443	6.33
Total Asia	1 161	4.00	749	6.71	156	0.37	98	2.21	401	2.83	255	3.65
Total Latin America	2 365	8.15	1 062	9.51	10 958	26.33	1 683	37.97	3 680	26.00	2 346	33.57
Total developing countries	4 395	15.15	1 928	17.26	11 505	27.65	1 873	42.25	4 280	30.24	3 044	43.54
European Economic Community	6 923	23.86	3 613	32.36	4 981	11.97	801	18.06	3 652	25.81	743	10.63
United States of America	7 644	26.34	1 491	13.36	19 105	45.91	857	19.32	3 789	26.77	2 693	38.52
Japan	922	3.18	1 771	15.86	986	2.37	158	3.56	998	7.05	199	2.84
Rest of developed market economies	2 805	9.67	1 338	11.98	4 979	11.97	629	14.19	951	6.72	307	4.39
Total developed market economies	18 294	63.05	8 214	73.57	30 052	72.22	2 445	55.13	9 390	66.34	3 942	56.39
Centrally planned economies	6 107	21.05	968	8.67	11	0.03	107	2.42	408	2.88	2	0.03
Rest of the world	220	0.76	56	0.50	44	0.11	9	0.20	75	0.53	3	0.04
Total world	29 017	100.00	11 165	100.00	41 612	100.00	4 434	100.00	14 154	100.00	6 990	100.00

Source: See Table II-1.

Notes

1/ For further specification of the matrices, see annex 1 of the present report.

2/ All values are given in United States dollars. Some discrepancies may exist between the trade flows at the SITC (0-9) level and those appearing in the Yearbook of International Trade Statistics. This is the result of adjustments that were made in the light of sectoral flows. Furthermore, the data contained in the commodity trade matrices are subjected to occasional adjustments to reflect the availability of new data or to eliminate inconsistencies.

3/ This rate has been calculated on the basis of the preliminary estimates of the recently adjusted trade flows in the commodity trade matrices and in terms of 1975 United States dollar prices.

4/ These rates relate to the growth of output of world market economies.

III. WAGE BEHAVIOUR IN THE DEVELOPED MARKET ECONOMIES

The decade of the 1970s was marked by the relatively poor performance of the developed market economies. They experienced sluggish economic activity, unprecedented inflation rates and a rising trend of unemployment. The decade witnessed two distinct periods of double-digit inflation, which was unprecedented in peacetime. The first upswing in prices occurred in 1973-1974, and the second in 1979-1980. In all the industrial countries, inflation had been recognized as a serious problem before 1973, though to a varying degree, and its main cause was attributed to domestic economic circumstances. After 1973, high rates of inflation became widespread and accelerated in most countries, suggesting the existence of similar inflationary causes.

While "supply shocks" in the oil and food sectors are widely agreed to have aggravated inflation in many countries during the 1970s, consensus seems to have eluded analysts in their attempt to explain the response of unemployment and inflation to conventional demand management policies. The two leading explanations of "excess aggregate demand" and "wage-push" have been at the heart of the controversy. In the view of the first, inflation can be accounted for within a conventional macro-economic framework. It is conceived as a domestic and international monetary phenomenon accompanied by expansionary fiscal policy. Proponents of the "wage-push" view disagree and base their explanation of the phenomenon on rising wages, inducing inflationary tendencies through continuing conflict over income shares among competing social groups. This view implies that inflation is connected with the institutional framework of factor markets. In the most extreme form, proponents of this sociological explanation argue that inflation is caused by labour market rigidities reflected in the downward inflexibility of nominal wages during recessions and accelerated wage demands in periods of recovery. Both explanations have presented econometric evidence in support of their assertions.

However, the economic realities of today's world are too complex to be explained within the framework of a single cause. This understanding has been gaining increasing support in recent economic literature. The inflation of the 1970s is now widely recognized as an outcome of the interaction of a number of contributing forces, none of which could, in its own right, be taken as the underlying cause of the phenomenon. From arguments commonly advanced, a combination of factors has commonly been identified as accounting for the inflationary process during the 1970s: 1/ persistently high growth of aggregate demand accompanied by excessive growth in money supply; supply shocks caused by such events as major increases in the price of energy and some raw materials; and factor market rigidities sustaining an exogenous inflationary momentum resulting from conflicts over relative factor prices and from price and wage setting practices based on inertia or inflationary expectations. The present paper concentrates on the last aspect. It briefly reviews the behaviour of wages over the decade and it evaluates the findings of different studies on the pattern of nominal wage formation and the influence of institutional developments in the labour market.

Wage behaviour during the 1970s

The present section summarizes developments in the behaviour of wages and the shifts in factor shares and in profitability in seven major developed market economies. It examines wage behaviour during the six years preceding the first oil shock and compares it with developments during the rest of the decade.

Wages during the period 1967 to 1973

Table III-1 shows a pronounced acceleration in the growth of nominal wages during the late 1960s and early 1970s in the manufacturing sectors of seven major developed market economies. For example, comparing the period 1967 to 1973 with that of 1960 to 1967, the average rate of nominal wage growth in manufacturing was 3.1 percentage points higher in the United States, 4.9 in France and 6.1 in Japan.

The upsurge of nominal wages in manufacturing was translated into gains in real wages. As in the case of nominal wages, there was significant intercountry variation in real wage growth rates. For example, the average growth of real hourly earnings during the period 1967 to 1973 as against 1960 to 1967 was 5.5 percentage points higher in Japan and 2.6 points higher in France, though 0.1 points lower in the United States (table III-1). The acceleration of nominal and real wages was not confined exclusively to the manufacturing sector of major industrial countries but permeated the whole economy. This was documented by Sachs (1979) in his comparative study of seven developed market economies. 2/ As shown in table III-2, the growth rate of real compensation per wage or salary earner during the period 1967 to 1973, as against 1960 to 1967, increased by 0.3 percentage points in the United States, 2.5 points in Japan and 0.4 points in France.

During the period 1967 to 1973, the high growth of nominal wages pushed real compensation gains ahead of advances in productivity as measured by real GDP per person employed (tables III-2 and III-3). There thus ensued a shift in factor shares in favour of labour, while the share of the operating surplus of enterprises in GDP declined (table III-4). In line with this development, the share of the net operating surplus in the net value added of the manufacturing industry showed continued decline (table III-5). The behaviour of profitability generally mirrored the movement of factor shares discussed above. Estimates of profit rates, though their concept and measurement may vary among countries, fell in the early 1970s in all developed market economies (table III-6).

The cause of acceleration in nominal wages during the early 1970s received an extensive examination in the literature. 3/ Particularly with regard to the European market economies, a number of authors put forward the explanation of an autonomous wage push as an outcome of the conflict over income shares between labour and capital. Two leading causes are usually singled out to explain the shift in factor shares. First, it is claimed that in a number of countries the wage drive was aimed at re-establishing factor shares following an earlier contraction of labour's share during the late 1960s resulting from moderate wage behaviour restrained by income policies. Secondly, some argue that a period of increased militancy of labour during the late 1960s and early 1970s led to some institutional changes which consolidated the position of trade unions in the wage bargaining process, and thus let organized labour push its wage claims ahead more forcefully and efficiently. 4/

However, the explanation of wage acceleration of the late 1960s which claims that "conflict over income shares has been a source of wage inflation" 5/ does not appear wholly satisfactory. In this connection, it may be noted that factor shares were not stable in major developed countries during the years preceding the wage explosion. At least from the late 1950s to 1969 a trend towards an increase in the share of compensation of employees in national income was identified by OECD calculations. 6/ Again, a certain recovery in profitability and in the share of capital in the value added of the manufacturing industry in the Federal Republic of Germany (1968-1969) and Italy (1966-1970) was recorded and it was preceded by their decline. Both profitability and share of capital in those two countries increased to the average prevailing during the early part of the 1960s. For instance, in 1968 the net operating surplus of the Federal Republic of Germany as a percentage of net value added in manufacturing exceeded the average for 1960 to 1967 by 0.4 percentage points and was equal to the average for 1960 to 1965 (table III-5). 7/ In the United Kingdom no upturn in profitability or in the share of capital can be identified for the years preceding the wage acceleration (table III-5). 8/

Concerning the second factor, it is clear that during the late 1960s some changes were introduced into the process of wage determination. However, the real effect of those changes lends itself to different interpretations. One could argue that it resulted rather in establishing some orderly framework for wage setting procedures intended to hedge against severe industrial strife than in substantially increasing the power of organized labour. For example, the primary consequence of the 1968 labour unrest in France and the 1969 strike activity in Italy was an explicit legal recognition of trade unions' right to engage in wage bargaining at the plant level. However, in Italy the labour laws of 1970 brought no significant changes in the legal wage setting framework, since wage indexation had already served as a principal nationwide procedure for more than two decades before that year and has remained practically unchanged up to the present time.

Notable inconsistencies in the explanation of the 1967 to 1973 wage push, on the basis of conflict over factor shares, has led some authors to conclude that "there is just no good theory of wage determination to draw upon to explain wage movements across time and space". 9/ The lack of sufficient support for the explanation of wage acceleration during the late 1960s on the basis of conflict over income shares suggests a complementary explanation that the universal phenomenon of wage inflation in major developed market economies was also related to conditions in the international economy.

By the middle of the 1960s the major European countries and Japan had firmly established themselves as open economies in the sense that their internationally oriented sectors were becoming increasingly important, and hence significantly influenced by demand and price developments on the world market. Under conditions of fixed exchange rates the wage and price behaviour in those sectors was apt to be more responsive to demand in international than in domestic markets. Therefore, even in instances where domestic demand restraint is pursued by Governments, those sectors are able to transmit international demand pull to the domestic economy. Where labour markets are closely linked through union organization or other means, there is a tendency towards equalization of wage growth between sectors subject to strong external demand and those that are domestically oriented regardless of demand conditions prevailing in the latter. 10/

Along this line of reasoning, the wage acceleration during the period 1967 to 1973 may be explained for major industrial countries. Two periods of strong international demand contributed to the upward pressure on wages. The first, during 1968-1969, can be traced to the exceptionally high demand conditions in the United States which had considerable impact on international markets, and the simultaneous cyclical upturn in Europe and Japan. The second period occurred during 1972-1973 when expansionary policies were pursued in most industrial countries in contrast to earlier measures in the latter part of 1971 and early 1972 aimed at demand restraint and price deceleration.

Wage behaviour during the period 1973 to 1980

As a whole, the period between 1973 and 1980 was again characterized by sharp growth of nominal wages in almost all of the major developed market economies. Compared with the period 1967 to 1973, only in Japan and the Federal Republic of Germany did the rate of nominal wage increase in manufacturing slow down to the level prevailing during the 1960s. In all other major developed market economies, nominal wages grew at rates from 2.1 to 3.5 times higher than during the period 1960 to 1967 and from 1.3 to 1.7 times higher than between 1967 and 1973 (table III-1).

However, in contrast to the 1967-1973 period, the major part of nominal wage rises during the period 1973 to 1980 could be regarded as an adjustment to increases in cost of living. This interpretation is suggested by the noticeable deceleration in the growth of real wages after 1973.

The average annual growth rate of real wages in manufacturing during the entire period 1973 to 1980 as compared with 1967 to 1973 dropped by the following percentage points: 2 percentage points in the United States, 8.7 in Japan, 3 in the Federal Republic of Germany, 2.6 in France, 2.3 in the United Kingdom and 1.8 in Canada (table III-1). Similarly, growth in real compensation substantially slowed down for the economy as a whole (table III-2). However, their advance was generally in excess of the growth in output per employed person, which had also decelerated markedly in comparison with the preceding period. The operating surpluses of enterprises as a share of gross domestic product and of manufacturing value added also declined further, averaging less than during the period 1967 to 1973 for all major developed economies except Canada (table III-5).

In the wake of the inflationary impulse from the second oil shock of 1979-1980, nominal and real wages responded with relative moderation. In a number of major industrial countries, nominal wage increases were insufficient to compensate for increases in cost of living (table III-1). The moderation of wage growth registered during the period 1978 to 1980 did not happen to be a once-and-for-all adjustment to the second oil shock, but was consolidated during the subsequent recession when wages at last showed that their cyclical flexibility had not been lost forever.

Institutional patterns of wage determination

The question of institutional arrangements in labour markets and their contribution to downward inflexibility of nominal wages has received increased attention, notably during the 1970s, a period characterized by two price shocks in

the commodity markets and a pronounced slow-down in the growth of productivity. While many economists or policy-makers would argue that collective bargaining practices are not the primary source of inflation, it is widely held that the wage determination process contributes to the difficulty of checking inflation. Among the institutional features that have been singled out as important are wage indexation, the length of contracts, the synchronization of negotiations, and the degree of centralization of wage bargaining. A broader explanation of recent wage behaviour finds its causes in the segmentation of labour markets and the increased price determination powers of some industries.

Wage indexation

The extent of wage indexation has varied significantly, not only from one country to another, but often from one industry to another, even in the same country. Nevertheless, at least for the years before the early 1980s, it is possible to divide the industrial countries into three groups: (a) countries in which indexation covered practically all the labour force, (b) countries in which indexation was incorporated into some industry-wide collective agreements, and (c) countries in which indexation was very limited, or non-existent. The first group of countries in which indexation was widespread includes Belgium, Denmark, Iceland, Luxembourg, the Netherlands and, among the larger countries, Italy. The overwhelming use of indexation in those countries since the early 1950s can be largely attributed to a well-structured collective bargaining system with a considerable degree of accord among the various trade union confederations. Thus, in those countries, the agreements concluded in principle at the national level were further incorporated into collective agreements covering individual industries.

During the 1970s, indexation contributed extensively to the rise in nominal wages. For example, in Denmark, between 1970 and 1976, indexation-induced increases accounted for about 40 per cent of the annual rate of growth in hourly earnings of skilled workers. During the same period, negotiated increases accounted for only 15 per cent, while the remainder was the result of wage drift.

In Italy, a three-year bargaining cycle has been practised. Indexation covered the overwhelming part of industrial employees. However, within the period between negotiations, the degree of wage responsiveness to changes in prices usually declined and, in certain instances, yielded only 50 per cent compensation for cost-of-living increases.

The second group of countries in which indexation applied only to a part of the labour force includes Canada, France, Switzerland and the United States. The collective bargaining in those countries is decentralized, a fact that makes it difficult to gauge the exact scope of indexation practices. One of the most characteristic features common to all the countries in this group is the contractual nature of indexation clauses incorporated into wage agreements.

In the United States, a particular form of indexation known as escalator clauses or cost-of-living adjustment provisions was introduced in 1948 when General Motors and the United Auto Workers negotiated a long-term labour contract which was a major innovation at that time. The auto industry model spread gradually to other sectors during the 1950s and 1960s and has become the regular practice in much of the union sector. In general, escalator clauses stipulate periodic automatic adjustments of wage rates following movements in a specified price index. Contrary

to widespread perception, the scope of cost-of-living adjustment coverage has been relatively limited, particularly if the non-union sector is taken into account. It is estimated that in the United States, only about 10 per cent of the non-agricultural civilian employees have been covered by some form of escalator clause. 11/

It should be emphasized that in most instances the escalator clauses have not been the only device safeguarding workers against price increases. Generally, the longer the contract duration, the more frequently wage agreements incorporate a number or adjustment instruments besides escalator clauses. Such instruments may include scheduled deferred wage increases subject to negotiations and trigger clauses for wage reopenings. In the United States, for example, the analysis carried out by the Bureau of Labour Statistics concerning 1,570 private sector agreements, each covering at least 1,000 workers, and in effect on or after 1 July 1976, shows that more than one third of those contracts had both escalator and reopening provisions. 12/ About 15 per cent had in addition to those two provisions a deferred increase clause.

In countries belonging to the third group, such as Austria, the Federal Republic of Germany, Japan and Sweden, wage indexation has been practically non-existent. The Federal Republic of Germany provides a typical example of a wage setting mechanism with centralized and synchronized short-term contracts. In the 1970s, national agreements of that kind were concluded on an annual basis. Such contracts are legally enforceable and bind the parties concerned to their provisions. Plant level agreements, meanwhile, follow the general provisions of national agreements that are concluded at the branch level. In this respect, it is worth noting that there are 16 branch unions which constitute the German Trade Union Confederation.

In Japan, where one-year contracts are a dominant feature, their expiration date coincides with the spring wage negotiations. Actual bargaining takes place between management and the unions at the enterprise level. Contrary to common practices among other developed market economies, the effective nominal wage rates are not stipulated in those agreements because total compensation ultimately depends on bonus payments linked to future profits.

Indexation has frequently been blamed for lower cyclical flexibility of wages. The view is that adjustment of nominal wages to cost-of-living increases pushes product prices upward which in turn entails further wage adjustments. Through consecutive price and wage increases, indexation tends particularly to amplify the initial inflationary impulses of supply shocks of great magnitude. Assessing the potential inflationary effects of indexation, some authors argue that, "In principle, any cost increase could set off an infinite price and wage spiral". 13/ Some analysts argue that indexation feeds the inflationary process. Others state, however, that even in the absence of indexation, wages, if not locked into long-term contract agreements, tend to catch up with the rise in prices by means of contract negotiations.

In reality, indexation has often not ensured smooth adjustment of all wages to changes in the price level or provided full compensation for inflation. The data for the United States explicitly support this contention. During the period 1968 to 1977, the escalator increases for workers in major bargaining units covered by such clauses never matched the rise in the consumer price index. The annual escalator yield for this period averaged 57 per cent of the rise in the consumer

price index. In 1977, 27 per cent of the workers covered by cost-of-living adjustment clauses received no increase. 14/ The inability of indexation clauses to provide full compensation for inflation is explained by several factors. Among these are maximum limits to cost-of-living adjustments, lag of indexation reviews behind price increases, applicability of clauses only when cost of living exceeds specified thresholds, and exclusion from the clauses of earnings other than base wage rates such as overtime, bonuses and special allowances.

However, in the case of most comprehensive indexation formulae when payroll taxes and fringe benefits are adjusted in line with cost of living, indexation may cover the major part or even the total compensation package and thus exert a stronger inflationary pressure on prices through greater labour cost increases. For example, indexation adopted in Belgium during the 1970s and devised with the aim of maintaining "real disposable income" had been steadily increasing the difference between gross and net wages. Consequently, by 1980, the former was 100 per cent higher than the latter. 15/

Additional indications on the influence of cost-of-living adjustment practices on wage growth in a highly inflationary environment are given by the findings of Perry (1978). Results of empirical analyses of wages in major United States contracts covering the period 1968 to 1975 led Perry to conclude that the backward-looking explanation of wage settlements was more satisfactory because it yielded less erratic series of wage gains than the forward-looking hypothesis. 16/

In the same work, Perry also studied aggregate wage equations for the United States economy in order to observe how well the Phillips curve and alternative specifications of lagged inflation predicted wages during the 1970s. He examined the hypothesis that the shifts in the inflation-unemployment behaviour between the 1960s and the 1970s are connected with the effects of lagged inflation on current wage changes. The author found that "the existence of large lagged effects created inertia in inflation that transmitted past inflation to current wage changes even when current unemployment rose." 17/ This conclusion implies that, during the 1970s, that type of inertia became an important factor in the inflationary process. In this regard, Perry adds that systematic price indexing of wages and salaries seems to impose a rigidity on the economic system and to reduce its capacity to adapt to new circumstances.

Length of contracts and synchronization of negotiations

A number of empirical studies single out contract duration as a factor influencing flexibility of nominal and real wages. It is often argued that even in countries where the organized sector represents a relatively small part of the total labour force, as, for example, the United States and Canada, the timing and terms of contracts concluded in this sector significantly influence settlements in the non-organized sector. Such views are based on the premise that firms generally agree to apply the union settlement compensation rates to their non-union employees.

Some of the features of wage setting practices in the major developed market economies have been pointed out above. As regards duration, only in the United States and Canada have overlapping multi-year contracts been widely practised in the union sector of the economy. The usual contract duration in France, the Federal Republic of Germany, Japan and the United Kingdom is generally one year. Synchronization of contract bargaining is rather high in the Federal Republic of Germany and Japan and somewhat lower in France and the United Kingdom.

The significance of longer union contract duration as one of the causes of increased wage rigidity is documented in a recent work by Gordon. 18/ He found that in the United States, where the post-war labour market was characterized by long-term contracts, wages tended to be less flexible than in Japan and the United Kingdom where union agreements are of short duration. "The drastic decline of American wage responsiveness in the postwar period as compared to the years between 1892 and 1940, together with the 1948 invention of the three-year staggered wage contract in the American unionised industrial sector, seems to be more than coincidental." 19/ However, Schultze questions the contention about a drastic loss of wage responsiveness in the United States and claims that although there was a decline in cyclical sensitivity of wages it was never large. 20/ Nevertheless, he recognizes the proliferation of multi-year contracts in the union sector of the economies of the United States and Canada as one obvious reason for the changed behaviour of wages.

Degree of centralization of wage bargaining

The degree of centralization of wage bargaining is also singled out as an institutional feature playing a key role in explaining intercountry differences in the rigidity of nominal wages. In this connection, some authors argue that "a union structure that allows for centralized bargaining may in general be regarded as contributing to overall wage restraint". 21/

In corroboration of this view, one could compare the relatively moderate inflationary behaviour of wages and prices in the Federal Republic of Germany, Switzerland, the Scandinavian countries and Austria with the less favourable inflationary performance of wages and prices in the United States, Canada and the United Kingdom. Some writers ascribe the relative economic stability in the first group of countries to the high centralization of collective bargaining which occurs at national or industrial levels as against enterprise level bargaining traditionally practised in the countries of the latter group. 22/ In this connection, centralization is regarded as a prerequisite for establishing and maintaining a "social partnership" between organized labour and employer associations - a synonym for a "compromise approach toward common social goals". 23/

However, such institutional factors as centralized bargaining systems may not be inherently endowed with wage restraining qualities. In Italy, for instance, despite highly centralized wage bargaining, the rate of growth of nominal wages during the period 1973 to 1980 exceeded the consumer price index increases by more than 8 per cent. Similarly, notwithstanding decentralized level wage determination, Japan could serve as an example of social partnership attitudes deeply embedded into labour-management relations. This feature of the Japanese industrial relations system is generally recognized as contributing to the wage flexibility that has been a dominant factor behind the good performance of that country's economy in the past several years. 24/

Wages, employment and the segmentation of labour markets

The analysis of pure institutional factors of wage determination, however, does not provide a sufficient insight into the underlying reasons for variations in wage rigidity observed in different countries. Emphasizing the explanatory limitations of institutional analysis, some authors suggest that the point of

departure in comparative studies of collective bargaining practices should be the examination of the ways and means by which certain functions are carried out in different countries. 25/ Although such analysis may be useful for explaining some peculiarities in wage and price movements with similar institutional settings, it is not likely to answer two fundamental questions. The first question concerns the essence of the changes that in the 1970s brought about a steep growth of wages and prices despite the persistence of high and sometimes increasing unemployment. The second question relates to the effect that those changes may have on wage behaviour when economic recovery is under way.

An interesting view of the nature of those changes has been expressed in studies applying the concept of power to the analysis of the economic process. 26/ There are two features of the economic system of industrial market societies highlighted by such analysis, which were brought about by the period of strong and sustained economic growth during the two decades preceding the 1970s. The first is the increased power of highly concentrated industries to set prices regardless of demand conditions; the second is the segmentation of the labour market.

The core element of economic behaviour in concentrated industries is the ability of firms, exercising substantial market power, to maintain a predetermined "target rate of return" on the firm's investment by fixing prices throughout the business cycle. Their prices "rise in a recession, stabilize briefly during the recovery, rise in the late stage of an expansion, and then take another jump in the ensuing downturn". 27/ Thus, the price level is pushed upward from one cycle to another.

It is generally recognized at present that the macro-labour market is split into two segments which follow different behaviour patterns. Jobs of the primary or core labour market are better paid and employment is more stable and secure. The secondary or peripheral market exhibits the opposite characteristics. As a rule, the primary labour market consists of the workers employed by firms in concentrated industries. Those firms are interested in maintaining stable and predictable labour relations because replacement costs in the core market are generally higher. 28/ The price-fixing power of concentrated industries allows firms to respond accommodatingly to trade union wage claims. Full cost pricing practices enable those industries to attain the target rates of profit, even when compensation growth exceeds productivity increases.

From those hypotheses of segmentation of the labour market and the price-fixing power of concentrated industries, a number of authors derive explanations of (a) the general inflationary bias in developed market economies and (b) the phenomenon of the simultaneous rise in wages and unemployment which imposes serious limitations on the effectiveness of conventional demand management policies. 29/ Considering the existence of inflationary bias, it is argued that the question of the initial force that triggers off a particular demand for a wage rise is not a substantive issue. Such wage claims could arise from a cost-of-living increase resulting from a supply shock or a rise in a firm's profitability. What is important in understanding a wage-price or price-wage-price spiral is that whenever workers in concentrated industries get a pay raise, it will be incorporated into higher prices charged by the firms in the sector. Soon, "because of the strategic importance of the concentrated sectors - which includes most manufacturing - what happens there reverberates throughout the economy, working its way into the cost structure of every activity, including services". 30/

It has been empirically established that wage increases gained by trade unions in concentrated industries tend to spread across all sectors of the economy in all major industrial countries and that wage movements of both union and non-union workers follow a similar growth pattern. For example, in the United States, where union and non-union sectors are relatively significant and for which some data are available, union wages during the period 1970 to 1977 were rising at approximately 1 per cent per year faster than the average wages for union and non-union workers combined. 31/ The magnitude of this gap has remained practically unchanged in subsequent years as confirmed by more disaggregated data permitting the use of a direct measure of wage differentials between union and non-union sectors. 32/

However, the actual driving force that brings about the spread of wage increases throughout all sectors of the economy has not yet been completely determined. Some writers put forward a conjecture that "the criteria according to which wages do in fact move correspond to general views of fairness and reason", 33/ and that every upward wage adjustment realized by powerful trade unions in the concentrated industries creates a feeling of social deprivation in the peripheral labour market. Hence, the employers committed to good labour-management relations are urged to grant wage increases.

Finally, changes in the labour market structure and increased power of large firms are suggested as a major underlying cause of decreased responsiveness of wages to the pressure of unemployment. Reduction of aggregate demand drives down employment in the peripheral labour market without influencing wage behaviour in the primary market of labour employed by concentrated industries. "The more concentrated the industry, the deeper any recession will have to be before the anti-inflationary effects of rising unemployment make themselves felt." 34/ According to such views, the combination of labour market segmentation and the economic power of concentrated industries raise the "natural" rate of unemployment.

Recent labour market and policy developments and future outlook

After the second oil shock, the task of containment of inflation became a major priority item on the economic policy agenda in most industrial countries. To that end, those countries pursued firm policies of demand restraint, primarily realized through restrictive monetary policies. The financial policies adopted by authorities in major industrial countries brought about a significant decline in inflation. Inflation, as measured by the deflator for OECD countries as a group, dropped from 9.75 per cent in 1980 to 5.4 per cent in 1983, and for the seven major industrial countries it decreased in the same period from 8.5 per cent to 4.7 per cent. 35/ Even more pronounced was the deceleration in consumer prices. In 1983, the rise in the comsumer price index in the seven major industrial countries was 4.5 per cent as against 12.2 per cent in 1980. 36/

The spectacular progress in inflation abatement was achieved at the cost of prolonged recession. In 1982, GDP stagnated in most European industrial countries and declined in the United States, the Federal Republic of Germany and Canada. The unemployment rate for the developed market economies as a whole surged in the same year to a high 8.4 per cent level. 37/

A number of factors have contributed to the decline of inflation. Among them was the sharp fall in non-oil commodity prices, with a number of key commodities reaching new post-war lows. A weak international energy market with widespread

discounts of official OPEC prices during 1982 and cuts in oil prices introduced by major oil exporters early in 1983 has also had an important disinflationary effect. Further, increased credibility of official commitments to anti-inflationary policies encouraged a downward revision of deeply embedded inflationary expectations. However, those developments cannot belittle the significance of wage moderation for the recent deceleration in inflation.

In 1982, the rate of growth of nominal wages in manufacturing slowed down in all major developed market economies except in France and the United Kingdom (see table III-1). A further deceleration took place generally in 1983. It is estimated that recent wage settlements in those countries could limit the increase in hourly earnings in manufacturing to the range of 6 to 6.5 per cent. This figure is not only less than the 11.4 per cent average for 1972 to 1981, but is even lower than the 1962 to 1972 average of 8 per cent. 38/

The return of cyclical sensitivity to nominal wages was the result of record high unemployment that was still on the rise in all industrial countries (see table III-7). Evidently, during the latest recession, unemployment has cut deep, not only into the peripheral labour markets, but also into the relatively more secure primary labour markets of developed countries. Rising levels of unemployment in both segments of the labour market has led to a moderation of wage claims and even real wage concessions. The restrained pattern of wage growth in the primary labour markets has a twofold influence on wage behaviour in the rest of the economies of industrial countries. First, it contributed to the slow-down in price increases by diminishing the scope for cost-of-living adjustments in the primary labour market. Secondly, as the pattern of wage increases in the primary market has spread out to the economy as a whole, wage moderation achieved there has had a restraining effect on growth of wages in peripheral markets.

The most explicit and fairly well-documented example of union contract concessions may be found in the United States. In that country, 1982 proved to be a year of unprecedented wage concessions in the post-war period. Organized labour agreed to freeze basic wage rates or cut benefits in airlines, trucking, autos, rubber, meat processing, steel and other industries. This has introduced a sharp decline in the pace of compensation gains. The first year increases in major settlements averaged only 3.2 per cent for 1982, down from 9 per cent a year before. 39/ In 1983, the first year of recovery in the United States, that trend consolidated even further. Major collective bargaining contracts settled in private industry during 1983 resulted in average wage adjustments of 3.4 per cent in the first contract year. Wage adjustment in 1982 and 1983 averaged 2.9 per cent annually over the life of those contracts, the lowest average for any period in the 15-year history of the series. Two to three years earlier, the same parties had negotiated average wage adjustments of 9.1 per cent in the first contract year and 7.3 per cent a year over the life of the contracts. Settlements with no specified wage changes were currently reached in aluminium manufacturing, agricultural implement manufacturing, and construction among other industries. Some contracts, mostly in the steel and construction industries, provided for wage cuts averaging 6.4 per cent in the first contract year. Ninety per cent of those workers will have wages reduced an average of 1.1 per cent annually over the life of their contracts, while the remainder will have the cuts fully restored by subsequent wage increases. 40/

Even the most powerful unions, facing imminent threats of mass lay-offs and plant closings, negotiated contracts that may involve decreases in real wages. For

instance, the 1982 contract in the auto industry covering about 700,000 workers has no provision for a 3 per cent annual basis wage increase, which has been a common feature of all settlements since 1948. Moreover, the cost-of-living adjustment formula does not provide full compensation for consumer price index increases and even those payments will be delayed. The agreement in the trucking industry, which came into effect in 1982, provides no general wage increase. The frequency of cost-of-living adjustments was also reduced.

However, deceleration in the growth of nominal wages, or even the decrease in real earnings, is only one side of trade union concessionary bargaining. It should be noted that, along with direct wage freezes and cuts in benefits, recent union concessions involve an easing of work-rule restrictions, in a way likely to decrease employers' costs. The importance of this factor to cutting unit labour costs and increasing profitability is substantiated by the attitudes of business executives. According to returns of one poll conducted among unionized company executives, 57 per cent expressed an opinion that they would prefer to ease work rules rather than win wage-benefit concessions. 41/

Significant wage growth moderation in the United States, Canada, the United Kingdom and the Federal Republic of Germany has been achieved without any noticeable changes in the institutional framework of collective bargaining. For example, long-term staggered contracts remain the dominant form of union wage agreements in the United States and Canada. In the United Kingdom, fragmented enterprise level bargaining is still the primary institutional setting affecting wage determination. Thus, a remarkable wage growth restraint was clearly imposed on those countries by market forces operating within the context of a severe recession.

In France, Italy and smaller industrial countries of Europe, Governments resorted to various income policy measures in order to complement demand management policies by exerting direct influence on the process of wage determination.

In France, the Government froze wages and prices from July to October 1982 and followed up with a voluntary incomes policy under which the Government has been negotiating limited increases in both wages and prices. Early in 1983, the Government negotiated wage agreements with three quarters of all private employees and price agreements with 90 per cent of the business sector. The primary issue of concern for the Government's wage policies in 1983 has remained the problem of bringing cost-of-living adjustments under the 8 per cent per year "target" rate of inflation. The main opposition to official guidelines often comes not from the industrial trade unions but from public employees who are unwilling to accept any reduction in their purchasing power. 42/ However, the position of this traditionally very secure and stable sector of the labour market was expected to alter when monetary and fiscal restraint measures, introduced only in 1982, further dampen economic activity and increase unemployment. The Government has applied stricter rules for unemployement benefits and restored the financial soundness of the social security system, particularly through a 1 per cent levy on all taxable income. Family allowances and minimum old age pensions were raised.

A more comprehensive policy of the wage freeze was introduced in 1982 in Denmark, with provisions for the abolition of wage, salary and social transfer indexation until 1985. In the Netherlands, the Government decided to freeze public sector pay and social security benefits in 1983. The possibility of imminent imposition of government wage and price freezes led to an agreement between central

workers' and employers' organizations on the suspension of wage indexation by branch or by firm, accompanied by a corresponding reduction in working hours. In contrast to the developments in Denmark and the Netherlands, Belgium planned to preserve automatic percentage indexation of wages and salaries, although with some changes in its triggering qualifications which would reduce the actual degree of indexation. Up to the present, income policy measures in conjunction with demand management policies have been instrumental in moderating nominal wage growth. For example, in the Netherlands, the average annual increase in total earnings per employee in industry fell from 11.1 per cent during the period 1974 to 1978 to 5.7 per cent during 1979 to 1983. 43/ In Belgium, in 1982, nominal wages in manufacturing grew at a rate of 6.5 per cent as against 10.9 per cent a year before and real wages in 1982 fell by 2.0 per cent in 1982 and 3.4 per cent in 1983.

In Italy, an attempt was made to introduce a noticeable degree of restraint in wage growth at the beginning of 1983 when the trade unions, the employers' association and the Government reached an agreement on a revision of the national indexation scheme which has been a major factor for wage increases in the years of high inflation. According to that accord, the sliding scale adjustments would have provided purchasing power guarantees for only 60 per cent of the average wage. But in half a year, that agreement collapsed and the parties no longer considered themselves bound by its provisions. 44/ Consequently, by February 1984, the Government decreed a ceiling on increases in index-linked wages for 1984 as a whole.

In 1983, the United States, Canada and the United Kingdom were already firmly on a recovery path, and the Federal Republic of Germany and Japan were showing a substantial increase in real output in 1984. An obvious improvement in the economic situation raises a fundamental question about the pattern of wage growth during the period of recovery and subsequent economic expansion of industrial countries. Some observers argue that wage moderation, which has played a remarkable role in the waning of inflation, is due to give way to a resurgence of fast wage growth with economies of major OECD countries strongly back on their feet. However, others maintain that the present trend towards wage moderation will probably continue to be a prominent feature of the behaviour of labour markets in major industrial countries in the next three years. This is in line with projections by the European Economic Community (EEC) which suggest that the recovery in the member countries of the Community will not be strong. Throughout 1983, most countries were either still in recession or showed only the first signs of a weak recovery. At the same time, the employment situation in the EEC area has been worsening. Recent unemployment projections by OECD also indicate that the unemployment rate in 1984 will climb to a new high of 11.5 per cent from 9.5 per cent in 1983. 45/ Drastic reduction in unemployment is not expected to occur within the next few years. Thus, wage behaviour during the coming recovery in European countries will be strongly influenced by the persistence of a high rate of unemployment.

A number of forecasts for the United States also suggest that a moderate pattern of wage-rate increases will probably continue through as late as 1988. Such projections are based on future trends in the major determinants of the "natural" rate of unemployment, such as productivity, demography and social security tax increases, and estimate that this rate could fall close to 6 per cent. According to those projections, the "natural" unemployment rate is expected to decrease by about one percentage point from the 7 per cent rate prevailing during the second part of the 1970s, and consequently, the economy is likely to be given some more room to expand without a resurgence of inflation. 46/

Some analysts are inclined to regard the recent long-term structural changes in several major industries as a primary force which will exert downward pressure on wages. 47/ They point out that deregulation of such industries as trucking and airlines has attracted a significant number of new entrants into the formerly closed markets. The increased competition has broken down the price setting power of older firms and undercut their ability to grant accommodating wage settlements. In some concentrated industries, for example, in meat packing, competitive pressure has increased as a result of the recent emergence of technologically more advanced and non-unionized new firms. Their entry has introduced competition in wage-setting processes in formerly secure and stable primary labour markets. In addition, some industries, notably primary metals and motor vehicles, now have to face competition from world producers, with consequences on price and wage moderation similar to an increase in domestic competition. The general slow-down of wage growth, which stems from long-term structural changes in the United States economy, is, therefore, expected to continue.

Table III-1. Annual growth rates of nominal and real hourly earnings in manufacturing and consumer price index in seven OECD countries, 1966-1983

(Percentage)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	Average 1960-1967	Average 1967-1973	Average 1973-1980
Nominal hourly earnings in manufacturing																					
Canada	6.1	6.7	7.5	8.1	7.9	9.0	7.9	8.8	13.5	15.8	13.7	10.9	7.2	8.8	10.1	12.0	11.6	3.5	4.3	8.2	11.4
France	6.0	6.0	12.4	11.3	10.5	11.2	11.3	14.6	19.3	17.3	14.1	12.7	12.9	13.0	15.1	14.5	15.3	11.2	7.0	11.9	14.9
Germany, Federal Republic of	7.2	4.0	4.3	9.0	13.6	11.0	8.7	10.7	10.6	8.2	6.5	7.5	5.0	5.5	6.2	5.2	5.0	3.3	8.4	9.5	7.1
Italy	...	...	...	...	...	16.0	12.1	22.6	25.4	48.6	18.7	26.1	21.2	18.6	22.3	22.4	17.2	14.8	...	...	25.5
Japan	11.8	13.1	14.9	16.4	17.8	13.8	15.6	23.5	26.1	11.5	12.2	8.6	5.9	7.3	7.6	5.6	4.8	3.9	10.8	16.9	11.2
United Kingdom	6.4	4.4	7.8	5.6	10.1	12.5	13.8	12.9	17.1	30.0	19.8	4.7	18.2	15.0	17.2	9.7	11.1	9.0	4.9	10.4	17.2
United States	4.2	4.0	6.4	6.0	5.3	6.3	7.0	7.1	8.3	9.0	8.1	8.8	8.7	8.5	8.7	9.8	6.4	4.0	3.2	6.3	8.6
Real hourly earnings in manufacturing																					
Canada	2.3	2.9	3.3	3.5	4.4	6.0	3.0	1.1	2.4	4.5	5.7	2.7	-1.6	-0.3	-0.1	-0.4	0.7	-2.3	2.2	3.7	1.9
France	3.2	3.2	7.5	4.5	5.1	5.4	4.9	6.7	4.9	4.9	4.1	3.0	3.6	2.1	1.3	0.9	3.1	1.5	3.4	6.0	3.4
Germany, Federal Republic of	3.6	2.6	1.4	7.0	9.9	5.4	3.1	3.5	3.3	2.1	1.9	3.7	2.3	1.3	0.7	-0.6	-0.3	0.3	5.6	5.2	2.2
Italy	...	...	...	...	...	10.7	6.0	10.6	5.2	2.7	1.6	6.5	8.0	3.3	0.9	2.4	0.5	0.2	1.4	...	7.2
Japan	6.4	8.8	9.1	10.6	9.4	7.3	10.6	10.5	1.3	-0.2	2.7	0.5	2.0	3.5	0.5	0.7	2.0	2.0	4.7	10.2	1.5
United Kingdom	2.4	1.8	3.0	0.2	3.5	2.8	6.2	3.4	1.0	4.7	2.8	-9.6	9.2	1.4	-0.7	-1.9	2.3	4.2	...	3.4	1.1
United States	1.3	1.2	2.1	0.6	-0.6	1.9	3.6	0.8	-2.4	-0.2	2.2	2.2	1.0	-2.5	-4.2	-0.5	0.3	0.8	1.5	1.4	-0.6
Consumer price index																					
Canada	3.7	3.6	4.0	4.5	3.4	2.8	4.8	7.6	10.8	10.8	7.5	8.0	8.9	9.2	10.2	12.5	10.8	5.9	2.1	4.5	9.3
France	2.7	2.7	4.5	6.4	5.2	5.5	6.2	7.3	13.7	11.8	9.6	9.4	9.1	10.8	13.6	13.4	11.8	9.6	3.5	5.9	11.1
Germany, Federal Republic of	3.5	1.4	2.9	1.9	3.4	5.3	5.5	6.9	7.0	6.0	4.5	3.7	2.7	4.1	5.5	5.9	5.3	3.0	2.7	4.3	4.8
Italy	2.3	3.7	1.4	2.6	5.0	4.8	5.7	10.8	19.1	17.0	16.8	18.4	12.1	14.8	21.2	19.5	16.6	14.6	4.4	5.0	17.0
Japan	5.1	4.0	5.3	5.2	7.7	6.1	4.5	11.7	24.5	11.8	9.3	8.1	3.3	3.6	8.0	4.9	2.7	1.9	5.7	6.7	9.7
United Kingdom	3.9	2.5	4.7	5.4	6.4	9.4	7.1	9.2	16.0	24.2	16.5	15.8	8.3	13.4	18.0	11.9	8.6	4.6	3.4	7.0	16.0
United States	2.9	2.8	4.2	5.4	5.9	4.3	3.3	6.2	11.0	9.1	5.8	6.5	7.7	11.3	13.5	10.4	6.1	3.2	1.7	4.9	9.2

Source: Department of International Economic and Social Affairs of the United Nations Secretariat, based on Organisation for Economic Co-operation and Development, Main Economic Indicators: Historical Statistics, 1960-1980 (Paris, 1983) and OECD Economic Outlook (Paris), various issues.

Table III-2. Average annual growth rates of real wage incomes a/

(Percentage)

	1960-1967	1967-1973	1973-1980
Canada	2.9	2.9	1.1
France	6.3	6.7	3.7
Germany, Federal Republic of	4.5	6.9	2.7
Japan	6.4	8.9	2.2
United Kingdom	2.7	4.4	2.4
United States	2.1	2.4	0.5

Source: Department of International Economic and Social Affairs of the United Nations Secretariat, based on Organisation for Economic Co-operation and Development, National Accounts, 1952-1981, vol. 1 (Paris, 1983) and Main Economic Indicators: Historical Statistics, 1960-1980 (Paris, 1982).

a/ Total compensation per capita of wage and salary earner deflated by private consumption deflator.

Table III-3. Annual growth rates of real GDP per person employed

(Percentage)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	Average 1960-1967	Average 1967-1973	Average 1973-1980
Canada	2.8	0.6	3.7	2.1	1.6	4.6	2.9	2.5	-0.5	-0.6	3.6	0.6	0.6	-0.8	-2.7	2.5	2.9	0
France	4.4	4.4	4.5	5.3	4.3	5.0	5.3	4.0	2.5	1.3	4.5	2.2	3.3	3.6	1.0	5.0	4.7	2.6
Germany, Federal Republic of	2.8	3.1	6.2	6.2	4.7	3.0	3.9	4.7	2.4	1.6	6.1	3.2	2.5	3.1	1.0	4.0	4.8	2.8
Italy	7.7	6.0	6.5	7.0	4.9	1.7	4.9	6.0	2.1	-4.1	5.1	0.8	2.3	3.7	2.4	6.3	5.2	1.7
Japan	8.4	8.7	10.9	11.4	8.6	4.0	8.7	6.0	-0.6	2.6	4.4	3.8	3.7	3.8	3.3	8.6	8.3	3.0
United Kingdom	1.4	4.1	4.8	1.4	2.7	4.1	2.3	5.0	-1.4	-0.3	4.4	1.1	2.8	0.8	0.2	2.4	3.4	1.1
United States	3.0	0.2	2.5	0.3	-0.8	3.0	2.5	2.0	-2.4	0.2	2.1	1.8	0.1	0	-0.6	2.7	1.6	0.2
Total of above countries	4.1	2.7	4.7	3.7	2.3	3.5	4.3	3.7	-0.5	0.4	3.8	2.3	1.8	1.6	0.5	4.0	3.7	1.4

Source: Department of International Economic and Social Affairs of the United Nations Secretariat, based on data of the Organisation for Economic Co-operation and Development, Main Economic Indicators: Historical Statistics, 1960-1980 (Paris, 1982).

Table III-4. Operating surplus of enterprises as a percentage of gross domestic product

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	Average 1960-1967	Average 1968-1973	Average 1974-1980
Canada	23.4	23.0	24.0	24.3	24.1	23.2	23.1	21.5	21.9	21.4	20.1	20.2	20.7	22.3	22.8	21.9	21.3	20.5	22.0	23.6	23.6	23.3	21.1	22.3
France	31.3	30.4	30.1	29.1	28.5	28.7	28.8	29.2	29.1	28.7	27.6	27.9	28.1	27.5	25.1	23.1	21.6	22.1	21.9	21.7	20.4	29.5	28.2	22.3
Germany, Federal Republic of	31.9	30.0	28.7	27.8	28.1	27.5	26.6	26.5	27.9	26.7	25.3	23.9	23.7	22.9	21.3	20.9	22.0	21.9	22.2	22.2	20.6	28.4	25.1	21.6
Italy	38.6	38.5	37.3	34.7	33.5	34.5	35.5	35.1	35.6	36.0	33.9	32.0	32.1	31.1	29.6	26.5	27.0	25.7	26.4	28.1	28.4	36.0	33.4	27.4
Japan	41.5	39.6	39.2	37.9	36.4	35.1	36.0	37.6	37.3	37.7	38.0	34.0	33.9	33.3	30.2	27.6	27.5	25.9	27.0	26.4	25.8	37.9	35.7	27.2
United Kingdom	21.7	20.1	19.4	20.3	20.3	20.0	18.7	18.8	19.0	19.1	17.9	18.4	19.5	20.1	16.2	14.0	14.9	18.1	18.4	16.9	14.9	19.9	19.0	16.2
United States	22.3	22.3	22.7	22.9	23.1	24.0	23.6	22.5	21.8	20.4	18.3	18.5	18.9	19.3	17.3	17.5	17.8	18.5	18.7	18.1	16.7	22.9	19.5	17.8

Source: Department of International Economic and Social Affairs of the United Nations Secretariat, based on data of the Organisation for Economic Co-operation and Development, National Accounts, 1952-1981, op. cit.

Table III-5. Net operating surplus as a percentage of net value added in manufacturing

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	Average 1960-1967	Average 1968-1973	Average 1974-1980
Canada	26.3	24.2	25.7	25.3	22.7	23.7	25.3	27.6	29.0	25.3	23.4	21.0	22.8	26.1	26.7	27.7	25.0	24.9
France a/	...	24.6	25.6	28.5	27.8	26.6	26.7	26.8	29.7	19.4	18.2	19.6	19.0	20.6	...	...	27.0	21.0 b/
Germany, Federal Republic of	26.2	26.8	29.6	30.1	26.7	25.2	23.9	23.4	21.8	19.5	21.1	20.2	20.2	20.8	17.3	30.1	26.6	20.1
Italy	26.2	24.4	25.2	25.1	22.5	19.4	20.1	...	...	...	...	...	...	...	...	25.7	22.5 c/	...
Japan	37.7	40.3	41.9	41.3	40.9	37.7	35.4	31.8	28.2	29.5	...	...	...	...	...	40.5	38.2	...
United Kingdom	22.5	22.9	22.8	21.0	18.1	18.4	19.2	19.3	12.3	8.6	9.9	16.1	17.1	11.4	9.9	23.9	19.6	12.2
United States	23.9	21.9	21.7	19.4	16.1	18.3	19.2	18.6	15.0	17.5	19.1	19.8	19.2	16.5	12.8	21.8	18.9	17.1

Source: Department of International Economic and Social Affairs of the United Nations Secretariat, based on data of the Organisation for Economic Co-operation and Development, Main Economic Indicators: Historical Statistics, 1960-1982 (Paris, 1984) and T. P. Hill, Profits and Rates of Return (OECD, Paris, 1979).

a/ Excludes petrol and gas refining and includes mining and quarrying other than petrol and gas.

b/ For the period 1974-1979.

c/ For the period 1967-1972.

Table III-6. Average net operating surplus as a percentage of net capital stock in manufacturing

	1960-1967	1968-1973	1974-1975
Canada	18.5	16.1	17.1
Germany, Federal Republic of	20.3	17.0	11.4
Italy	11.7	11.0	...
Japan	28.9	24.9	13.5
United Kingdom	14.4	9.9	3.9
United States	34.8	27.2	23.8

Source: Department of International Economic and Social Affairs of the United Nations Secretariat, based on data of the Organisation for Economic Co-operation and Development and T. P. Hill, Profits and Rates of Return (OECD, Paris, 1979).

Table III-7. Unemployment rates a/ in seven major OECD countries, 1970-1983

(Percentage)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Canada	5.9	6.4	6.4	5.6	5.4	7.0	7.1	8.1	8.3	7.4	7.5	7.6	11.0	11.9
France	1.7	2.1	2.3	2.1	2.7	4.1	4.6	5.2	5.2	5.9	6.3	7.3	8.0	8.4
Germany, Federal Republic of	0.5	0.7	1.0	1.3	1.5	3.6	3.6	3.6	3.5	3.2	3.4	4.8	6.9	8.2
Italy	3.2	3.2	3.6	3.5	3.1	3.6	6.4	7.1	7.2	7.5	7.6	8.5	9.1	9.7
Japan	1.1	1.1	1.4	1.3	1.4	2.0	2.1	2.1	2.2	2.1	2.0	2.2	2.4	2.6
United Kingdom	2.3	3.0	3.4	2.6	2.9	4.5	7.0	6.8	6.1	5.8	7.0	10.6	11.0	11.6
United States	4.9	5.9	5.6	4.9	5.4	8.3	7.5	6.9	5.9	5.7	7.2	7.6	9.7	9.6

Source: Organisation for Economic Co-operation and Development, OECD Economic Outlook (Paris), various issues.

a/ National definitions.

Notes

1/ R. G. Lipsey, "World inflation", The Economic Record, December 1979, p. 294.

2/ Jeffrey D. Sachs, "Wages, profits and macroeconomic adjustment: a comparative study", Brookings Papers on Economic Activity, No. 2, 1979, p. 274.

3/ See, for example, Sachs, op. cit.; Robert J. Gordon, "World inflation and monetary accommodations in eight countries", Brookings Papers on Economic Activity, No. 2, 1977, pp. 409-468; G. L. Perry, "Determinants of wage inflation around the world", Brookings Papers on Economic Activity, No. 2, 1975, pp. 403-435; W. Nordhaus, "The worldwide wage explosion", Brookings Papers on Economic Activity, No. 2, 1972, pp. 431-464.

4/ Perry, op. cit., pp. 419-420; Sachs, op. cit., p. 279; Anne Romanis Braun, "The role of income policy in industrial countries since World War II", International Monetary Fund Staff Papers, March 1975, pp. 1-36.

5/ Perry, op. cit., p. 434.

6/ Organisation for Economic Co-operation and Development, Inflation: the Present Problem (Paris, 1970), p. 66.

7/ For extended time series on factor shares and profitability, see T. P. Hill, Profits and Rates of Return (OECD, Paris, 1979). Average for the period 1960-1965 based on the data from this source.

8/ Profitability data for the United Kingdom can be found in Hill, op. cit., p. 123.

9/ W. Nordhaus, comment to a paper by Perry, Brookings Papers on Economic Activity, No. 2, 1975, p. 440.

10/ Braun, op. cit.

11/ Victor J. Sheiter, "Cost-of-living adjustment: keeping up with inflation", Monthly Labour Review, June 1979, p. 14.

12/ Ibid.

13/ Bert Zoeteweij, "Anti-inflation policies in the industrialised market economy countries" (part 1) International Labour Review, vol. 122, No. 5, 1983, p. 571.

14/ Sheifer, op. cit., pp. 16-17.

15/ Zoeteweij, op. cit.

16/ G. L. Perry, "Slowing the wage-price spiral: the macroeconomic view", Brookings Papers on Economic Activity, No. 2, 1978, p. 270.

17/ Ibid., p. 278.

18/ Robert J. Gordon, "Why U. S. wage and employment behaviour differs from that in Britain and Japan", The Economic Journal, vol. 92, March 1982, pp. 13-44.

19/ Ibid., p. 41.

20/ Charles L. Schultze, "Some macro foundations for micro theory", Brookings Papers on Economic Activity, No. 2, 1981, p. 541.

21/ Wolfgang Blaas, "Institutional analysis of stagflation", Journal of Economic Issues, vol. XVI, No. 4, December 1982, p. 967.

22/ Mark A. Lutz, "Stagflation as an institutional problem", Journal of Economic Issues, vol. 15, No. 3, September 1981, p. 757.

23/ Ibid., p. 759.

24/ OECD Economic Surveys: Japan (Paris, 1981), p. 56.

25/ Johannes Schregle, "Comparative industrial relations: pitfalls and potential", International Labour Review, vol. 120, No. 1, January-February 1981, p. 23.

26/ See, for example, W. C. Peterson, "Power and economic performance", Journal of Economic Issues, vol. XIV, No. 4, December 1980, pp. 827-869; Blaas, op. cit., pp. 955-975; G. C. Weeks, "Labour markets, class interests and technology of production", Journal of Economic Issues, vol. XIV, No. 2, June 1980, pp. 553-566; J. Cornwall, "Unemployment and inflation: institutionalist and structuralist views", Journal of Economic Issues, vol. XV, No. 12, pp. 113-127.

27/ Peterson, op. cit., p. 856.

28/ Weeks, op. cit., pp. 558-559.

29/ See, for example, Peterson, op. cit., and Blaas, op. cit.

30/ Peterson, op. cit., p. 856.

31/ G. L. Perry, "Slowing the wage-price spiral: the macroeconomic view", ..., p. 268.

32/ D. J. B. Mitchel, "Recent union contract concessions", Brookings Papers on Economic Activity, No. 1, 1982, p. 167.

33/ Zoeteweij, op. cit., p. 570.

34/ Peterson, op. cit., p. 857.

35/ OECD Economic Outlook, No. 29, July 1981 (Paris, 1981), p. 47; ibid., No. 33, July 1983 (Paris, 1983), p. 56.

36/ Ibid., p. 53.

37/ Ibid., p. 45.

38/ Ibid., p. 51.

39/ Business Week, 14 June 1982, p. 66.

40/ Bureau of Labor Statistics News, 28 October 1983 (United States Bureau of Labor Statistics, Washington, D.C.).

41/ Business Week, 14 June 1982, p. 66.

42/ See Financial Times, 20 September 1983 and 17 October 1983; The Economist, 29 October 1983, pp. 48-49.

43/ European Economy, No. 15, March 1983, p. 27.

44/ Financial Times, 20 October 1983.

45/ Organisation for Economic Co-operation and Development, Employment Outlook (Paris, 1983), p. 25.

46/ S. A. Englander and A. L. Cornelia, "Recovery without accelerating inflation", Federal Reserve Bank of New York Quarterly Review, summer 1983, pp. 24-25.

47/ See, for example, L. E. Browne, "Wages and inflation", New England Economic Review, May/June 1983, pp. 63-66; Morgan Guaranty Survey, October 1983, pp. 1-4; S. A. Englander and M. Chandoha, "Will wage givebacks be reversed?", Federal Reserve Bank of New York Quarterly Review, autumn 1983, pp. 25-26.

Annex

THE UNITED NATIONS COMMODITY TRADE MATRIX

The United Nations commodity trade matrices have been constructed with the objective of providing trade flows among regions, economic groupings and a fairly large sample of countries drawn from those groupings. Such flows cover total trade (SITC 0-9) as well as sectoral trade. The sectors that have been separately distinguished are SITC 0 + 1, 2 + 4, 3, 5, 6 + 8 and 7. All trade flows have been expressed in current as well as in constant prices. The matrices have been constructed for each of the years from 1965 to 1981. Hence, the trade flows in each year are contained in seven matrices in current prices and another seven in constant prices. Each matrix is 73 x 73.

The major data source is the Commodity Trade Statistics, which covers directional commodity trade flows as reported by about 145 countries.

The matrix is first constructed on the basis of export data and later supplemented by f.o.b.-converted import data. Where an absence of data is presumed to be the result of a lack of reporting on the part of both an exporter and an importer, estimation is made on the basis of the trends of total exports and imports.

The well-known problem of inconsistency between the reported and implicit imports (that is, a column-wise aggregation of an export-based matrix) was solved in the following manner. First, the reported data for total (non-directional) exports and imports by commodity groups for all periods were compiled. The necessary estimates were also made. All the elements of the matrix were then adjusted so that a row-wise summation equalled the reported total imports, while keeping the square sum of the difference between the original data and the adjusted one at a minimum.

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