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FALLING OIL PRICES AND FLUCTUATING EXCHANGE RATES

AND THEIR IMPLICATIONS FOR THE ESCWA REGION'S ECONOMIES

88-0495

E/ESCWA/NR/87/15

FOREWORD

This study has been prepared in response to ESCWA resolution 142(XIII), "Programme of work and priorities for the period 1986-1987" of 24 April 1986, whereby the Executive Secretary was requested to assign priority to issues concerning, _inter alia_, the impact of changing conditions in the oil market and in currency exchange markets on economic policies and development prospects.

Within the scope of the Energy Programme of the Natural Resources, Science and Technology Division, this report attempts to assess the impact of falling oil prices on the ESCWA region and its individual member countries. Other important issues such as the impact of falling oil revenues on domestic output, employment, investment, trade and balance of payments, and structural change on both oil-exporting and non-oil economies of the ESCWA region are not dealt with at this stage. Pending availability of financial resources, an econometric model will be developed based on the outcome of this study, and will cover the above-mentioned issues. However, if resources are insufficient, there will be, at the very least, a follow-up study made on the impact of changing conditions in the oil market on energy policies in the fourth quarter of 1989.

Acknowledgement is due to the United Nations Industrial Development Organization for co-operating with ESCWA by making available the services of Mr. Se-Hark Park, who undertook two missions to Baghdad for a duration of three weeks to prepare the first draft of this report. His patience, coupled with his knowledge of the subject, enabled the staff of the Energy Programme of the Division to offer their contribution, including powerfully argued conclusions at a time when they can make a difference.

M.S. Nabulsi
Executive Secretary

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INTRODUCTION

The 1980s so far have ushered in a period of difficult economic adjustment for developing countries, which were buffeted by multiple external shocks that converged towards the end of the 1970s and the beginning of the 1980s. These shocks included the following:

- Falling commodity prices and the consequent worsening of the terms of trade for exporters of primary products;

- A steep rise in the price of oil and its subsequent collapse in 1986;

- The 1980-1982 recession in the industrial countries followed by sluggish growth;

- The sudden rise in nominal and real interest rates reversing the assumptions under which large debts had been contracted;

- The volatility in the exchange rates of the major trading partners.

These shocks are not the cause but the symptoms of fundamental disequilibrium in the world economy--the global trade imbalances and the inadequacy of an international financial system that cannot allow adjustment of these imbalances without causing a recession, world-wide unemployment and excess capacity in the developed countries and a severe check to the development process in the developing countries.

Given the diversity and heterogeneity of developing countries in terms of resource endowments and stages of development, the economic impacts of various external shocks and their required adjustment policies vary markedly from country to country. Plummeting oil prices constitute the greatest external shock to the economy of the ESCWA region, which holds half of the world's proven oil reserves and accounted for about one fifth of world oil production in 1986. What makes the violent fluctuations in oil prices immensely important to the region's economy is, however, the critical dependence of the oil exporting economies in the region on oil revenues. For instance, in 1980 Saudi Arabia's oil revenues represented 99.2 per cent of its total exports, 103.3 per cent of its government revenues and 70.1 per cent of its gross domestic product (GDP); in 1986, however, these revenues dropped to 92.8 per cent of total exports, 86.5 per cent of government revenues and 30.5 per cent of GDP.[1]/ More or less the same applies to other major oil-exporting countries, such as Kuwait, Qatar and the United Arab Emirates.

After a decade of record high oil prices, initially quadrupled by the Middle East crisis in 1973 and further doubled by events which accompanied the Iranian revolution in 1979, oil prices fell for the first time in nominal terms from $US 34 to $29 per barrel in March 1983. Prices continued to plummet, going to a nadir of $9.64 per barrel in July 1986 before rising to the current

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1/   ESCWA estimates.

level of around $18 per barrel (Arabian light crude spot price). The fall in the oil prices marked the beginning of a period of uncertainty and instability in the region's economy as well as in the world economy. From 1980 to 1986 the government revenues of Kuwait, Qatar, Saudi Arabia and the United Arab Emirates declined by 55.1 per cent, 44.3 per cent, 71.6 per cent and 77.3 per cent respectively.[2/] Since the oil market is intricately connected to virtually every other sector of the economy and to the external sector, any disturbance therefrom is likely to set off a chain reaction through a complex network of production, investment, finance, trade, exchange rates, employment and many other variables, and may bring about far-reaching economic and political consequences because of the vital importance of oil to the region's economy, and the political strains that changes in production rates and prices engender within the region and abroad.

On the surface, the adverse impacts of the dramatic drop in oil prices are reflected in the worsening performance of various macroeconomic variables such as output growth rates, investment, government finances, trade and current account balances.

The real ramifications, both short-term and long-term, of the significant drop in oil prices are not accurately reflected by macroeconomic indicators and are difficult to assess. For instance, the falling oil prices and consequent declining oil revenues had a negative impact on the banking sector, leading to a decrease in deposits and an increase in provisions for doubtful debts, as in 1986, when the deposits in Saudi Arabia are reported to have declined by $US 7.8 billion.[3/] In addition to the direct domestic impact, this meant a reduction in Official Development Assistance (ODA) flows and remittances of expatriates from the oil economies to the non-oil economies of the region.

The above problems, coupled with the diminishing intraregional trade caused by a drastic cut in oil revenues, are likely to pose serious economic adjustment problems for many of the non-oil economies in the region as well as for some semi-oil economies such as Egypt and the Syrian Arab Republic.

The very complex relationship between energy and economy makes it extremely difficult to draw up a balance sheet with the vast number of interactions triggered by the falling oil prices. Ideally, the economy-wide and region-wide impact of falling oil prices can best be quantified and assessed with the aid of a modelling exercise which traces the flows of oil across industries and sectors, at the national, regional and global levels. In the absence of such a model, perhaps the only alternative is a simplistic quantitative approach. The present study attempts to sort out and piece together highly fragmented information and statistical data to draw a coherent overall picture illustrating the core of the problem.

2/ Ibid.
3/ Bank of International Settlements, Basel, Switzerland.

The scope of the study is limited to an assessment of the impact of falling oil prices, measured in real terms to the extent possible, on the ESCWA region and its individual member countries. Many crucial global issues arising from the collapse of oil prices, such as the debt-servicing difficulties of Latin American oil-producing countries and the consequent threat to the stability of the international monetary system, will not be treated here unless they have a direct bearing on the issues confronting the ESCWA region. Furthermore, the focus of the study is on revenue implications of rapid changes in oil prices and exchange rates, and the question of oil price stability. Other important issues, such as the impact of falling oil revenues on domestic output, employment, investment, trade and external balances, and structural change on both oil-exporting countries and non-oil economies of the region, go beyond the scope of the study at this stage.

The presentation of information in this study has been organized as follows: first, the overall background of oil price movements, and consequent oil revenue fluctuations, and the direct impact of falling oil prices and exchange rate fluctuations on the ESCWA region's oil revenues are assessed. Secondly, the revenue implications of alternative hypothetical oil prices against actual price movements over time are explored. Thirdly, the study examines the question of instability of oil prices and its implications for economic growth in the region. In conclusion, some policy implications are deduced from the above and alternative pricing policies are proposed.

I. OIL PRICE MOVEMENTS, 1973-1986

Much has been written about the roller-coaster gyrations of oil prices since the first oil price hike in 1973. It would suffice to highlight only the salient points of oil price fluctuations in this study and to refer to the existing literature in this field for a more comprehensive and complete analysis of the world oil market.[4/] However, it would be more fruitful to focus on the also violent fluctuations of the exchange rates of major trading partners of the ESCWA region's oil-producing countries in the 1973-1986 period, and consequent oil price differentials in different major currencies, and the implications for oil revenues and asset values of the ESCWA region's oil economies.

Since there are many different grades of crude oil traded in the world oil markets with a myriad of different levels of oil prices, it may be necessary to select a representative price which provides a better barometer of the pressure of overall supply and demand in the oil market. Until the 1978-1979 Iranian crisis, the bulk of OPEC oil was sold under term contracts to multinational oil companies. However, between 1980 and 1984 the spot market became firmly established and it gauged the weakness or strength of the oil markets. Because of the prevailing strong market, spot prices were above official prices in much of the 1979-1980 period before falling below official prices in early 1981. However, in the most recent years, the emergence of the tertiary market for OPEC crude oil reduced the importance of term contract sales representing the primary market and spot sales the secondary market. This tertiary market refers to unconventional trading channels through which the bulk of all OPEC crude now moves on a discounted basis, ranging from barter to netback (pricing based on price of refined product) arrangements and outright discounts. For instance, one of the oil-exporting countries of the region is reported to have recently completed its deals for 18 Mirage 2,000 aircrafts for some 40,000 barrels per day (b/d) of oil for one year.[5/] The question then arises as to which oil price represents a better measure of the oil market pressures. Although the tertiary prices, which are invariably below official prices, may come closest to an ideal yardstick for measuring the oil market conditions, unlike spot and official prices they are often kept confidential or disguised and the size of their discounts is extremely difficult to estimate.[6/] As the second best alternative and for the purpose of simplicity, this study uses the annual averages of spot prices of Arabian light crude 34°. However, taking into consideration that such arrangements

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4/ See United Nations Economic and Social Commission for Western Asia, Survey of Economic and Social Developments in the ESCWA region 1986 (E/ESCWA/DPD/87/3/Rev.1) for an up-to-date review of the world oil market since 1973; and M.V. Samii, and T. Idemudia, "Energy Policy Responses, Strategies and Planning in the Oil Exporting Countries", a paper presented at the Oxford Energy Seminar, Oxford, United Kingdom, September 1986.

5/ Economic Intelligence Unit, Energy Report, Middle East, No. 2, 1985.

6/ For a detailed discussion of the importance of the emergence of the tertiary oil market, see Bijan Mocsavar-Rahmani, "Oil trading: the tertiary market", Energy Report, No. 4, 1985, pp. 4-8.

as barter or netback imply prices lower than the selected representative price, it should be expected that the resulting adverse effects are likely to be heavier than estimated in this study.

Figure 1 plots oil price movements during the period 1973-1986, both current and constant, adjusted by gross national product (GNP) deflators. The base year is 1974. Prices are expressed in terms of US dollars, deutsche mark and yen (see also table 1). The major signposts along the path of oil price movements in dollars are:

1. The Arab-Israeli war of October 1973 which catapulted the oil price from the range of $3-$5 per barrel in 1973 to $10-$12 per barrel in 1974;

2. The Iranian revolution in 1979 and the decision to reduce sharply Iranian oil exports. This escalated the overall oil price from $13 per barrel in 1978 to $29 per barrel in 1979;

3. The Gulf war and its subsequent destruction of the oil infrastructure, which reduced the global oil supply. This raised the price to $36 per barrel in 1980;

4. The OPEC decision in March 1983 to reduce the official price of the bench-mark crude (Arabian light 34°) to $29 per barrel and the OPEC production ceiling to 17.5 million b/d;

5. The OPEC policy declaration in December 1985 to secure and maintain the OPEC "fair share" in the world market and the abandonment of Saudi Arabia's role as an OPEC "swing" producer. As a result, the spot price of Arabian light crude nosedived from an average price of $28 per barrel in 1985 to $14 per barrel in 1986 as OPEC production increased to 18.3 million b/d in 1986, an increase of about 3 million b/d over the previous year. The spot price plunged further down to $9.64 per barrel in July 1986, the lowest price in nominal terms since 1974;

6. The OPEC reversal, in February 1987, of its policy to re-establish and maintain a "market price" of $18 per barrel;

7. The depreciation of the US dollar since late 1985, which may have effected some increase in the dollar-based oil prices since then.

In 1975-1978 and in 1986, the constant US dollar oil price remained lower than the 1974 level of $11.5 per barrel (see figure 1). In July 1986, the constant price was about half the 1974 level. By contrast, the constant, price more than doubled, to almost $20 per barrel, between 1978 and 1979 and jumped another 30 per cent in 1980.

The gap between current and constant prices was generally smallest in Japanese yen prices and largest in dollar prices, reflecting their respective rates of inflation. The main significance of the constant oil price calculations in different currencies stems from its possible impact on demand for oil and energy in general. It is well known that the dramatic increases in oil prices in the 1970s caused a fundamental change in the energy markets.

Figure 1. <u>Current and constant oil prices in US dollars, German
deutsche mark (DM) and Japanese yen</u>
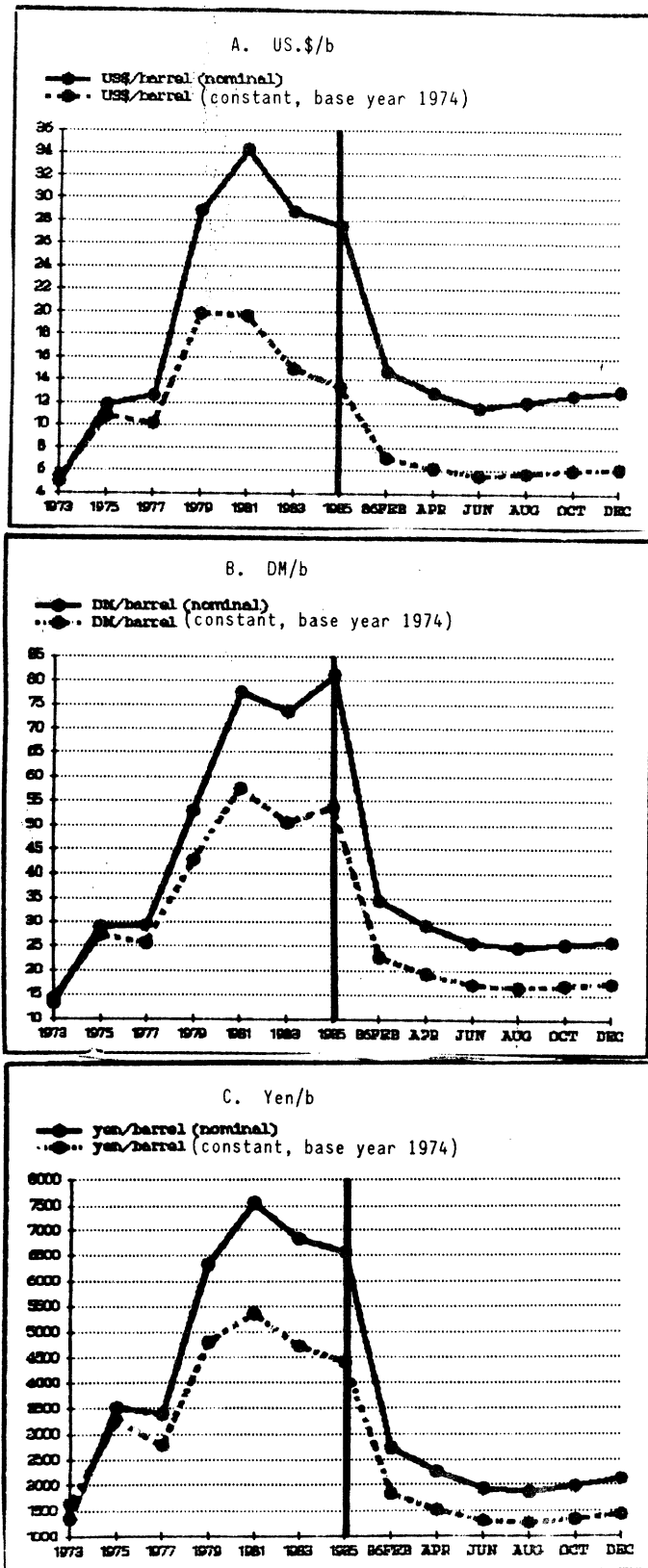
This change included a substantial cut in demand for energy caused by a combination of the price and income effects, i.e., a switch away from oil to other sources of energy and a marked increase in energy conservation. In addition, a significant expansion of the oil supply by non-OPEC producers.

The appreciation of the US dollar against the major currencies amounted to around 38 per cent against the deutsche mark, around 8 per cent against the yen and around 21 per cent against the Special Drawing Rights (SDR) Unit between 1979 and 1985 (see figure 2 and table 2).

A comparison of oil prices in dollars, yen and deutsche mark in figure 1 provides interesting results. The dollar-based prices of oil declined after 1983 but, with a strong US dollar the price of oil in deutsche mark was still rising until 1985; and in Japanese yen the price remained almost constant between 1983 and 1985. Therefore, much of the potential increases in oil demand because of the weaker oil prices after 1983 never materialized in the Federal Republic of Germany and Japan. The differences between the current oil prices and those of the yen and the deutsche mark reflect the movement of the exchange rates of the dollar vis-a-vis the yen and the deutsche mark. Thus in 1974-1977, the exchange rates of the dollar against both the deutsche mark and the yen were relatively stable. In 1978-1981 the yen appreciated sharply against the dollar and the rise in oil prices for Japanese consumers was 60 index points lower than the increase for United States consumers (see table 3). Likewise a steep appreciation of the deutsche mark in 1978-1979 kept the deutsche mark oil prices from rising as high as the dollar-denominated price by about 80 index points in 1980. The opposite happened in 1983-1985 when the dollar gained in strength (figure 1). As the dollar oil prices continued to slide in 1983-1985, the deutsche mark oil prices actually kept rising and the yen oil prices remained almost constant during the same period. In 1986, the values of both the deutsche mark and the yen dramatically climbed, so their currency-denominated oil prices dropped drastically.

The movements of constant oil prices in the three currencies replicate almost identical pictures provided by the current values except for the generally narrower gaps between the curves which mainly reflect the differential rates of inflation in three countries.

It is noteworthy that the oil price has dropped so sharply that the constant oil price at the end of 1986 was 30 per cent lower than that in 1974 in dollars, 43 per cent lower in deutsche mark and 53 per cent lower in Japanese yen.

The SDR unit, which can be considered as a stable currency against the other fluctuating currencies, could also be used as a yardstick to measure the oil prices at the global level. Moreover, in terms of purchasing power of an SDR unit, it should be taken into consideration that an SDR unit incorporates the global inflation which can be measured by using the GDP deflator of all industrialized countries to deflate the SDR units and arrive at the constant SDR which can be used to measure the oil price in real terms. Figure 3 (see also table 4) plots the movement of oil prices in US dollars per barrel, nominal
and constant, as well as the SDR per barrel in nominal and real terms. This comparison is intended to show that it is neither the SDR per barrel in nominal

Figure 2. Exchange rate indices: US dollars per Special Drawing Right (SDR), deutsche mark (DM) and Japanese yen (JY)
(1974=100)
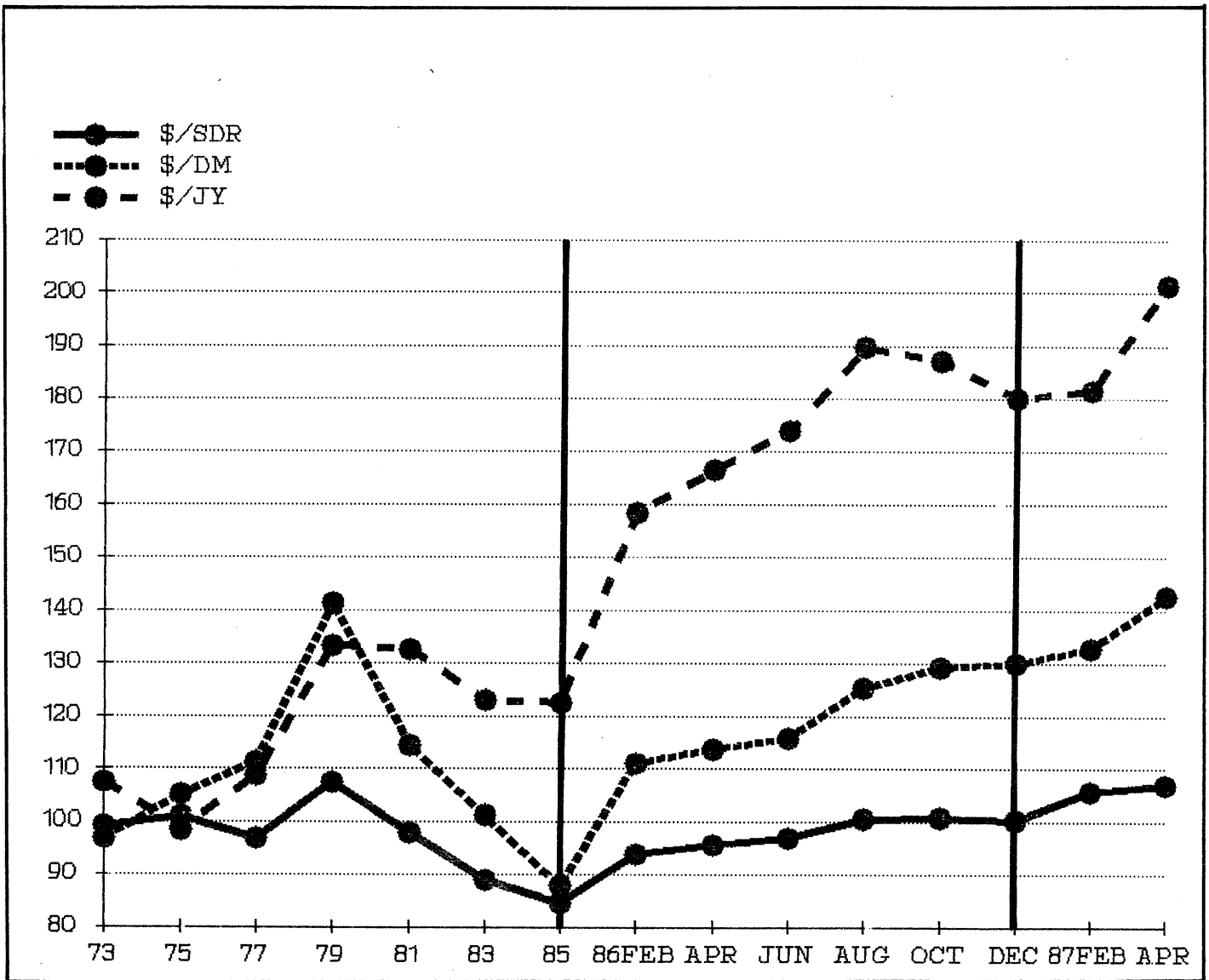
terms nor the constant US dollar which is a correct measurement of the oil price in real terms but rather the SDR deflated by the GDP deflator of the industrialized countries. For a better illustration, figure 4 shows the movement of oil prices in the two extreme measurements, namely the nominal US dollar per barrel and the real SDR per barrel.

The oil price measured by the real SDR dropped in 1986 to a very low level of around 5 units per barrel i.e. 50 per cent lower than the level of 1974 which was the year of the first oil boom and was close to the average price level of 1973, just before the first oil boom. This level, 5 real SDR units per barrel, is equal to 5 US dollars of 1970, since an SDR unit was equal to 1 US dollar in 1970.

This comparison shows to what extent the oil prices fell in 1986, throwing back the oil exporters to the period before the oil boom.

II. DIRECT IMPACTS OF LOWER OIL PRICES ON OIL EXPORTERS AND IMPORTERS

A. Combined price effects and interest payments

It is quite obvious that a drop in oil prices hurts oil exporters and benefits importers. Less obvious is its precise quantitative impact on both groups, although the fact that the combined losses of oil exporters in the ESCWA region far outweigh the combined benefits of oil importers in the region is well known. To estimate the monetary gains of importers and losses of exporters resulting from a drop in the price of a barrel of oil, one needs to construct a complete table of the region's crude oil trade for a normal year just before the outset of the price crisis. Table 5 for crude oil trade of ESCWA countries in 1984 was constructed specifically for this purpose. Total oil imports of the region (around 0.63 million b/d) represent less than 10 per cent of the total oil exports of the region. (6.4 million b/d). Some countries are oil exporters and importers simultaneously and therefore are net losers (Iraq) or net beneficiaries (Bahrain, Syrian Arab Republic), while Jordan, Lebanon, Democratic Yemen and Yemen realized gains when prices fell. Although these gains are obviously insignificant at the regional level, they are important at the national level.

Lower oil prices should help to reduce the rate of inflation worldwide, a reduction which would be followed by a decrease in the interest rates. Most oil importers in the world did not pass on to their consumers the savings realized through reduced oil import bills, but rather kept them in their treasuries, mostly in the form of oil import duties. Hence, deflation is not to be expected, but inflation has been curbed. The governments of the oil-importing countries in the world are strengthened by the new resources, which implies, inter alia, less reliability on deficit financing and borrowing.

The decrease in interest rates throughout the world affects the decrease in the debt interest payments of the debtor countries, which in the ESCWA region are the oil net importers.

Various econometric studies in the international literature on the subject suggest that a 1 per cent decrease in dollar interest rates is associated with an oil price fall to $20 per barrel, a 1.5 per cent fall with $15 per barrel, and a 2 per cent reduction with $10 per barrel. Based on those studies and on table 5 on crude oil trade, together with available information on external debt, an attempt has been made to estimate roughly the combined impact of oil prices, in three different scenarios, and debt interest payments for individual countries of the ESCWA region (see table 6). The results are shown in figure 5, which reflects the impact on oil exporters and importers in the ESCWA region of a drop in oil prices from $29 b/d in 1984 to: (1) $20b/d; (2) $15b/d; and (3) $10 b/d, assuming no changes in demand for oil responding to a fall in oil prices.

Most notable in figure 5 are the lopsided combined losses of oil exporters against relatively very small gains of oil importers in the region as a result of a drop in oil prices. The reason is obvious: the overwhelming dependence of

Figure 3. <u>Nominal and current oil prices, US dollars and SDRs, 1974-1986</u>
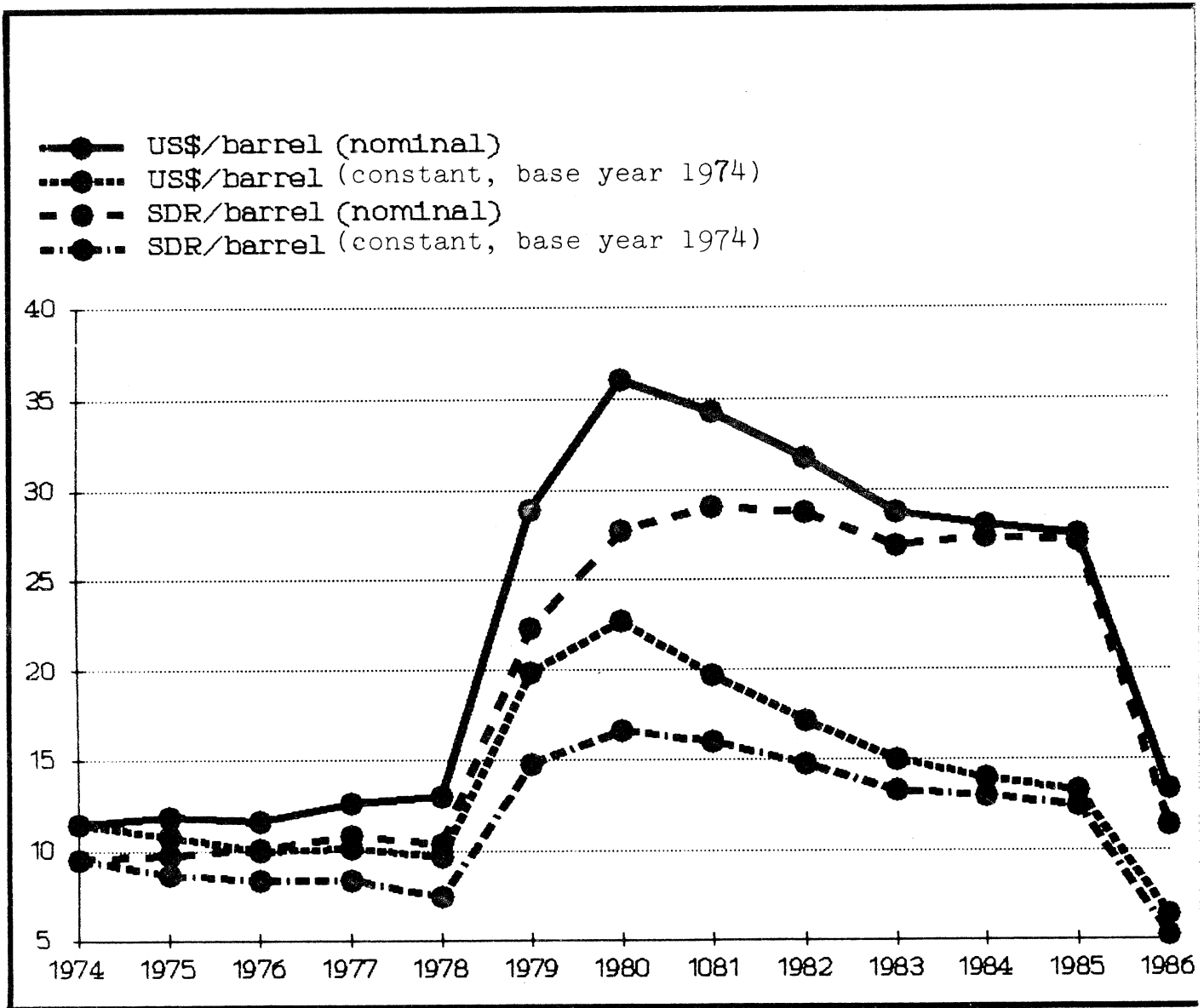
Figure 4. <u>Oil prices in nominal US dollars and current SDRs, 1974-1986</u>
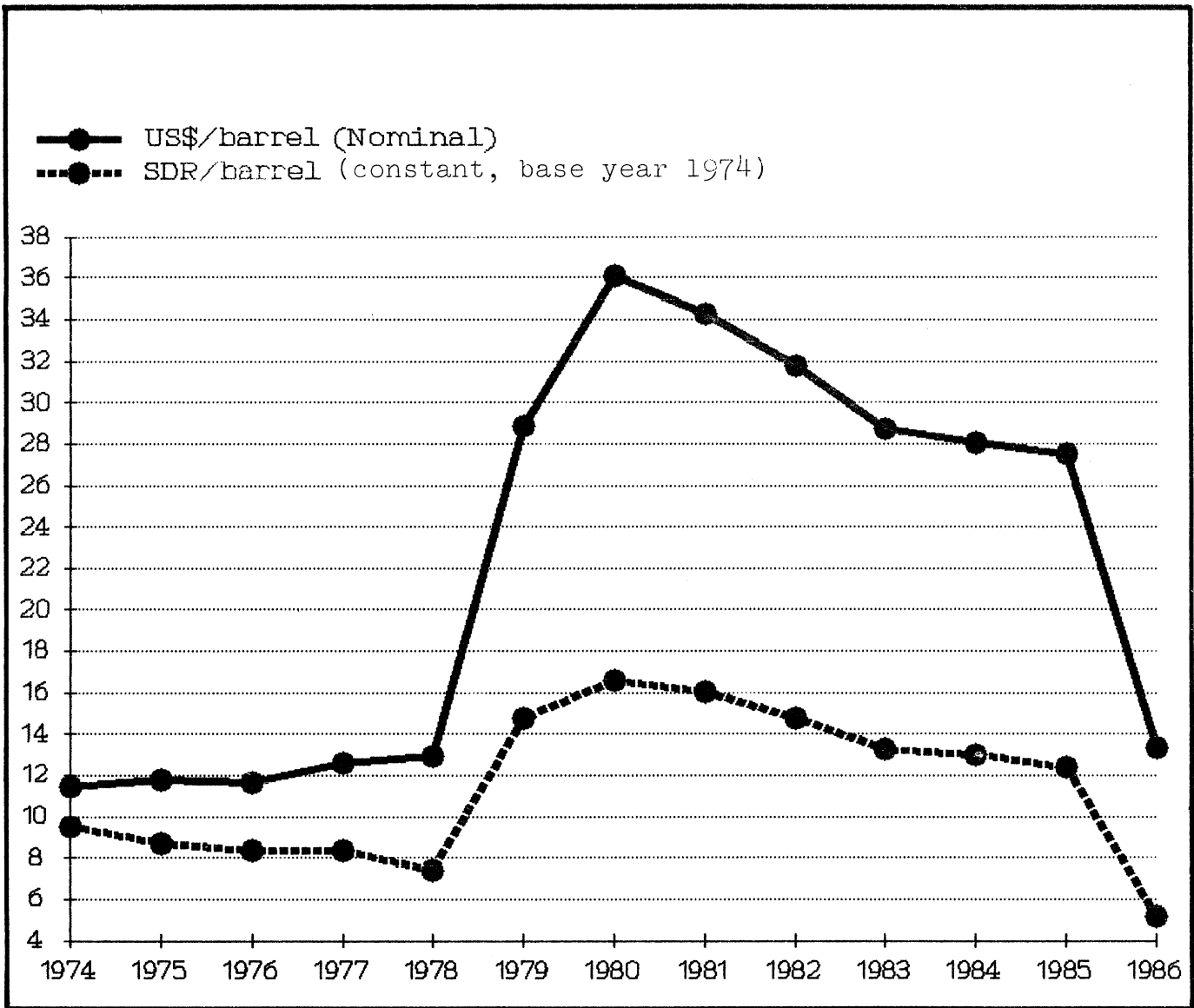
the region's economies on oil revenues and the relatively insignificant debt burdens of the region's economies (except for Egypt) relative to other regions of the world, particularly Latin America. For instance, for the oil price level of $20 per barrel, the combined losses of oil exporters are put at around $20 billion compared with the combined gains of oil importers of $1.4 billion, amounting to 7 per cent of the losses; for $15 per barrel, the combined losses are $31 billion against $2 billion gains; and for $10 per barrel, the combined losses are $43 billion against $2.8 billion gains.

The major implication of the drastic fall in oil prices in recent years is practically an annual income transfer, in a substantial amount, from the ESCWA region to oil-importing countries elsewhere in the world, mainly industrialized countries, particularly the United States, Japan and European Economic Community (EEC) countries, and to a far lesser extent, oil-importing developing countries. Calculations made for this study show that the income transfer from the ESCWA region to the rest of the world is enormous, even under the most favorable scenario. Of course, one could argue that the opposite occurred during the oil price increases of the earlier years.

B. Required cut in imports

The impact of falling oil prices can also be measured as a percentage of imports, i.e., the cut in imports which would be required if borrowings or non-oil incomes are not increased (see figure 6 and table 6). Once again, the high percentage of 28.5 for the ESCWA oil-exporting group contrasts sharply with a relatively low 10 per cent, for ESCWA oil importers, for $20 per barrel, 44.3 per cent against 14.6 per cent for $15 per barrel; and 60.2 per cent against 20.5 per cent for $10 per barrel. It goes without saying that regional figures disguise wide variations between countries in the ESCWA region. For all price levels, Saudi Arabia suffers an income loss far greater than any other oil exporter in the region, followed far behind by the United Arab Emirates, Kuwait and Qatar.

For the oil-importing group, the largest beneficiaries measured in absolute gains and percentage of imports, albeit very small compared with the losses of oil exporters, are Bahrain and Democratic Yemen. The combined beneficial impact becomes quite substantial for all oil-importing countries when the oil price drops as low as $10 per barrel.

C. Interest income loss

The above figures do not include the interest income loss from overseas liquid assets accumulated by oil-exporting countries as a result of a drop in interest rates world-wide. Using the Bank of England's estimates of government investment and bank deposits abroad by the Gulf Co-operation Council (GCC) countries at the end of 1985,[7] their income losses at different oil price levels can be roughly estimated as shown below.

7/ Far Eastern Economic Review, 13 November 1986, p. 101.

Figure 5. Impact of falling oil prices on ESCWA oil exporters and oil importers

Impact of $ 10/b Oil Price
- Loss or gain ($m)
- Interest Saving ($m)

BGY IRQ KUW OM QAT S.Ar UAE/BAH DYem JOR LEB SYR YAR
Oil Exporters / Oil Importers

Impact of $ 15/b Oil Price
- Loss or gain ($m)
- Interest Saving ($m)

BGY IRQ KUW OM QAT S.Ar UAE/BAH DYem JOR LEB SYR YAR
Oil Exporters / Oil Importers

Impact of $ 20/b Oil Price
- Loss or gain ($m)
- Interest Saving ($m)

BGY IRQ KUW OM QAT S.Ar UAE/BAH DYem JOR LEB SYR YAR
Oil Exporters / Oil Importers

Note: Numbers in parentheses are combined impacts as a percentage of total 1984 imports.

Figure 6. **Net gain or loss as a percentage of total imports at various oil price levels**

A. Oil Exporters

- ■ $20/barrel
- ▨ $15/barrel
- ☐ $10/barrel

Egypt   Iraq   Kuwait   Oman   Qatar   S.Arabia   UAE

B. Oil Importers

- ■ $20/barrel
- ▨ $15/barrel
- ☐ $10/barrel

Bahrain   Dem Yem   Jordan   Lebanon   Syria   Yemen
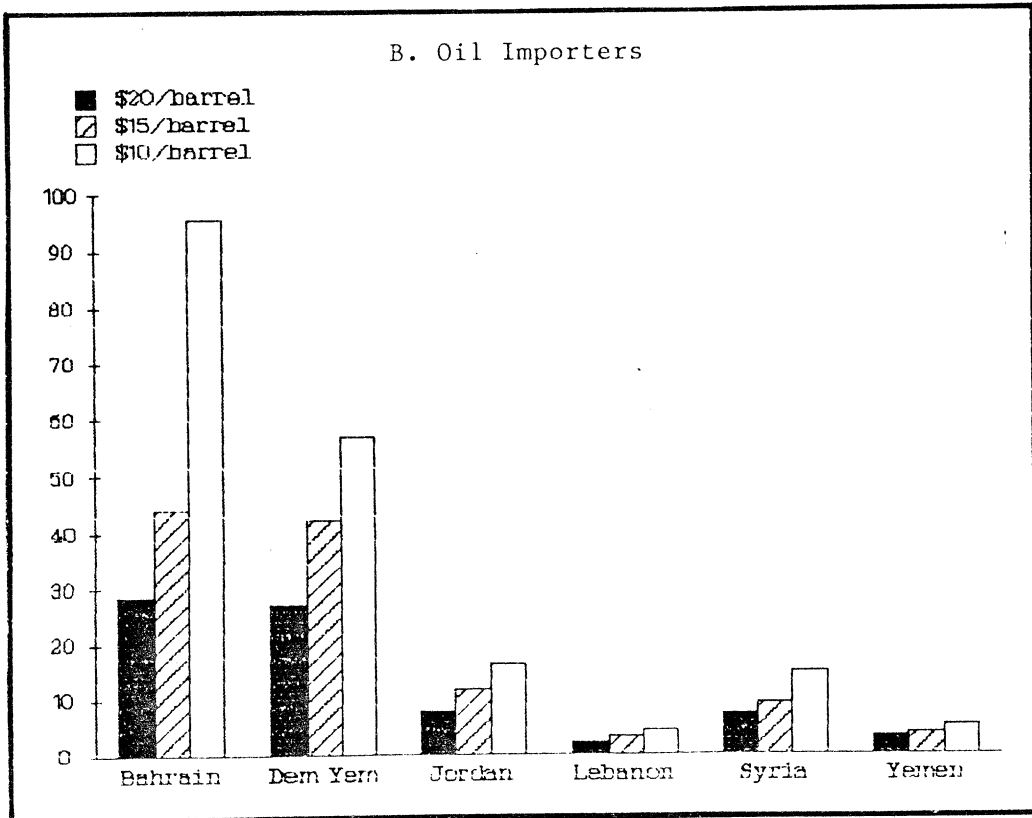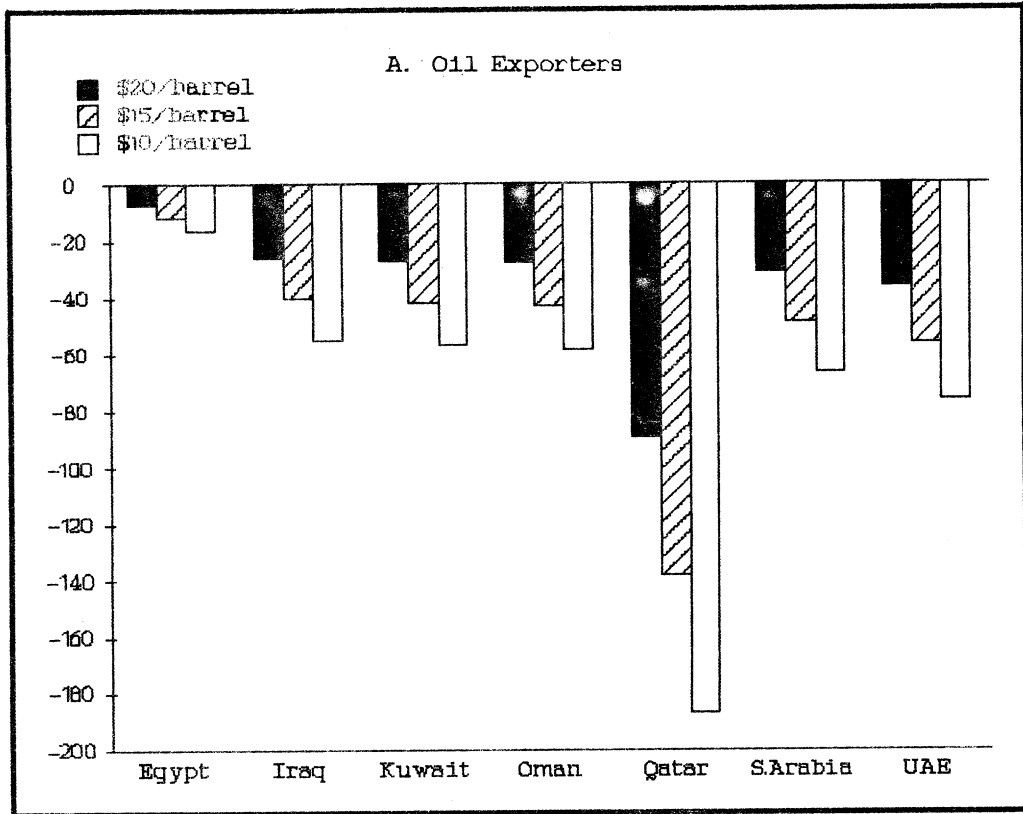
Estimated interest income losses on overseas investment at end-1985
(Billions of US dollars)

Country	Investments abroad	$20 per barrel	$15 per barrel	$10 per barrel
Kuwait	$80	0.8	1.2	1.6
Saudi Arabia	$80	0.9	1.4	1.8
United Arab Emirates	$20	0.2	0.3	0.4
Bahrain, Oman and Qatar	$15	0.2	0.2	0.3
Total	$195	2.1	3.1	4.1

Source: The Bank of England, 1986.

In general, adverse interest effects on overseas assets are not likely to add significantly to the losses of oil exporters in the region, as they usually do not amount to more than 10 per cent. The major exception is Kuwait, which has significant investments abroad. The income from these investments usually competes with the oil revenues of Kuwait. Kuwait's oil income loss drastically increases by about 40 per cent at all price levels when the interest income loss on overseas investments is taken into account.

III. IMPACT OF FLUCTUATIONS IN FOREIGN EXCHANGE RATES

A. Impact on import bills

Given the relatively narrow industrial base and the openness of most oil-exporting countries in the ESCWA region, these countries tend to be highly import-dependent, and the imports are financed by foreign exchange earned mainly from oil exports. In these countries, the use of foreign exchange earnings from oil exports for the direct imports of goods and services is a major determinant of the level of imports. Furthermore, the government domestic spending influences a large part of the private income and spending via the multiplier mechanism, which in turn quickly generates private demand for foreign goods and services or savings held overseas, owing to the relatively limited productive capacity of these countries to produce a wide range of goods and services.

In the 1970s, understandably reflecting their serious concern over the vulnerability of a single-resource economy, oil-exporting countries in the region had embarked on ambitious development programmes with a heightened sense of urgency and zeal. The determined efforts of ESCWA/OPEC (Organization of Petroleum Exporting Countries) countries to develop viable self-generative economies were clearly reflected in the phenomenal growth of imports from $2 billion to $60 billion between 1970 and 1980, a 30-fold increase, for the five ESCWA/OPEC member countries combined (Iraq, Kuwait, Qatar, Saudi Arabia and the United Arab Emirates.[8] Particularly notable is the rapid import growth in Saudi Arabia, from $704 million in 1970 to $30 billion in 1980 (around 43-fold).[9] Even allowing for rapidly rising import prices in this period, the magnitude of imports of ESCWA/OPEC member countries is quite significant.

However, since 1980 when the oil price peaked and began its continued slide, the strong secular growth trend of imports for all ESCWA member countries except Egypt reversed, as shown in table 7. The ESCWA total imports declined by about 6 per cent, from $84 billion in 1980 to $79 billion in 1985, and for the five ESCWA/OPEC member countries mentioned above were down by 20 per cent, from $60 billion to $48 billion, during the same period; Saudi Arabia's imports dropped by 21 per cent, from $30 billion to $24 billion. The major part of this fall in imports was caused by the sharply reduced oil revenues of these countries. In addition, the completion of most of the infrastructural projects and basic industry investments in the Gulf States partly explains a reduced import demand in these countries.

However, even at this substantially lowered level of imports in 1985 compared with 1980, a total import sum of nearly $50 billion per year is quite a sizeable amount to reckon with. In particular, the size of the sum merits

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8/ United Nations Economic Commission for Western Asia, External Trade Bulletin of the ECWA Region, (Baghdad, 1983).

9/ Ibid.

paying close attention to various import sources in the light of the violent fluctuations of major currencies in recent years. ESCWA importing countries are expected to suffer substantial foreign exchange losses or reap savings depending on whether the dollar value goes up or down against other major currencies, particularly the deutsche mark, Japanese yen, and British pound, since EEC countries and Japan together with the United States accounted for 63.3 per cent of the total imports into the ESCWA region in 1985 and 77 per cent of total imports into Saudi Arabia alone (see table 7). Since the oil revenues are earned in dollars, the import shares of major trading partners become critically important. Figure 7 and table 7 indicate the shares of the United States, Japan and EEC countries in the ESCWA region's imports in 1980 and 1985. Usually the structure of the origins of the region's imports does not respond significantly to changes of prices or exchange rates. Most ESCWA countries are highly import-dependent on non-United States import sources and this has important implications for the foreign exchange losses or gains on imports. Table 7 shows that the combined shares of Japan and EEC countries in the total imports of Saudi Arabia in 1985 were 56 per cent; these shares amounted to 41 per cent for Egypt, 51 per cent for Iraq, 60 per cent for Kuwait, 64 per cent for Oman, 62 per cent for Qatar, and 59 per cent for the United Arab Emirates.

Figure 8 (see table 8) illustrates possible foreign exchange gains and losses on imports resulting from fluctuations in the dollar exchange rates vis-a-vis the Japanese yen and the European currencies. First, one should look at the impact of the United States dollar's appreciation between 1980 and 1985. The dollar appreciated by about 9 per cent against the Japanese yen, 15 per cent against the SDR and 25 per cent against the deutsche mark during this period, as can be seen in figure 2 above. Using the 1980 ESCWA import shares of these countries (given in table 7) and assuming the SDR, which is a basket of major currencies which include the United States dollar and the Japanese yen, is a reasonable approximation for the average value of the European currencies, foreign exchange amounts saved on oil producers' imports as a result of the higher dollar value against other major currencies are summarized in figure 8. In 1982, the greatest beneficiary was Saudi Arabia, with combined gains of $2.2 billion on imports from Japan and EEC countries, which represent 8 per cent of the 1980 total imports. Iraq enjoyed the second largest gains with combined foreign exchange savings of about $1.2 billion representing 8.4 per cent of its total import values, followed by the United Arab Emirates, with a gain of $0.6 billion (7 per cent of its total imports), and Kuwait, with a saving of $0.45 billion (7 per cent of its imports).

The negative impact of the dollar depreciation in recent years seems to be far more pronounced, despite a considerable drop between 1980 and 1985 in imports of the ESCWA countries, except for Egypt, Jordan and Oman. This was mainly due to a much sharper decline in the value of the dollar between the beginning of 1985 and April 1987, i.e. a 65 per cent depreciation against the Japanese yen, a 62 per cent decline against the deutsche mark and a 27 per cent depreciation against the SDR. Based on the import shares of Japan and EEC countries including the Federal Republic of Germany in 1985, as given in table 7, foreign exchange losses on imports from these countries due to dollar depreciations are presented in table 8. Most striking is again the substantial loss suffered by Saudi Arabia, with a combined loss of $5.2 billion on imports from Japan and EEC countries accounting for over 22 per cent of its total

Figure 7. Origin of imports into the ESCWA region, 1980 and 1985

A. 1980

F.R.Germany % ──────────

Japan %

Other EEC % ────► 20.7

8.96   14.99

USA %

13.3

United Kingdom% ──────

7.46

34.59

Rest of World %

B. 1985

F.R.Germany % ──────────

Japan %

Other EEC % ────

22.67

7.86   14.09

USA %

12.96

United Kingdom% ──────

7.7

35.72

Rest of World %
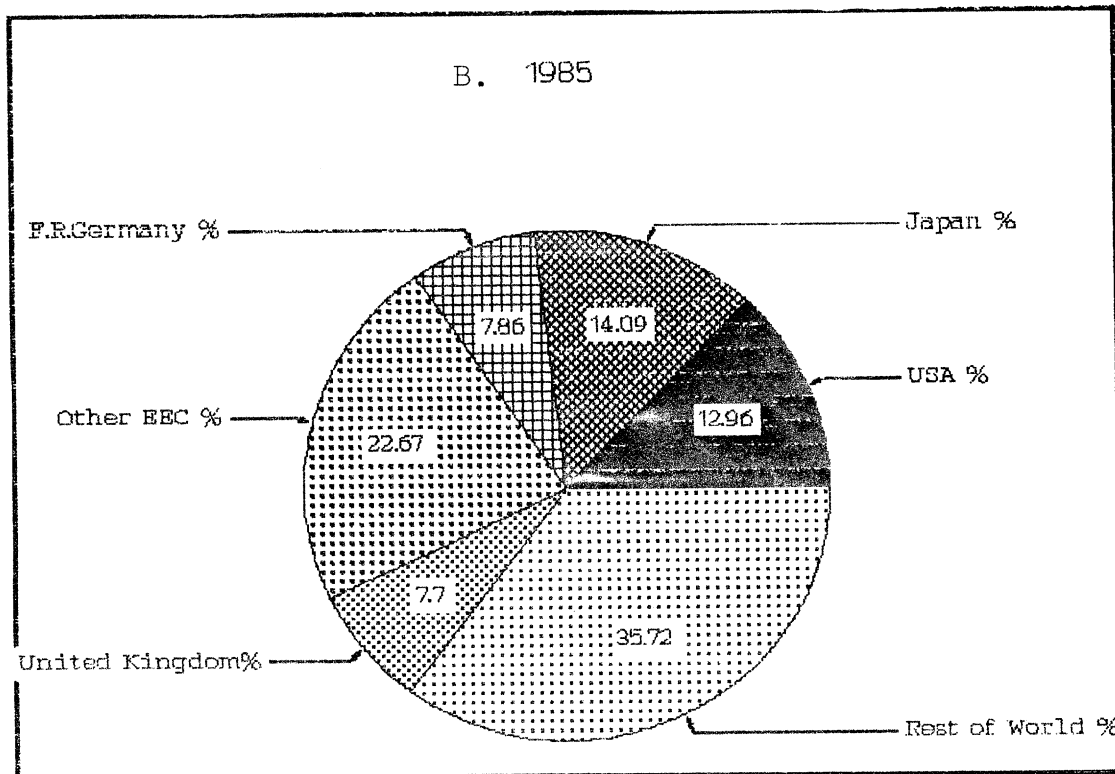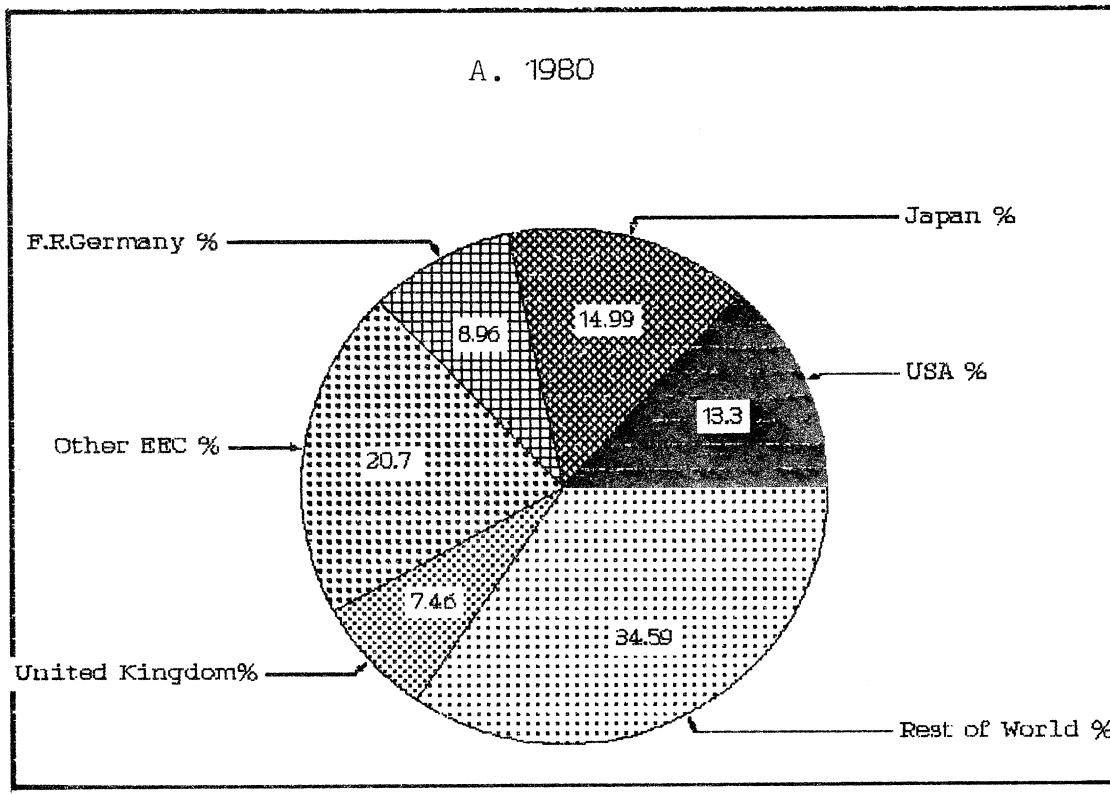
Figure 8. Foreign exchange gains and losses $US mn
(Millions of United States dollars)

Gains From 1980-82 US$ Appreciation*
Losses From 1985-87 US$ Depreciation**
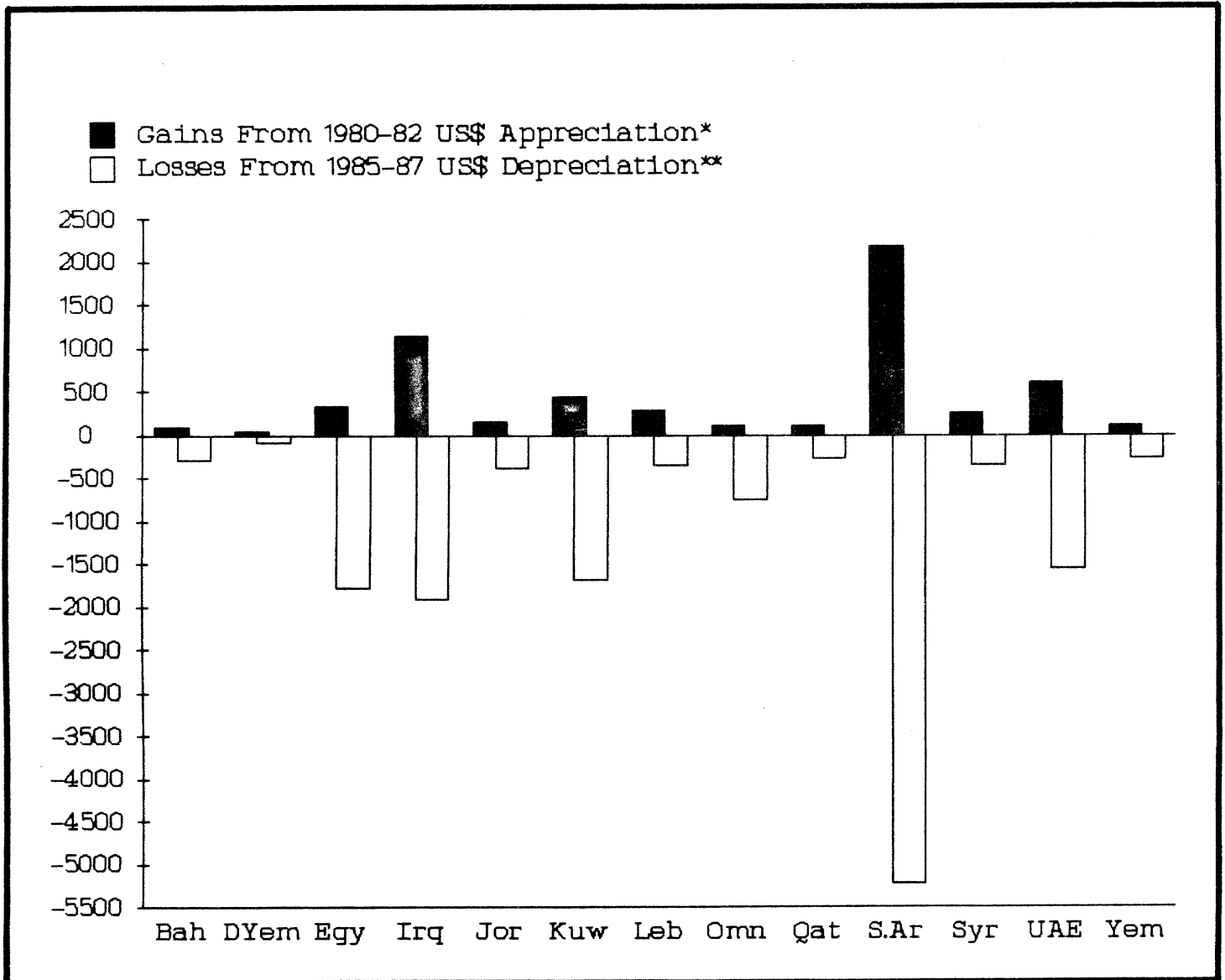
* Based on 1980 import levels.

** Based on 1985 import levels.

imports. In other words, Saudi Arabia would have saved about $5 billion from its import bills each year if the value of the dollar had not plunged. The losses of other oil producers are also severe: $1.9 billion (19 per cent of imports) for Iraq; $1.7 billion (26 per cent) for Kuwait; $1.6 billion (23 per cent) for the United Arab Emirates; $1.8 billion (13 per cent) for Egypt; $0.75 billion (25 per cent) for Oman and $0.3 billion (22 per cent) for Qatar. The most dramatic change between 1980 and 1985 is a remarkable increase in Japan's exports to the ESCWA region and considerable foreign exchange losses suffered by the region's oil exporters as a result of the recent steep rise in the value of the yen against the dollar, which, in every country except Egypt, amounted to one fifth or more of their total import bills.

B. Impact on overseas investment return

Exchange rate risks, furthermore, go beyond the losses involved in the imports of goods and services. Measured from a dollar-based investor's viewpoint, overall returns in dollars on currency investments in 1986 were five times greater when the dollars were invested in Swiss francs, yen and deutsche mark, with an average return of 34 per cent, than when the same amounts were invested in dollars, which yielded an average return of 6 per cent. To the extent that the liquid assets held abroad by the ESCWA member countries, mainly the Gulf States, are dollar-denominated, their losses on currency investments are quite substantial, given the considerable sums of estimated foreign assets owned by these countries. Worse yet, the value of their assets and the dollar portion of international reserves are also significantly eroded in terms of major currencies other than the dollar. However, there are some indications that some ESCWA countries holding liquid assets in the United States, redeposited some of them in other industrialized countries, particularly in Japan. During the second quarter of 1986, $6 billion in deposits were withdrawn by OPEC member countries, mainly ESCWA/OPEC countries, from the United States and reinvested elsewhere.[10]/

C. Impact on national currencies

Furthermore, the collapse of the oil price and in the exchange rate of the United States dollar has forced the ESCWA member countries, and particularly oil producers, to devalue their currencies, among other adjustment measures responding to external shocks; this devaluation further escalated their import costs. For instance, the Saudi riyal was devalued on 1 June, 1986 by 2.75 per cent (to 3.75 riyals per dollar). Yemen devalued its rial by 10 per cent in January 1986 (to 7.25 riyals per dollar) for different reasons, including a sharp fall in aid and remittances from major oil countries of the region. Yemen's currency has since been devalued in stages to 10.5 rials per dollar. Other countries in the ESCWA region which devalued their currencies to varying extents in 1986 include Egypt, Lebanon and the Syrian Arab Republic, while Bahrain, Jordan, Qatar and the United Arab Emirates so far have ridden out the reverse oil shock without resorting to devaluation. However, the currencies which are based on the US dollar, though nominally not devalued, have had their purchasing power eroded, in line with that of the dollar.

10/ _Middle East Economic Digest_ (MEED), 20 December 1986.

The potential danger of currency devaluation is the cumulative imbalances that devaluation may trigger, such as deterioration of the terms of trade, currency speculation and flight of capital. This, in turn, may further aggravate the current account deficit, forcing the country in question to accept another round of devaluation, destabilizing currency speculation, flight of capital and further pressure on the current account balance.

D. Need for improved portfolio management

The above analysis raises one fundamental question of how best to adjust to the rapidly and continuously shifting exchange rates of major trading partners so as to minimize the negative revenue impact of the depreciation of the United States dollar, the currency in which the oil payments are made. There seems to be little scope for adapting the sources of imports according to the vagaries of exchange rate fluctuations. Changing import sources may not be practical; it may even be hazardous, given the extreme volatility, rapidity and unpredictability which characterizes the international currency markets. Breaking long-term links with the suppliers of goods and services of reliable quality for a risky short-term gain may prove to be ill-advised and even backfire if the currency movement should suddenly reverse its direction. Furthermore, it should be borne in mind that the exchange rate risks work both ways. Until recently, the world economy had to grapple with the problem of the over-valued dollar, while the region was enjoying a strong dollar. The gains and losses may cancel out over the long-run movements of major international currencies.

However, there seems to be room for more rational portfolio management of liquid assets and international reserves to minimize the erosion of their values and maximize returns on currency investments. Obviously, there is the need for building up financial expertise and administrative capacity to respond in both a timely and flexible manner to rapidly changing conditions of the markets so as to achieve and maintain an optimal mix of foreign currency deposits, short-term and long-term assets and foreign exchange components of the international reserves. It is the unprecedented growth in world capital markets that is causing most of the radical changes and producing the most powerful external shocks. In recent years, the huge volume of international capital movements is estimated to have dwarfed the value of world trade by a factor of between 10 and 25,[11]/ albeit the fairly rapid growth of the latter. Furthermore, private flows, especially through the intermediation of commercial banks, have increased phenomenally in relation to the stagnant official flows.[12]/

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[11]/ R. Pennant-Rea, "Everybody's business: international monetary reform, a survey", The Economist, 5 October 1985. The study reports that the estimated volume of international capital movements in 1984 amounted to between $US 20 and $US 50 trillion while a total trade value of about $US 2 trillion was estimated.

[12]/ D.T. Llewellyn, "The international monetary systems since 1982: structural change and financial innovation", in Markets and Authorities: International Monetary Adaptation, 1972-1985, M. Posner, ed. (Washington, D.C., International Monetary Fund, 1986).

When an economy is open and vulnerable to international capital markets as the GCC countries are now, and considerable amounts of recycling surplus capital are at stake, the importance of developing and expanding a financial capacity to respond and adjust effectively to ever-accelerating changes in the international capital markets cannot be over-emphasized as a crucial element of development strategy.

IV. IMPACT OF CHANGING OIL PRICES ON OIL REVENUES

The oil price is a key determinant of oil revenues, and finding the right price to maximize oil revenues over time seems problematic, to say the least, given the fragility and volatility of oil markets and the variety of cost structures connected with the present oil supply.

A. ESCWA/OPEC share in the oil market

The ESCWA/OPEC member countries are facing the dilemma of higher prices with a lower market share or lower prices with a higher share in the market. The double price hikes in the 1970s reduced the demand for oil through conservation, substitution and recession. High prices have been sustained until recently by OPEC drastic cutbacks in oil production. However, between 1974 and 1979 the OPEC share of the world output fell only slightly, from 53 to 47 per cent of the market, while the ESCWA oil producers share remained constant at 27 per cent. By contrast, since 1979, the OPEC share has fallen steeply to 28 per cent, along with the ESCWA share which was down to 16 per cent by 1985. On the heels of the OPEC decision to regain its fair share of the market in 1986, the OPEC share nudged up to 30 per cent, and the ESCWA share up to almost 20 per cent. More seriously, the output of OPEC was slashed by 48 per cent and that of the ESCWA countries by 51 per cent between 1979 and 1985 (see figure 9 and table 9). It is also obvious from figure 10 (table 10) that the rapid decline in the ESCWA share of the world oil production in the first half of the 1980s was predominantly absorbed by a drastic cutback in Saudi Arabia's production.

B. Implications of alternative oil price behaviours patterns

The central question is then whether oil-producing countries might have fared better in terms of revenue flows if the oil prices had been rising in orderly incremental steps instead of fluctuating violently as they have done since 1973. The present study attempts to examine further the revenue implications of alternative oil price behaviour patterns, and makes a few strong assumptions.

1. Nominal and real oil revenues

Figure 4 contains a comparison of the oil prices for the period 1974-1986, represented by the "Arab light 34°", in nominal and real terms. Real term prices are measured by the SDR unit, deflated by the combined inflation rate of the industrialized countries. Using these prices with the total oil exports of the ESCWA region, one can arrive at the approximated actual revenues in United States dollar nominal terms as well as at the approximated revenues in real terms. Figure 11 (see table 4 and table 11) plots nominal revenue in United States dollars and real revenue in SDRs.

The difference between these curves reflects exchange rate differences between the United States dollar and the SDR as well as the inflation of the SDR represented by the industrialized countries gross national product (GNP) deflator. As can be seen in figure 11 and table 11b, real revenues are only about 52 per cent of the actual nominal revenues during the entire 1974 to 1986 period.

2. Impact of gradual oil price increase on revenues

The first assumption is that the policy on ESCWA/OPEC countries was centred on gradual and predictable oil price increases in real terms and on making the supply respond to the world demand for oil, with the emergence of new suppliers trying to make the oil price an independent variable. An attempt has been made to see what would have happened to the volume of revenues for the whole period. Since the fluctuations of oil prices were so violent, statistical methods for fitting the oil prices as a function of time failed to bring about an acceptable fit. A simple method was then used, involving calculation of the estimated average price measured by real SDRs for the whole period. The average price was about 11.76 SDRs (base-year 1970). An average constant increase of 0.373 SDRs was arrived at, representing the gradual annual increase according to the assumption. Hence, fitted oil prices in real SDRs were used to calculate the revenues in real terms, assuming that the annual volumes of oil exports are only in response to the world demand in quantity. The total revenues calculated this way are almost equal to the total real revenues as shown in figure 12A and table 11A. Then the US dollar equivalent of oil revenues was calculated, based on fitted real SDR prices; the total is close to the estimated actual oil revenues in US dollars in nominal terms as depicted in figure 12B and table 11A.

The forces of the market mechanism do not really work this way. The issue is, however, that if one assumes that the gradual increase of oil prices in real terms was the policy of ESCWA/OPEC and this policy was successful, the same amount of revenues would have been earned by ESCWA member countries over the period discussed. The unexpected large amounts paid by oil importers were a shock to them and they were also a shock to the oil exporters themselves, given their limited absorptive capacity. Hence, the goal is to convince oil exporters to focus on price stability and to try, in co-operation with non-OPEC producers, to the fullest extent possible to make price stability a corner-stone of their policies.

3. Hypothetical and actual oil prices

The implications of alternative oil price behaviour patterns, can be determined by including assumptions regarding oil production and export. They can also be determined by another technique based on hypothetical oil prices and revenues to be compared with actual revenues in nominal terms. Here a hypothetical trend in oil prices is constructed, using 1974 as a base year, by indexing oil prices to the nominal GNP growth rates (inflation and real output growth rate) of the United States, the Federal Republic of Germany and Japan. If oil prices had risen gradually in real terms, then nominal GNP growth rates should provide an appropriate measure for such a trend. Secondly, based on hypothetical trend prices derived in the previous step, hypothetical oil revenue flows in the 1979-1986 period were calculated, corresponding to alternative assumptions made about the oil export volumes of ESCWA countries during the period. Then a comparison was made of hypothetical earnings with actual revenues for each oil-producing country in the ESCWA region. Obviously, given the simplifying assumptions and the crude method used for these calculations, the results should be interpreted with great caution and should at best be regarded as an approximation to the true but unknown values.

Figure 9. Selected ESCWA country oil production, 1973-1986
(Thousands of barrels/day)
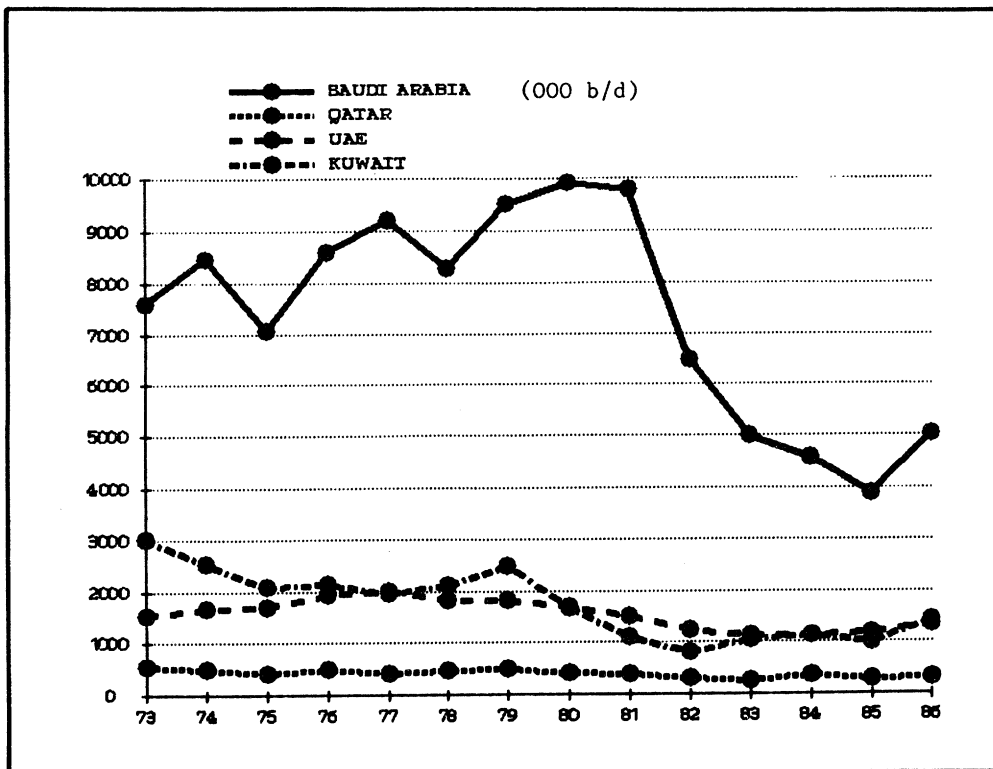
Figure 10. ESCWA and OPEC share of world oil production, 1973-1986
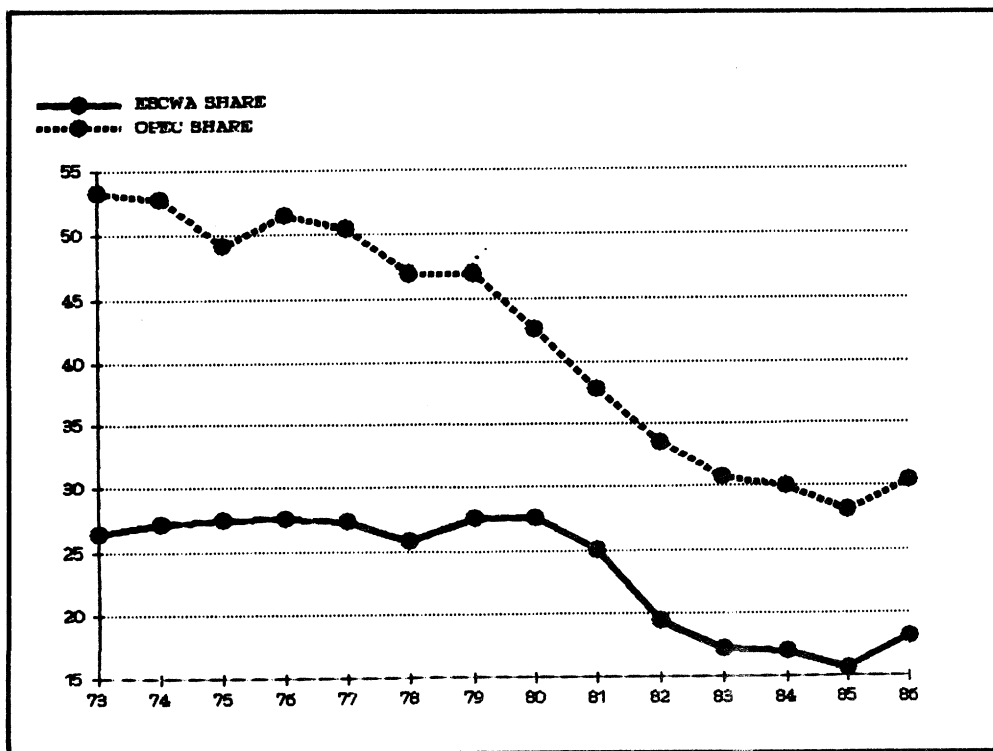
Figure 11. **Nominal and real oil revenue, 1974-1986**
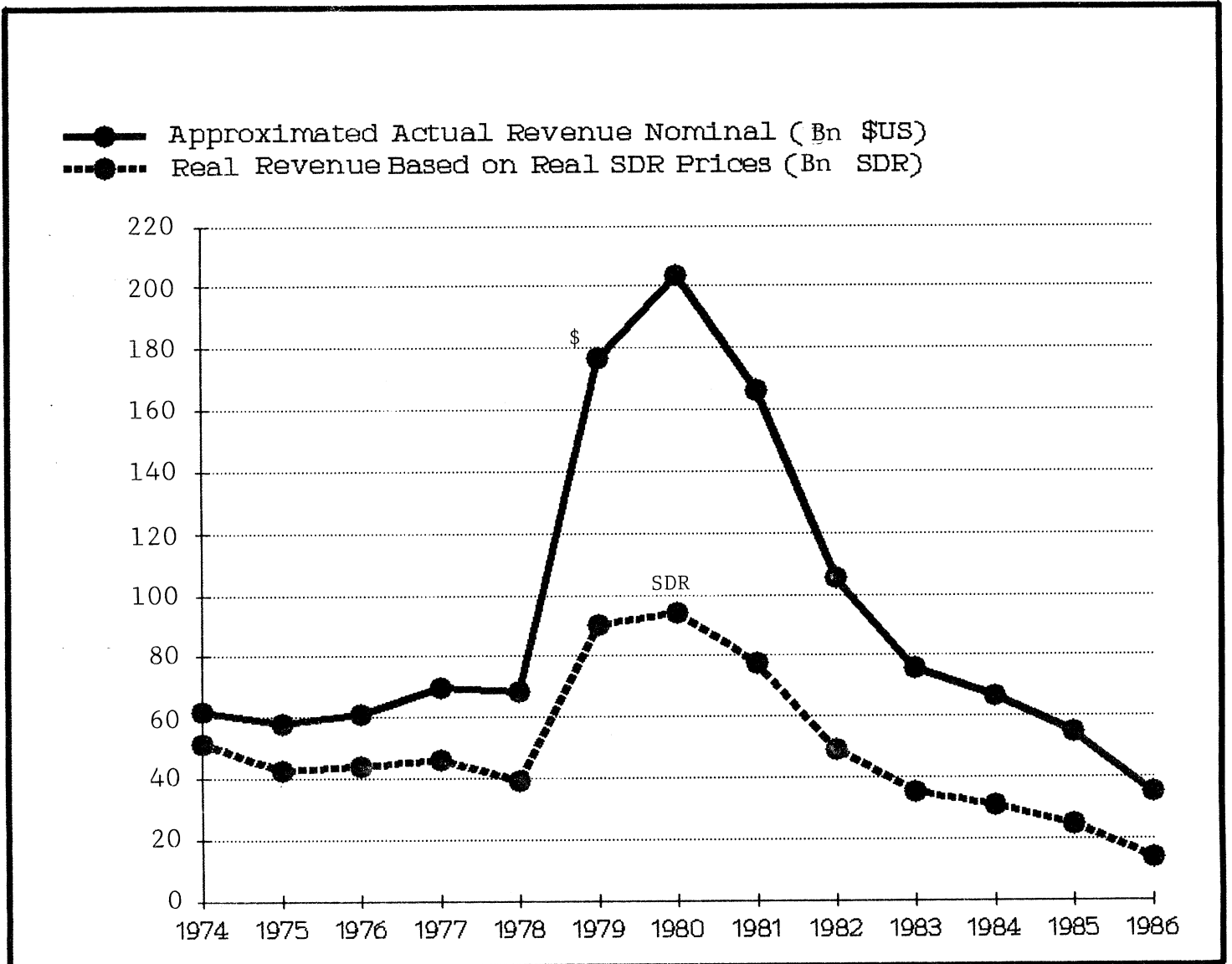
Figure 12A. **Real oil revenue based on fluctuating and steadily increased real prices, 1974-1986**
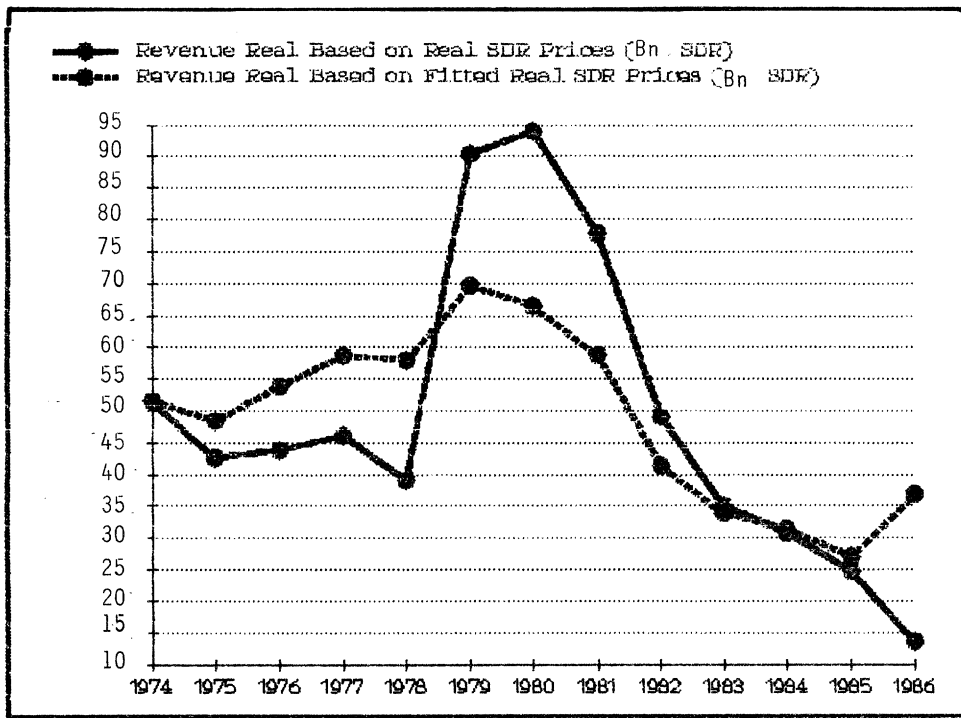
Figure 12B. **Nominal oil revenue compared with that based on US dollar equivalent of steadily increased real prices, 1974-1986**
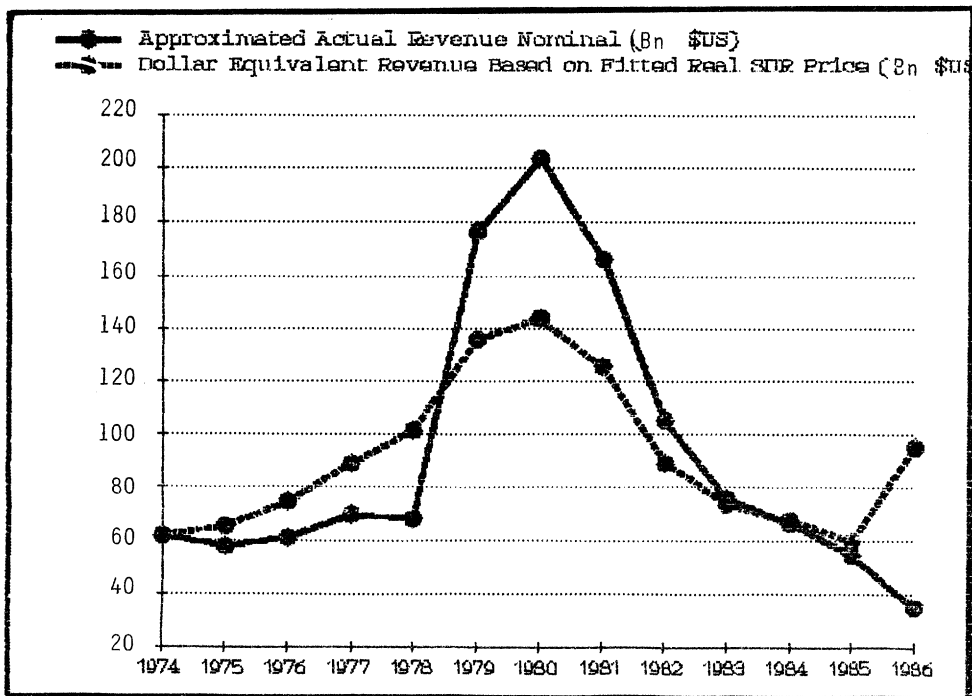
Figure 13a (table 12) describes the movement in actual dollar oil prices compared with a hypothetical trend in oil prices indexed to the growth rates of nominal GNP in the United States. The figure shows that oil prices remained slightly below the trend line until the second oil shock in 1979 but abruptly shot up well above the trend line in 1979 and 1980, then descended rapidly below the trend line in 1984. With the price now well below the trend line, and ESCWA oil exporters' output much less than in 1979 (see figure 10), most ESCWA oil exporters' revenues have fallen well below their hypothetical revenues as illustrated below by the individual country cases. Furthermore, the current softness of the market points to the strong likelihood of the price staying well below the trend line until the beginning of the 1990s.

Actual oil prices in deutsche mark, and a trend line indexed to the growth rates of the Federal Republic of Germany's nominal GNP (figure 13b) show a time profile similar to that of the US dollar-denominated oil prices, except that after 1979 the gap between actual prices, and the trend line was even wider in the Federal Republic of Germany's case than for the United States, and actual prices dropped below the trend line a few years later than the United States case, namely between 1985 and 1986. Much of the difference in the figure relates to the dollar's strength in recent years up to 1985, implying that the Federal Republic of Germany benefited from lower oil prices only after 1985.

Likewise, the picture presented by actual oil prices and a trend line in Japanese yen (figure 13c) provides a similar profile. However, because of a far smaller appreciation of the dollar against the yen (by 14 per cent) than against the deutsche mark (by 40 per cent) between end-1981 and end-1984, coupled with relatively high growth rates of Japan's GNP, actual oil prices in Japanese yen began to fall below the trend line in 1983, much earlier than the United States or the Federal Republic of Germany's case. In Japan, the gap between the actual and hypothetical prices was the smallest of the three cases presented in figure 13 between 1979 and 1983. On the other hand, the divergence between the actual and hypothetical prices in Japan was the largest of the three cases (see figure 13) in 1986, reflecting a sharp rise in the yen against the dollar and, to a much lesser extent, against the deutsche mark.

Now one turns to the question of what would have happened to oil revenues of the ESCWA oil-exporting countries if the oil price had followed a gradually increasing trend in step with the United States nominal GNP growth rates since 1979. It is, theoretically, expected that a gradual rise in oil prices will tend to stave off a sharp demand cut-back, such as that observed in the aftermath of the second oil shock. However, even with greater price stability some moderate reduction of demand might have been likely. Gas price deregulation in the United States is often cited as an illustrative example of what might happen to oil production because of developments other than the behaviour patterns of oil prices. Because of this uncertainty about the response of oil demand to a steadily rising price, a few alternative assumptions have been made about the export volume of oil exporters related to the trend in oil prices as follows:

Scenario 1: the oil export volume remains constant at the 1979 level;

Scenario 2: the oil export volume declines by 1 per cent per year from the 1979 level;

Figure 13. **Actual and hypothetical oil prices in dollars, deutsche mark an yen, 1973-1986**

A. Actual and Hypothetical Prices in U.S. Dollars $/b

B. Actual and Hypothetical Prices in Deutsche mark DM/b

C. Actual and Hypothetical Prices in Japanese Yen Y/b
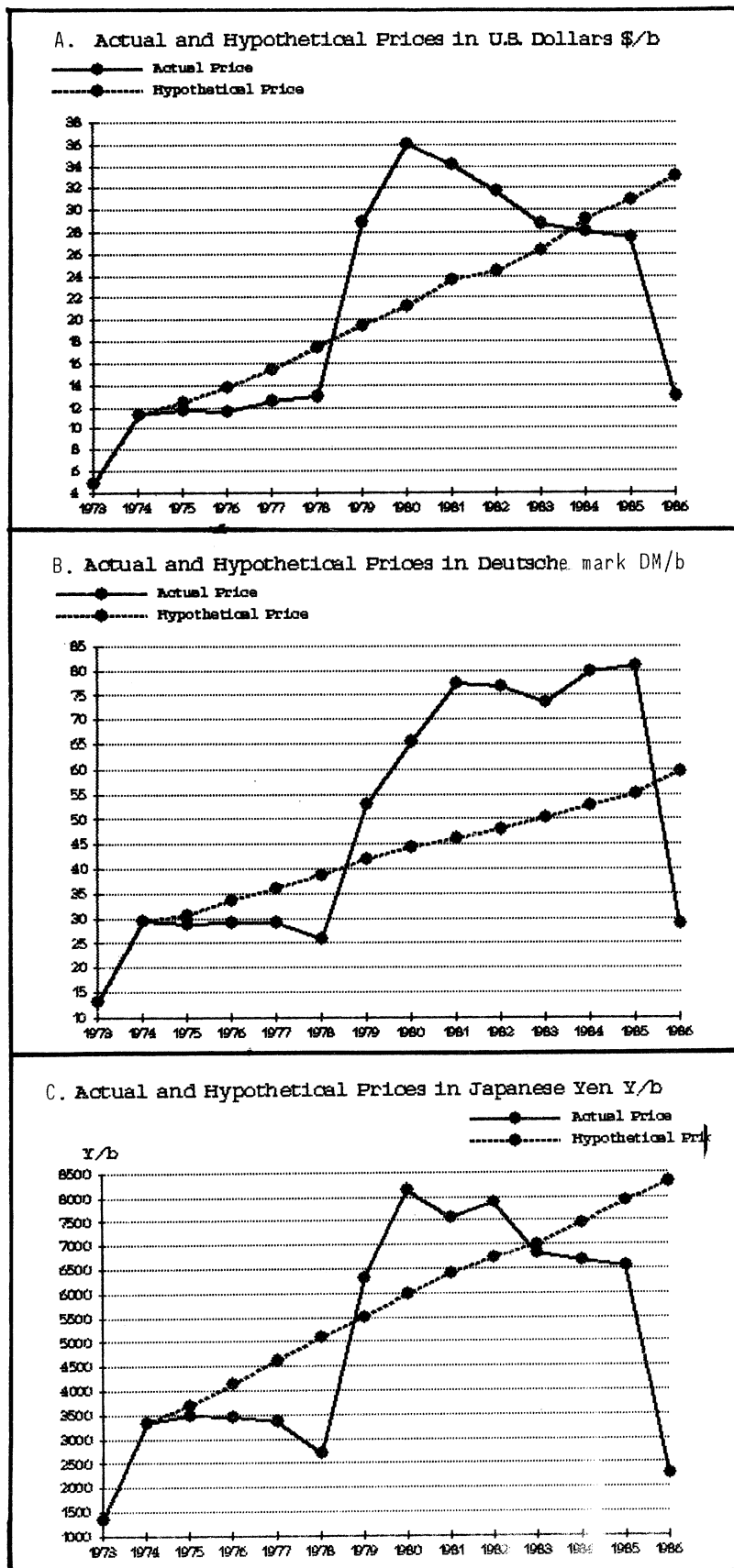
Scenario 3: the oil export volume declines by 3 per cent per year from the 1979 level.

First an across-the-board percentage decrease in the export volume is assumed. Then hypothetical oil revenues are calculated by multiplying the oil prices in dollars, based on the above trend, by hypothetical oil export volumes generated by three scenarios, while approximated actual oil revenues are estimated by multiplying actual oil prices by actual export volumes. Figure 14 (table 13) plots actual oil revenues against three hypothetical oil revenues generated by the three scenarios from 1979 to 1985 for the individual oil-exporting countries in the ESCWA region, ESCWA as a whole, ESCWA excluding Saudi Arabia, OPEC, and OPEC excluding ESCWA. The fact that Saudi Arabia accounted for over 53 per cent of total oil exports from the ESCWA region in 1979, and since that time, explains the predominant portion of wide fluctuations in the region's oil export volume as the OPEC "swing producer". Therefore, it is logical to separate the Saudi Arabian component from the ESCWA total to get a better picture of the rest of the oil producers in the region. The same reasoning applies to adjusting the OPEC total by netting out the ESCWA portion from it. Figure 15 (table 14) summarizes the cumulative oil revenues of both actual and hypothetical types and net balances between the two types under three scenarios in 1979-1986.

Figure 14(i) (ESCWA as a whole) shows that despite the sharp curtailment in oil exports to support higher oil prices, the ESCWA oil-exporting countries collectively earned above normal levels (represented by the three scenarios) for the three consecutive years of 1979-1981. However, by 1982, albeit actual dollar oil prices remaining above the trend line until 1984, further sharp cut-backs in production meant actual annual oil earnings had dropped below what they might have been had prices risen steadily with the United States nominal GNP, and the export volume decreased by 3 per cent per year from its 1979 level. Figure 15 (table 14) indicates that the cumulative balance of gains and losses in 1979-1986 for the ESCWA region as a whole shows a net loss of $391 billion under scenario 1, $342 billion under scenario 2, and $251 billion under scenario 3. Even under the most conservative assumption of a 3 per cent per annum decline in export volumes together with a gradually rising price (scenario 3), ESCWA cumulative actual oil revenues were still only slightly more than three quarters of the hypothetical earnings.

Of course, calculations of these huge potential earnings have been heavily influenced by a combination of a drastic fall in oil prices to $13 per barrel from $29 per barrel between 1985 and 1986 and a continued decline in demand. Worse yet, the end of this deteriorating situation does not appear to be in sight in the foreseeable future. All depends on whether the current OPEC official price of $18 a barrel could be sustained and if not, at what price level it would be stabilized and its effect on demand for OPEC exports. So far, the evidence seems to suggest that the fall in ESCWA oil output far outweighed the effect of higher prices.

It is apparent that the regional figures disguise wide variations between oil-exporting countries in the ESCWA region. In particular, Saudi Arabia's overwhelming dominance in the region's oil production and exports, let alone in OPEC output and exports as a swing producer, is evident. More than half of

Figure 14. Approximated actual and hypothetical oil revenues in the
ESCWA region, 1979-1986
(Millions of US dollars)

a. Egypt

b. Iraq

c. Kuwait

d. Oman

e. Qatar
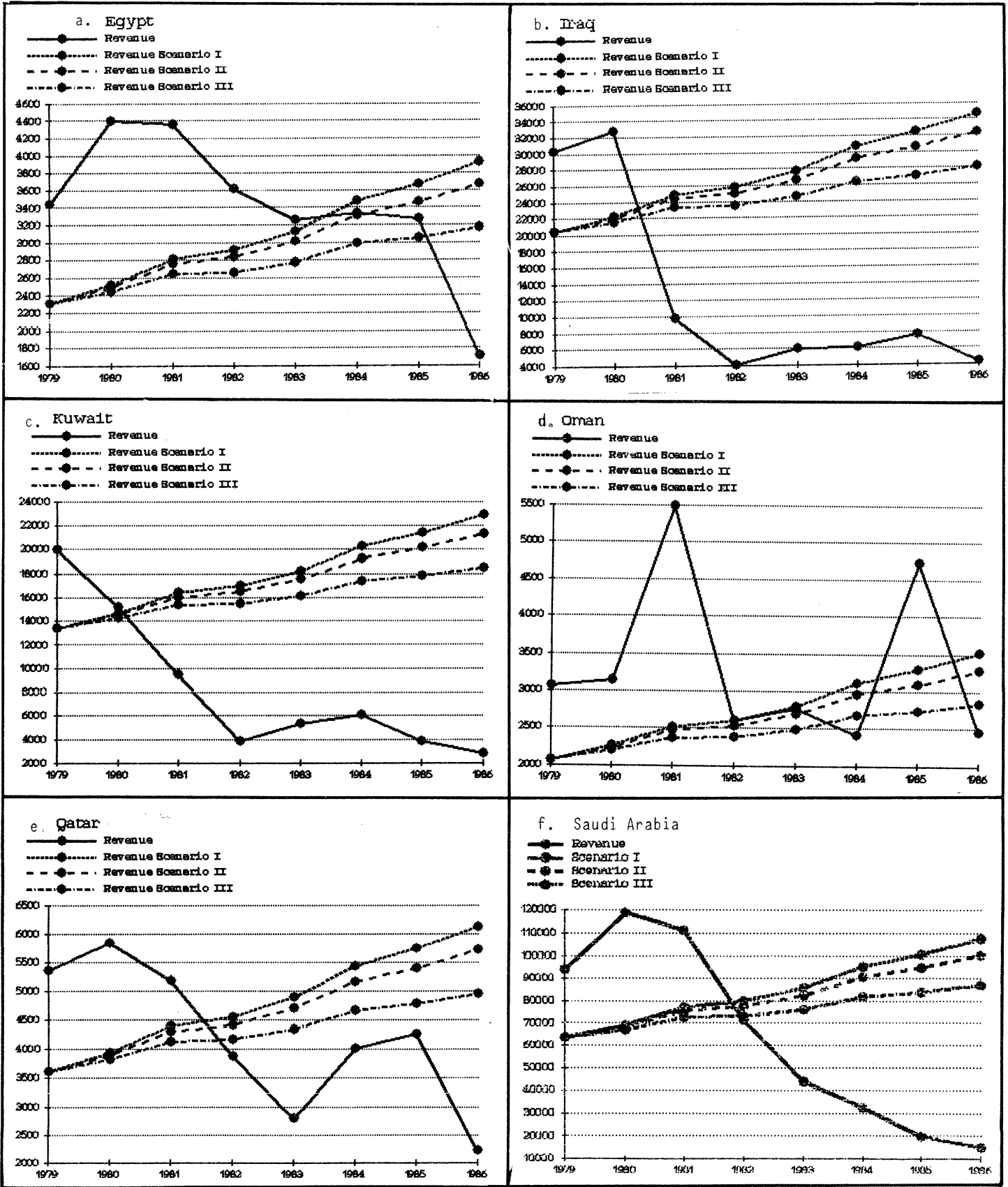
f. Saudi Arabia

Figure 14 (continued)
(Millions of US dollars)

g. Syria

- Revenue
- Revenue Scenario I
- Revenue Scenario II
- Revenue Scenario III

h. U.A.E.

- Revenue
- Revenue Scenario I
- Revenue Scenario II
- Revenue Scenario III

i. ESCWA

- Revenue
- Scenario I
- Scenario II
- Scenario III

j. ESCWA Excluding Saudi Arabia

- Revenue
- Revenue Scenario I
- Revenue Scenario II
- Revenue Scenario III

k. OPEC

- Revenue
- Revenue Scenario I
- Revenue Scenario II
- Revenue Scenario III

l. OPEC Excluding ESCWA

- Revenue
- Scenario I
- Scenario II
- Scenario III

Figure 15. Actual and hypothetical cumulative oil revenues, 1979-1986

A. ESCWA Oil Exporting Countries

$US bn

Legend:
■ Actual Revenue
▨ Scenario I
▧ Scenario II
□ Scenario III

Y-axis: 0, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700

X-axis categories: Egypt, Iraq, Kuwait, Oman, Qatar, S.Arabia, Syria, UAE

B. ESCWA and OPEC

$US bn

Legend:
■ Actual Revenue
▨ Scenario I
▧ Scenario II
□ Scenario III

Y-axis: 0, 200, 400, 600, 800, 1000, 1200, 1400, 1600, 1800, 2000, 2200

X-axis categories: ESCWA, ESCWA minus S.Arabia, OPEC, OPEC minus ESCWA

the ESCWA region's cumulative potential oil revenues lost between 1970 and 1986 were accounted for by Saudi Arabia; potential revenues ranged from $172 billion under scenario 1 to $98 billion under scenario 3. Saudi Arabia's cumulative actual earnings represented between 75 and 84 per cent of its hypothetical earning potential, depending on the assumptions about the export volume change.

Other ESCWA/OPEC member countries whose earnings could be much higher today if demand had not had to be slashed are Iraq and Kuwait. Their cumulative lost earning potential ranged between $94 billion and $118 billion for the former, and between $62 billion and $78 billion for the latter in 1979-1986. The cumulative actual earnings of both countries during the period represented only around 50 per cent of their respective earning potentials. In contrast, the rest of the ESCWA/OPEC member countries, namely the United Arab Emirates and Qatar, fared relatively much better than the three countries examined above. Although their potential losses still seem to be significant in absolute values, their cumulative actual earnings accounted for around 90 per cent of their respective hypothetical earning potentials. In sharp contrast, the non-OPEC member producers in the region, Egypt, Oman, and the Syrian Arab Republic to a lesser extent, all performed much better than their OPEC counterparts. In fact, cumulative actual oil revenues of both Egypt and Oman exceeded those of their hypothetical revenues by over 25 per cent during the period, and the Syrian Arab Republic's actual revenues slightly exceeded its hypothetical earning potential. The reason for this is obvious. Being small producers and non-OPEC members, they could offset the fall in oil prices by increasing production, if physically feasible, more than proportionately with little effect on the total world oil production. In addition, the specific oil qualities may have an effect in this respect.

The earning profile of OPEC as a whole is similar to that of the ESCWA region. Since the ESCWA region accounted for nearly 60 per cent of OPEC oil revenues in 1979-1986, it would be more meaningful to examine OPEC figures net of the ESCWA component as shown in figure 14(1). When the ESCWA component is netted out of OPEC totals, the gap between actual and hypothetical revenues both in absolute and relative terms for OPEC is considerably smaller than for the ESCWA region. For instance, ratios from data in table 14 indicate that cumulative actual revenues in relation to cumulative hypothetical revenues for OPEC, excluding ESCWA, range between 74 and 84 per cent, while the same ratios for ESCWA are between 65 and 73 per cent. This implies that the ESCWA region, and particularly Saudi Arabia in the OPEC group, bore the brunt of the potential revenue losses in the effort to support high oil prices.

The crucial question that this exercise purports to answer is whether an orderly rise in prices might have forestalled the big cut-back in demand and would probably have been to the advantage of OPEC oil producers, including those from the ESCWA region. The answer to this question depends on the circumstances of each individual oil-exporting country. It is well known that OPEC countries are not a homogeneous group. There is tremendous diversity and heterogeneity within OPEC in terms of geography, resource endowments, historical legacies, demographic characteristics and stages of development. Despite these considerable individual variations, the conventional way of classifying OPEC member countries into the two broad groups is still applicable to the ESCWA region and useful for analytical purposes. This classification

covers "low absorber or saver" countries with a low population base and a limited capacity to absorb oil revenues and "high absorbers or spenders" whose oil revenues are barely sufficient to meet their development expenditures with a growing population. All oil-exporting countries of the ESCWA region, except Egypt, Iraq and the Syrian Arab Republic, and to some extent Oman, belong to the low absorber group. The results of this exercise present different pictures for the oil exporters of the ESCWA region, according to which group they belong. Egypt, a high-absorber country of the region, actually fared better under the sharp price fluctuations, without the constraint of OPEC quotas, in the first half of the 1980s. Oman's actual cumulative revenues were greater than its hypothetical revenues by as much as 25 per cent. Likewise, another high-absorber country, the Syrian Arab Republic, was almost even under the present price system. The only high-absorber country which showed a substantial gap between actual and potential revenues is Iraq. This was caused not by a demand cut-back, but by a temporary supply bottle-neck. Even some low absorber countries like Qatar and the United Arab Emirates performed fairly well under the present system. The revenue gap for Qatar and the United Arab Emirates seems to be manageable, ranging between 10 per cent and 15 per cent. This leaves only two major low-absorber countries with a high potential revenue gap, namely Saudi Arabia and Kuwait. Saudi Arabia's potential cumulative revenue loss was put at somewhere between $150 billion and $230 billion, and that of Kuwait between $60 billion and $80 billion in 1979-1986. These losses are enormous both in relative and absolute terms. However, it could be said that the disadvantages are not without some advantage. The low-absorber oil-exporting countries of the ESCWA region have learned to economize and to manage their economies under difficult circumstances. The next step for them is to better manage the surplus in overseas assets.

What compounds the issue with more intractable problems is the behaviour pattern of oil prices in the immediate future and beyond, and their stability. If oil prices should continue to decline in the next couple of years, the conclusions obtained from the calculations based on the 1979-1986 data could be easily, even drastically, changed for a number of ESCWA member countries which have not so far shown a serious potential revenue loss. Also a critically important factor is how far and fast future oil prices drop or rise, namely the volatility and the amplitude of fluctuations in oil prices. This important question of price stability is the subject-matter of the next chapter of the paper.

V. FUTURE OIL PRICES AND THE NEED FOR PRICE STABILITY

The core of the problem in assessing the impact of falling oil prices is directly related to the two fundamental questions: the extent of the drop in oil prices and the sustainability of an oil price cut to whatever level reached, i.e., price stability.

The capricious fluctuations of commodity prices are well known. The oil price is even more capricious than most commodity prices, being extremely sensitive to a host of political, socio-economic and psychological factors. This extreme sensitivity can be partly attributed to the existence of a widely divergent cost structure among oil exporters. Instability is inevitable in any market in which commodity prices exceed by several times the production costs of major producers.

A cursory review of recent oil price movements clearly reveals the fragility and volatility of oil prices. The extreme instability of the oil prices is vividly evidenced by the recent oil price collapse to around $10 a barrel from $29 a barrel, an enormous 65 per cent fall in the short span of time between December 1985 and April 1986, before prices rebounded to their current level of $18-$19 per barrel. The dramatic drop in oil prices in that period was triggered by an excess supply of approximately 3 million barrels a day in the world market.13/ While this excess represents only around 5 per cent of total world supply a day in 1985, it has an enormous effect on the spot market. Also, oil market hypersensitivity to a temporary supply disruption of around 9 per cent of the total is demonstrated by the 1979-1980 oil crisis, with the oil price soaring from $12 a barrel to $38 a barrel in a few months.

Different assumptions about the levels of oil prices and their stability would produce vastly different results and hence, markedly different revenue and welfare implications. The question of oil price levels will be examined first and then the more important question of price stability.

At the outset, it may be useful for a better understanding of the problem to dispel the myth about OPEC ability to "fix" oil prices. This myth is buried by now on the heels of the current oil glut and the continuous fluctuation in nominal oil prices. In fact, OPEC has never been in a position to initiate price fixing, but it has always reacted to the market conditions, often with delay. In other words, OPEC has always adjusted prices after market prices (reflected by spot prices) had overtaken the official ones. The price of oil shot up in the 1970s because of rapidly escalating demand for oil in response to rapid growth in the industrial countries, and suddenly began pressing the limits of the world's oil supply. OPEC only followed the market upward. Likewise, oil prices continued to drop as world oil consumption fell from over 52 million barrels per day (mbd) in 1979 to about 45 mbd in 1985 owing to the deepening world recession, energy conservation measures, fuel substitution and changes in stock policy. Again, OPEC only followed the market downward this time.

13/ J. Amuzegar, "The oil price turmoil", Finance and Development, June 1986, pp. 14-15.

Regardless of which prices are used, real or nominal, the crucial question is whether OPEC can hold the line at the current $18 a barrel or whether a further plunge in oil prices will ensue. What are the long-term prospects for crude oil price movements?

In fact, a fair price for 1986 should not have been less than $US 24.6 per barrel (see table 15) which is the US dollar equivalent of the price level of 1974, which marked the outset of the so-called first oil boom, directly after the October 1973 War. Although at that time the price level had a shock effect on the world economy, industrialized countries have adjusted their economies to a similar price level and initiated many measures, including energy conservation and development of new and renewable sources of energy, and succeeded in the adjustment over the last 13 years. Figure 16 (table 15) plots the development of the US dollar equivalent of SDR 9.52 per barrel over the years between 1974 and 1986. This figure shows that if a fixed price were the policy of OPEC the nominal oil price should have developed steadily from $US 11.45 per barrel in 1974 to $US 24.62 per barrel in 1986, assuming the same inflation in the industrialized countries and exchange rates between the US dollar and SDR during this period.

However, there is presently a wide array of views on the prospects for crude oil price movements in international forums. On the one hand, there are those who believe that prices will continue to fall over the rest of this decade with a strong likelihood of another free-for-all open price war erupting intermittently, and those who hold the view that oil prices are likely to remain between $15 and $20 a barrel for the remaining decade before supply and demand become more balanced. The forecasts of those who hold the latter view are largely based on their projections of low economic growth and consequent low energy demand up to 1990, and a continuing fall in energy use intensity through conservation and expansion of non-OPEC sources.

On the other hand, it seems that the majority of analysts believe that the present excess supply of oil is a temporary deviation from the long-term trend of a scarcity of hydrocarbon energy sources, and that the market will swing back, tightening again the oil supply with rising prices at the beginning of the 1990s. As a result, another oil crisis may be in the offing by the mid-1990s.

It is not an easy task to untangle the various factors explaining the recent decline in oil consumption and to determine their relative importance. In the past, the Research Group of Petroleum Exporters' Policies reported that of the 12 mbd of OPEC production cut-back between 1979 and 1982 (and real figures might be higher), 3.5 mbd is explained by a temporary drop in energy demand caused by the recession, 3 mbd by conservation and switch to other sources, 2 mbd by the rise in non-OPEC production and 3.5 mbd by the oil companies drawdowns of their stockpiles.[14/] If these estimates are reasonably correct, only 25 per cent of the OPEC production cut-back is lost permanently through conservation and fuel-switching; the remainder can be expected to be regained when the world economy recovers strongly.

14/ The Economist, 29 January 1983.

Figure 16. <u>SDR 1974 oil price and US nominal dollar equivalent, 1974-1986</u>

1974 price SDR/barrel

US $ equivalent nominal price/barrel
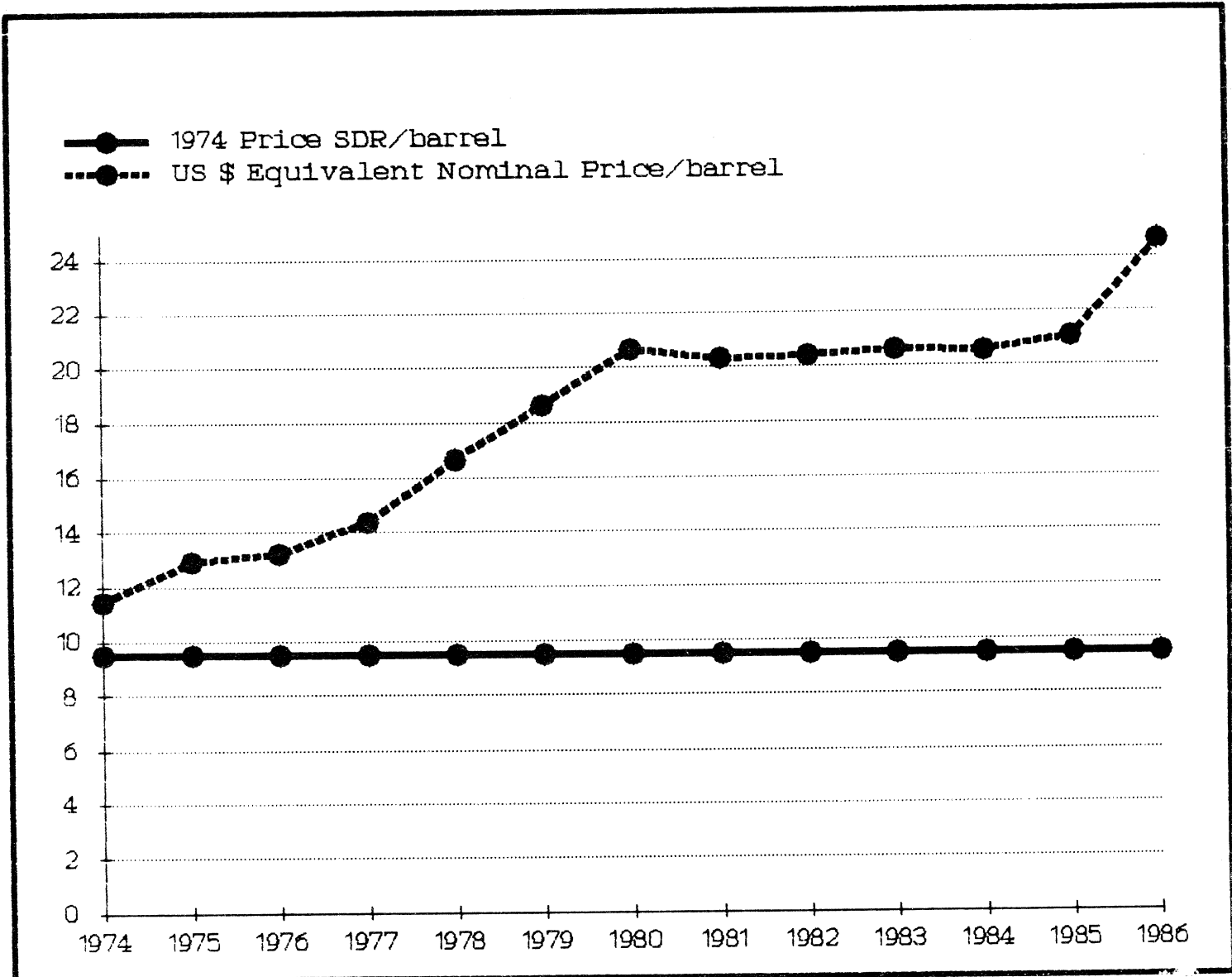
The issue of oil prices in the short and medium term remains crucial. Regardless of the call for ESCWA/OPEC to adhere to a firm price policy and although this study only deals with an outline of market forces, it shows a strong likelihood that oil prices will remain between $15 and $20 a barrel through the end of the 1980s, and begin to rise at an average of 1 to 2 per cent a year in real terms over the period 1990-1995. The actual upward movement may take the form of a sudden sharp increase in one period, as occurred in 1973 and 1979, followed by a constant but higher nominal price level being maintained in the subsequent periods up to 1995.

The following points tend to support this assessment of the possible future trajectory of oil prices:

(a) The current recession in developed countries, with over 33 million unemployed in the Organization for Economic Co-operation and Development (OECD) region, may have adverse social and political effects. The only means of averting the crisis is by reflating the economies of developed countries. When the world economy picks up, so does energy demand.

(b) Energy conservation has reached limits beyond which little is left for further improvement. Therefore, energy conservation measures are unlikely follow the same trend.

(c) The recession has reduced the development of oil resources of non-OPEC countries. However, in spite of the fact that the OPEC share of world crude oil production dwindled from two thirds of the 1973 total to less than one third by the end of 1985, OPEC could reassert itself in the crude oil markets by using production controls if the world economy surges upward and oil demand grows. OPEC has that opportunity because producers outside OPEC lack the capacity to adjust their output significantly upward, thus weakening their positions as price competitors. Hence, they are more likely to follow OPEC in benefiting from the price increases which OPEC would make possible.

(d) No major discoveries have emerged in the last decade. (the recent finds in countries like the Syrian Arab Republic and Yemen are apt to be of significance for the countries concerned, but with minimal effects on the world supply). Many of the existing non-OPEC sources, and some OPEC sources, are operating at peak levels with the prospect of exhausting their reserves in the near future. For instance, North Sea production will reach its maximum output at 2.5 million barrels per day before 1990; the Soviet Union's oil production is believed to have already peaked at 12.5 mbd; no additional output is expected to flow from the fields of Alaska; and major discoveries are yet to be made from oil exploration activities in China and the United States continental shelf.[15] This was further compounded by the substantial slackening of oil exploration activities owing to the softening of oil prices.[16]

15/ "World oil situation" The World Economic Outlook, (International Monetary Fund, Washington, D.C., April 1985).

16/ "Special financial report", International Herald Tribune, 29 September 1986.

The long-term trends seem easier to discern, with critical shortfalls looming on the horizon beyond 1995. Most adjustment has so far been on the demand side, and none of the oil exploration or development over the last decade has fundamentally changed the prospect of a world with progressively shrinking reserves. Hence, there would hardly be a sufficient supply to cover a sudden increase in demand Moreover, progress in the development of alternative energy sources to replace oil is far from being significant. The current weakening in oil markets may have seriously hurt the belated and already faltering efforts to develop an alternative to oil. Given the lead-time of 10 to 20 years needed for the development of alternative energy sources, it would not be far-fetched to expect in the second half of the 1990s a succession of oil shocks similar to those of the 1970s, forcing oil prices up to perhaps beyond $40 a barrel.

A closely related problem is that of a threshold price of oil below which irreparable damage is likely to be done to the future expansion of supplies, and hence, to the world economy through severe energy constraints. This natural floor for the oil price is commonly fixed in terms of the cost of producing oil in high-cost areas such as the North Sea and Alaska. Such a critical lower boundary is estimated to be within the range of $10-$15 a barrel at current prices. Even within this price range, higher-cost oil production would have to be shut down, and any plans for developing off-shore oil and long-distance gas transportation, not to mention far more expensive new and renewable sources of energy, would have to be shelved. For instance, at prices below $15 a barrel, only 13 of the 39 fields on-stream or under development in the North Sea have a positive net present value.[17] Meanwhile, world-wide hydrocarbon exploration activities are estimated to have fallen by 25 to 30 per cent from 1982 to 1984, and by around 50 per cent in 1984-1985. The North Sea is estimated to have lost about 80 per cent in exploration activities during this period.[18]

Whatever the oil price level, the most important issue is that it should be kept stable or changed only gradually, in an orderly and predictable manner over a longer span of time than just a couple of years. Otherwise, the long-term damage caused by wild swings between cheap energy and new price hikes would more than outweigh the temporary benefits to be gained from short-lived low prices. The violent fluctuations in oil prices could have a destabilizing and devastating impact on the world economy including the ESCWA region. They destabilize all commodity and service prices including currencies linked, directly or indirectly, to oil. They destroy business confidence, and undermine the process of forming future expectations about prices, exchange rates, production, stocks, imports, exports, investment and many other strategic variables, thus rendering any kind of planning futile. It is also clear that the unstable oil price would play havoc with serious conservation efforts under way and the incipient development of alternative energy sources. If oil prices are left to the market forces alone to fluctuate violently like many other commodity prices, as witnessed recently, the utter chaos and uncertainty they bring about could seriously damage much of the interrelations of the interdependent global economic systems.

17/ Petroleum Economist, May 1986.

18/ Energy Policy, August 1986, pp. 297-298

VI. CONCLUDING REMARKS

Euphoria over falling oil prices in oil importing countries has long subsided. Only five years ago, the world economy was suffering from the recession, afflicted by expensive dollars, high interest rates and high oil prices. In particular, high oil prices were blamed for all the economic troubles of the past. Reducing oil prices was viewed as a cure-all for the world economy, which had been battered by the two-pronged assault of recession and inflation. Yet today, overall depressed economic conditions and global imbalances in trade, finance and employment continue to plague the world in spite of low dollar values, low interest rates and low oil prices. Only inflation has been tamed, mainly by fiscal and monetary retrenchment in the industrialized countries.

The broad world-wide impact aside, the precipitous drop in oil prices in recent years also posed serious adjustment problems for many oil-exporting countries in the ESCWA region. Of course, the severity of the negative impact in terms of revenue losses varied widely among countries in the region. Saudi Arabia, Iraq, Kuwait and the United Arab Emirates have all paid dearly for the oil price collapse. Nevertheless, the findings of this study show that, surprisingly, most small oil-producing countries in the region have fared better than expected. Even if oil prices had risen in an orderly, predictable way in step with nominal GNP of the industrialized world, they could have not performed better. Of course, this surprising conclusion hinges upon future oil prices. If oil prices continue to slide below today's price of $18 a barrel, this conclusion can be easily reversed.

It can be further argued that many "low absorber" countries like Saudi Arabia, Kuwait, and the United Arab Emirates could live with the present drastically diminished oil revenues, given their assets held overseas. Certainly, with their infrastructure and basic industrial projects nearly completed, they are in a better position to respond and adjust to the austerity programmes forced by lower oil revenues than many "high absorber" countries. Admittedly, in many respects, they are better prepared to withstand a risk of "free fall" in the oil price, but there are limits to this ability, given their recurrent costs which emerged from their effort to diversify their economies and their need to maintain their infrastructures. One could also argue that the interests of the major oil producers in the region could be better served by a price war. The oil price would probably continue to fall until the surplus oil supply disappears and an equilibrium price balancing supply and demand is established. Such an equilibrium price may be so low as to drive marginal producers out of the market, pushing production of OPEC swing producers (mainly Saudi Arabia) back up to maximum capacity, and cutting non-OPEC output substantially. Thus, low cost producers could reassert their control over the oil market. Such reasoning may sound too good to believe from the major oil producers' viewpoint. We strongly believe that is too simplistic, and even naive, a view formed from a narrow parochial standpoint. In this highly interdependent world economy today, the prosperity of one region cannot be sustained in isolation from the rest of the world. Most oil-producing developing countries in the region as well as those elsewhere are extremely vulnerable to external shocks. An uninterrupted flow

of capital goods and industrial raw materials, technical know-how, skills and many other development ingredients is badly needed to accelerate their development process, and the bulk of it still comes from the industrialized countries.

The fundamental question still remains, which relates to the right price for oil. But the right price for whom? The right price for consumers is bound to differ greatly from that for producers. Even within the OPEC group, the issue is still far from being clear. The right price may refer to the price that enables ESCWA/OPEC or OPEC as a whole to secure a fair share of the market, whatever a fair share may mean in practical terms, or to the price that generates equitable export incomes for member countries consistent with the reserve capacity of crude oil and the financial requirements of their socio-economic development. However, as mentioned above, the conflicting interests and widely divergent perspectives in terms of development needs and oil requirements could be extremely difficult to reconcile. A practical way out of this complex issue and almost intractable dilemma would be to focus attention on stabilizing export earnings for oil-exporting developing countries and stabilizing oil import bills for oil importers.

It is usually agreed that price stability is a prerequisite for stable export earnings. Arguments in support of price stability have been presented above in this study and abundantly elsewhere in the literature, and require no further elaboration. Instead, this study concentrates on a number of practical considerations bearing on the question of price stability and identification of the areas of further investigation needed for achieving sustainable price stability.

First, given the inherent fragility of the oil market, as mentioned above, the market forces of supply and demand cannot be counted on to achieve sustainable stable oil prices. It seems clear that the violent price fluctuations generated by capricious market forces and intensified by new speculative practices such as those of the oil futures and forward markets,[19] must be contained by non-market measures, such as an agreement on oil production limits or a co-operative dialogue between consumers and producers on pricing and demand and supply management. Whatever practical measures may be contemplated, they still must relate to the underlying market forces of supply and demand. Economic fundamentals provide a clear pointer. Any price fixing that deviates greatly from the equilibrium level will soon collapse, creating excess demand or supply. It is therefore imperative that more effort and resources be devoted to upgrading the capacity to analyse rapidly shifting oil market conditions and underlying factors affecting supply and demand, and to forecast future oil price movements so as to permit the identification of the best target range for pricing.

19/ The Economist, 23 May 1987, p. 85. The article describes how the oil market futures and options are increasingly analysed and programme traded, and hence become extremely affected by psychological factors rather than by the fundamentals of supply and demand.

Secondly, there is an inherent contradiction, at least in the short run, between the commitment to stake out "a fair share of the market" and the commitment to defend prices, that is, price stability. Once again, economic fundamentals suggest that even in the case of a true monopoly with a single producer in the market, either price or quantity can be controlled but not both. It must be decided which objective to pursue, a market share or price stability.

Thirdly, new approaches, more innovative schemes and imaginative ideas must be generated to foster a co-operative endeavour between OPEC and non-OPEC producers, and between producers and consumers, stressing the strong mutuality of interest between these groups. The need for a constructive dialogue between oil exporters and importers cannot be overemphasized.

Fourthly, the simple exercises carried out for the purposes of the present study point to the need for strengthening the administrative capacity and expertise to respond and adjust in a timely and rapid manner to rapidly changing world financial market conditions and particularly violent fluctuations in exchange rates of the major currencies to avoid the erosion of the value of assets held abroad and international reserves, and to minimize the negative impact of exchange rate fluctuations on import bills. In a similar vein, it is essential to improve the administrative capacity to plan rationally and implement effectively the ambitious development programmes during the oil boom period. It is also equally important to develop the same administrative capacity to rationalize the budget-cutting operations and carry out effectively steps required by fiscal retrenchment during the oil-induced recession period.

Fifthly, it is strongly believed that OPEC, whose policy is very much influenced by ESCWA/OPEC members, could become a dominant oil price-setter if it drops its obsolete policy of short-run reaction to market pressures and follows long-run and solid policy based on price stability with a view to gradually and predictably increasing oil prices in real terms. The best yardstick to measure and determine the prices would be the SDR used by the International Monetary Fund. However, while the SDR could be considered as a unit of a "stable" currency, it incorporates the inflation of those major industrialized countries on whose currencies the SDR is based. When pricing by SDR, average inflation rates of the industrialized countries should be taken into account.

TABLES

Table 1. Current and constant oil prices

A. United States dollar per barrel

Year	Current prices	United States GNP deflator	Constant prices (1974 prices)
1973	4.98	91.7	5.43
1975	11.81	109.8	10.76
1977	12.62	124.6	10.13
1979	28.89	145.6	19.84
1981	34.27	174.0	19.70
1983	28.77	192.2	14.97
1985	27.53	206.8	13.31
1986 February	14.73	207.8	10.14
April	12.85	207.9	6.29
June	11.51	207.1	6.72
August	12.05	208.1	4.64
October	12.66	209.0	6.06
December	13.03	209.9	6.21

B. Deutsche mark per barrel

Year	Current prices	Federal Republic of Germany GNP deflator	Constant prices (1974 prices)
1973	13.31	93.7	14.25
1975	29.06	106.0	27.41
1977	29.31	114.0	25.71
1979	52.95	123.6	42.84
1981	77.45	134.7	57.50
1983	73.46	145.2	50.59
1985	81.05	151.5	53.67
1986 February	34.34	150.8	22.78
April	29.23	150.8	19.38
June	25.74	150.8	17.07
August	24.58	150.2	16.56
October	25.65	149.8	16.94
December	24.21	149.6	17.35

Table 1.   (Cont'd.)

C.   Japanese yen per barrel

Year	Current prices	Japan GNP deflator	Constant prices (1974 prices)
1973	1,353.1	82.8	1,634.1
1975	3,505.1	107.7	3,254.5
1977	3,388.6	122.0	2,777.5
1979	6,331.0	131.7	4,807.1
1981	7,557.9	141.2	5,352.6
1983	6,833.2	144.9	4,715.8
1985	6,567.0	149.2	4,401.5
1986 February	2,719.7	149.2	1,822.9
April	2,256.7	149.0	1,514.6
June	1,933.1	148.6	1,300.9
August	1,855.7	148.2	1,252.2
October	1,974.3	148.0	1,334.0
December	2,114.6	148.0	1,428.8

Source: Oil prices from International Crude Oil and Product Prices,   various issues.   Yearly prices are annual averages.   Monthly prices are monthly averages.   GNP deflators from International Monetary Fund, International Financial Statistical Yearbook, 1986.   1986 deflators are ESCWA estimates.

Table 2.   Exchange rate indices: US dollar per SDR, per DM, per JY, (1974=100)

Year	$/SDR	$/DM	$/JY
1973	99,1269	96,8271	107,5009
1975	100,9645	105,1822	98,4130
1977	97,0181	111,4374	108,7780
1979	107,4338	141,1860	133,2846
1981	98,0542	114,5044	132,4385
1983	88,8970	101,3511	122,9758
1985	84,4254	87,9008	122,4448
1986 February	93,8799	110,9976	158,1889
April	95,6345	113,7744	166,3136
June	96,8402	115,7075	173,9089
August	100,4906	125,4022	189,6623
October	100,7650	129,0866	187,2907
December	100,4074	129,9357	179,9741
1987 February	105,6045	132,8780	181,4161
April	107,0597	142,5785	201,4344

Source: 1973-1983 indices calculated from exchange rates from International Monetary Fund, International Financial Statistics, Supplement on Exchange Rates, 1985.   1985 indices calculated from exchange rates in IMF Yearbook 1986.   1986-1987 indices calculated from exchange rates in International Financial Statistics, various issues.

Table 3. Oil Prices Indexed in US dollars, deutsche mark and Japanese yen

A. Current oil price indices
(Base year 1974)

Year		$US/barrel	DM/barrel	JY/barrel
1973		43.4934	44.9187	40.4587
1975		103.1441	98.0622	104.8073
1977		110.2183	98.9060	101.3240
1979		252.3144	178.7105	189.3049
1981		299.3013	261.3884	225.9925
1983		251.2663	247.9165	204.3216
1985		240.4366	273.5317	196.3632
1986	February	128.6462	115.8999	81.3245
	April	112.2270	98.6400	67.4792
	June	100.5240	86.8776	57.8027
	August	105.2401	82.9664	55.4882
	October	110.5676	86.5810	59.0353
	December	113.7991	81.7104	63.2308

B. Constant oil price indices
(Base year 1974, 1974=100)

Year		$US/barrel	DM/barrel	JY/barrel
1973		47.43	48.09	48.86
1975		93.94	92.51	97.31
1977		88.46	86.76	83.05
1979		173.29	144.59	143.74
1981		172.01	194.05	160.05
1983		130.73	170.74	141.01
1985		116.27	181.14	131.61
1986	February	61.91	76.86	54.51
	April	53.98	65.41	45.29
	June	48.54	57.61	38.90
	August	50.57	55.87	37.44
	October	52.90	57.18	39.89
	December	54.22	58.54	42.72

Source: International Crude Oil and Product Prices. Various issues.

Table 4. <u>Actual and constant oil prices, (1974-1986)</u>

Year	$US/barrel nominal	$US/barrel Constant base year 1974	SDR/barrel nominal	SDR/barrel Constant base year 1974
1974	11.45	11.45	9.52	9.52
1975	11.81	11.23	9.73	8.71
1976	11.64	10.52	10.08	8.38
1977	12.62	10.93	10.81	8.35
1978	12.97	10.69	10.36	7.43
1979	28.89	22.45	22.36	14.78
1980	36.06	26.32	27.71	16.62
1981	34.27	23.38	29.06	16.04
1982	31.74	20.65	28.75	14.80
1983	28.77	18.20	26.91	13.27
1984	28.06	17.20	27.38	12.99
1985	27.53	16.46	27.12	12.44
1986	13.36	7.93	11.39	5.17

Source: <u>International Crude Oil and Product Prices</u>, various issues. SDR and dollar values are deflated by GDP of industrialized countries deflator and US GNP deflator respectively, found in International Monetary Fund Yearbook 1986. Prices are yearly averages.

Table 5. Crude oil trade of ESCWA countries, 1984
(Thousands of b/d)

Exports

Country	Exports	ESCWA per cent	OPEC per cent	World per cent
Bahrain	4.3	0.07	0.04	0.02
Egypt	328.8	5.12	2.74	1.35
Iraq	596.1	9.29	4.97	2.44
Kuwait	599.3	9.33	5.00	2.45
Oman	235.4	3.66	1.96	0.96
Qatar	393.0	6.12	3.28	1.51
Saudi Arabia	3,160.2	49.18	26.37	12.94
Syrian Arab Republic	47.9	0.74	0.40	0.20
United Arab Emirates	1,064.4	16.57	8.88	4.36
ESCWA total	6,425.9	100.00	53.64	26.33
OPEC total	11,984.2			
World total	24,420.1[a]/			

Imports

Country	Imports	ESCWA per cent	World per cent
Bahrain	161.2[a]/	25.32	0.62
Iraq	212.9	33.44	0.82
Jordan	52.2	8.20	0.20
Lebanon	15.2	2.39	0.06
Syrian Arab Republic	126.1	19.81	0.49
Democratic Yemen	63.6	10.02	0.25
Yemen[b]/	5.3	0.83	0.02
ESCWA total	631.4	100.00	2.46
World total	25,855.7[a]/		

Source: World Oil Trade, December 1985.

Note: Total world exports and imports do not balance due to statistical discrepancies and omissions. Statistical discrepancies may exist in estimates for Bahrain, Democratic Yemen and Yemen owing to oil imports in Bahrain and Democratic Yemen for refining and re-export and because of unregistered imports in Yemen.

a/ Energy Statistical Yearbook, 1984. p. 152. OPEC Annual Statistical Bulletin, 1985, p. 24.

b/ Figure is from the Central Bank Bulletin (Yemen Arab Republic).

Table 6. <u>Impact of falling oil prices from 1984 level on the ESCWA region</u>

(a) <u>Oil at $20 per barrel</u>

<u>Oil exporters</u>

Country	Annual revenue loss (Millions of $US)	Annual interest savings (Millions of $US)	Combined impact (Millions of $US)	Impact as % of total imports (1984)
Egypt	-1,029.0	232.1	-796.1	7.39
Iraq	-1,258.8	–	-1,258.8	25.83
Kuwait	-1,968.7	–	-1,968.7	26.84a/
Oman	-773.2	16.4	-756.9	27.54
Qatar	-1,291.0	–	-1,291.0	88.69a/
Saudi Arabia	-10,381.3	–	-10,381.3	31.26
United Arab Emirates	-3,496.6	–	-3,496.6	36.06b/
Total	-20,198.6	248.5	-19,949.4	28.46

<u>Oil importers</u>

Country	Annual oil savings (Millions of $US)	Annual interest savings (Millions of $US)	Combined impact (Millions of $US)	Impact as % of total imports (1984)
Bahrain	515.4	–	515.4	28.20
Jordan	171.4	32.0	203.4	7.68
Lebanon	49.9	4.4	54.3	2.01a/
Syrian Arab Republic	256.9	30.8	287.7	6.99
Democratic Yemen	209.6	13.4	223.0	27.16
Yemen	17.4	27.1	44.5	3.13
Total	1,220.6	107.7	1,328.3	9.82

Table 6. (Cont'd.)

(b) Oil at $15 per barrel

Oil exporters

Country	Annual revenue loss (Millions of $US)	Annual interest savings (Millions of $US)	Combined impact (Millions of $US)	Impact as % of total imports (1984)
Egypt	-1,629.0	348.1	-1,281.0	11.90
Iraq	-1,958.2	–	-1,958.2	40.19
Kuwait	-3,062.4	–	-3,062.4	41.75[a/]
Oman	-1,202.8	24.6	-1,178.3	42.88
Qatar	-2,008.2	–	-2,008.2	137.95
Saudi Arabia	-16,149.0	–	-16,149.0	48.62
United Arab Emirates	-5,439.1	–	-5,439.1	56.10[b/]
Total	-31,448.7	372.7	-31,076.2	44.34

Oil importers

Country	Annual oil savings (Millions of $US)	Annual interest savings (Millions of $US)	Combined impact (Millions of $US)	Impact as % of total imports (1984)
Bahrain	801.7	–	801.7	43.84
Jordan	266.7	47.9	314.6	11.89
Lebanon	77.7	6.6	84.3	3.13[a/]
Syrian Arab Republic	330.3	46.1	375.4	9.15
Democratic Yemen	326.0	20.0	346.0	42.14
Yemen	27.1	24.3	51.4	3.61
Total	1,829.5	144.9	1,974.4	14.60

Table 6. (Cont'd.)

(c) Oil at $10 per barrel

Oil exporters

Country	Annual revenue loss (Millions of $US)	Annual interest savings (Millions of $US)	Combined impact (Millions of $US)	Impact as % of total imports (1984)
Egypt	-2,229.1	464.1	-1,764.0	16.39
Iraq	-2,657.2	–	-2,657.2	54.53
Kuwait	-4,156.1	–	-4,156.1	56.66[a]/
Oman	-1,632.5	24.6	-1,599.7	58.21
Qatar	-2,725.5	–	-2,725.5	187.23
Saudi Arabia	-21,916.0	–	-2,1916.0	65.99
United Arab Emirates	-7,381.7	–	-7,381.7	76.13[b]/
Total	-42,698.1	496.9	-42,201.2	60.21

Oil importers

Country	Annual oil savings (Millions of $US)	Annual interest savings (Millions of $US)	Combined impact (Millions of $US)	Impact as % of total imports (1984)
Bahrain	1,088.1	–	1,088.1	95.54
Jordan	362.0	63.9	425.9	16.10
Lebanon	105.4	8.8	114.2	4.23[a]/
Syrian Arab Republic	542.3	61.5	603.8	14.67
Democratic Yemen	442.4	26.7	496.1	57.13
Yemen	36.8	39.1	75.9	5.33
Total	2,577.0	200.0	2,777.0	20.53

Source: Total imports from IMF Yearbook 1986.

a/ Total imports, c.i.f., 1983.
b/ Total imports, c.i.f., 1981.

Table 7. Imports of ESCWA countries by origin

		Source of imports				
Country	Year	World total (Millions of $US)	USA (%)	Japan (%)	EEC (%)	Federal Republic of Germany (%)	UK (%)
Bahrain	1980	3,484	7.62	7.49	12.81	(1.52)	(6.8)
	1985	2,969	3.96	7.14	20.27	(3.74)	(7.7)
Democratic Yemen	1980	1,660	0.39	5.63	13.94	(1.19)	(3.91)
	1985	762	1.32	5.70	28.54	(3.12)	(6.54)
Egypt	1980	4,860	19.29	4.68	41.99	(9.43)	(6.10)
	1985	13,497	18.92	6.00	34.85	(8.83)	(4.95)
Iraq	1980	13,738	5.8	17.56	44.78	(14.41)	(5.99)
	1985	10,051	4.67	14.42	36.16	(9.21)	(6.26)
Jordan	1980	2,389	8.62	7.19	40.74	(9.97)	(7.80)
	1985	3,686	10.95	5.05	26.13	(5.28)	(5.48)
Kuwait	1980	6,533	14.49	21.00	32.89	(8.58)	(8.61)
	1985	6,407	9.45	26.58	33.71	(8.69)	(7.67)
Lebanon	1980	3,807	8.75	5.56	45.56	(7.10)	(4.74)
	1985	2,184	7.09	4.94	48.36	(6.61)	(3.40)
Oman	1980	1,732	5.69	19.66	33.52	(5.58)	(15.60)
	1985	3,039	5.80	20.22	43.72	(7.16)	(23.08)
Qatar	1980	1,440	11.31	18.32	42.36	(6.13)	(17.73)
	1985	1,201	6.14	15.82	45.87	(9.19)	(15.77)
Saudi Arabia	1980	30,166	20.02	17.93	36.82	(9.07)	(6.48)
	1985	23,816	20.66	18.11	38.23	(8.21)	(7.42)
Syrian Arab Republic	1980	4,117	5.34	3.86	38.54	(10.83)	(3.32)
	1985	3,256	2.72	3.31	31.48	(7.17)	(2.67)
United Arab Emirates	1980	8,597	13.49	17.31	36.01	(5.8)	(14.29)
	1985	6,827	9.60	18.91	40.00	(6.91)	(12.84)
Yemen Arab Republic	1980	1,853	2.81	12.71	32.91	(5.88)	(5.12)
	1985	1,598	2.67	8.72	40.59	(5.90)	(8.27)
Total ESCWA	1930	84,376	13.30	14.99	37.12	(8.96)	(7.46)
	1985	79,293	12.96	14.09	37.23	(7.86)	(7.70)

Source: International Monetary Fund, Direction of Trade Statistics Yearbook, 1986.

Table 8.   Foreign exchange gains and losses on imports due to
dollar exchange rate fluctuations
(Millions of United States dollars)

A. Gains due to dollar appreciation (1980-1982)*

	8.9%		15.17%		25.09%		
Dollar rise against:	Japan (Yen)	% of imports	EEC (SDR)	% of imports	FRG (DM)	% of imports	Total % of imports
Bahrain	23.4	0.7	67.7	1.9	(13.3)	(0.4)	2.6
Democratic Yemen	8.3	0.5	35.1	2.1	(5.0)	(0.3)	2.6
Egypt	20.4	.4	309.6	6.4	(115.0)	(2.4)	6.8
Iraq	216.6	1.6	933.2	6.8	(496.7)	(3.6)	8.4
Jordan	15.3	0.6	147.6	6.2	(59.8)	(2.5)	6.8
Kuwait	123.2	1.9	326.0	5.0	(140.6)	(2.2)	6.9
Lebanon	18.9	0.5	263.2	6.9	(67.8)	(1.8)	16.7
Oman	30.6	1.8	88.1	5.1	(24.2)	(1.4)	6.9
Qatar	23.7	1.6	92.5	6.4	(22.1)	(1.5)	8.0
Saudi Arabia	485.7	1.6	1,685.0	5.6	(686.5)	(2.3)	7.2
Syrian Arab Republic	14.2	0.3	240.7	5.8	(111.9)	(2.7)	6.1
United Arab Emirates	133.6	1.6	469.6	5.5	(125.1)	(1.5)	7.1
Yemen Arab Republic	21.0	1.1	92.5	5.0	(27.3)	(1.5)	6.1
Total	1,134.9	1.3	4,750.90	5.6	(1,895.3)	(2.2)	6.9

Table 8. (Cont'd.)

B. Losses due to dollar depreciation (1985- April 1987)**

Dollar drop against:	64.50%		26.81%		62.22%		
	Japan (Yen)	% of imports	EEC (SDR)	% of imports	FRG (DM)	% of imports	Total % of imports
Bahrain	136.7	4.6	161.5	5.4	(69.1)	(2.3)	1.0
Democratic Yemen	28.1	3.7	58.3	7.7	(14.8)	(2.0)	11.4
Egypt	522.0	3.9	1,261.1	9.3	(741.5)	(5.5)	13.2
Iraq	935.0	9.3	974.4	9.7	(576.0)	(5.7)	19.0
Jordan	120.2	3.3	258.3	7.0	(121.3)	(3.2)	10.3
Kuwait	1,098.4	17.1	579.0	9.0	(346.4)	(5.4)	26.1
Lebanon	69.6	3.2	283.2	13.0	(89.8)	(4.1)	16.2
Oman	396.4	13.0	356.2	11.7	(135.4)	(4.5)	24.7
Qatar	122.5	10.2	147.7	12.3	(68.7)	(5.7)	22.5
Saudi Arabia	2,781.9	11.7	2,441.0	10.2	(1,216.6)	(5.1)	21.9
Syrian Arab Republic	69.6	2.1	274.9	8.4	(145.5)	(4.5)	10.5
United Arab Emirates	832.7	12.2	732.1	10.7	(293.5)	(4.3)	22.9
Yemen Arab Republic	89.9	5.6	173.9	10.9	(59.0)	(3.7)	16.5
Total	7,203.3	9.1	7,701.6	9.7	(3,877.6)	(4.9)	18.8

Sources: ESCWA estimates. Import data from International Monetary Fund, Direction of Trade, various issues and International Financial Statistics, 1986.

* Based on 1980 import levels.
** Based on 1985 import levels.

Table 9. Selected ESCWA country oil production, 1973-1986
(Thousands of b/d)

Year	Saudi Arabia	Qatar	United Arab Emirates	Kuwait
1973	7,596.18	570.301	1,548.36	3,020.40
1974	8,479.69	518.400	1,678.78	2,546.14
1975	7,075.44	437.600	1,695.09	2,084.20
1976	8,600.75	498.663	1,947.44	2,151.28
1977	9,199.89	440.600	2,014.05	1,969.00
1978	8,301.11	486.601	1,831.59	2,131.40
1979	9,532.43	508.134	1,831.10	2,500.30
1980	9,927.62	427.715	1,708.65	1,668.26
1981	9,808.00	415.203	1,502.10	1,129.70
1982	6,483.00	332.000	1,249.05	824.30
1983	4,999.00	269.000	1,149.00	1,054.11
1984	4,588.77	376.630	1,149.67	1,131.68
1985	3,885.89	300.205	1,203.58	1,016.68
1986	5,027.39	330.990	1,364.29	1,427.87

Source: Petroleum Economist, various issues.

Table 10. ESCWA and OPEC share of world oil production, 1973-1986

Year	ESCWA share	OPEC share
1973	26.4777	53.3544
1974	27.1708	52.7939
1975	27.4603	49.2164
1976	27.6480	51.4947
1977	27.3852	50.4845
1978	25.7761	47.0274
1979	27.5819	47.0169
1980	27.6651	42.6655
1981	25.0979	37.9247
1982	19.5026	33.5997
1983	17.2043	30.8067
1984	17.0289	30.0644
1985	15.6913	28.1389
1986	18.1770	30.5063

Sources: Calculated from production data found in Petroleum Economist, various issues, except figures for Bahrain, Egypt and the Syrian Arab Republic included in ESCWA totals. Production data sources for these countries are as follows: Years 1973-1984 are from OAPEC Annual Statistical Report, various issues; 1985 figures from the ESCWA Survey of Economic and Social Development in the ESCWA Region, 1986; 1986 data are from the United Nations Monthly Bulletin of Statistics, October 1986 and February 1987.

Table 11. **Comparison of nominal and real revenues with those based on actual and gradually increased real oil prices**

A

Year	Real revenue based on real SDR prices (In thousands)	Real revenue based on fitted real SDRs (In thousands)	Approximated actual revenue (Thousands of nominal $US)	Nominal US dollar equivalent of fitted real SDRs (In thousands of $US)
1974	51,399,632	51,399,428	61,813,197	61,812,952
1975	42,587,752	48,389,387	57,760,124	65,628,658
1976	43,904,679	53,784,973	60,977,607	74,699,986
1977	46,100,703	58,764,693	69,700,228	88,847,075
1978	39,150,632	58,060,795	68,378,145	101,405,501
1979	90,329,976	69,591,625	176,576,677	136,037,430
1980	93,915,627	66,450,650	203,759,392	144,171,364
1981	77,765,488	58,823,500	166,162,327	125,688,785
1982	49,125,015	41,495,191	105,322,461	88,964,363
1983	35,008,634	33,972,647	75,896,339	73,650,388
1984	30,793,397	31,405,592	66,503,729	67,825,872
1985	24,737,570	27,096,072	54,752,999	59,973,199
1986	13,620,269	36,897,576	35,218,376	95,407,272
Total	638,439,375	636,132,130	1,202,821,601	1,184,112,844

Source: Based on data in tables 11(b) and 11(c). Export figures from World Oil Trade, December 1986, and various issues and OPEC Annual Statistical Bulletin 1985. 1986 export figures are estimates.

B

Year	Oil price real SDR/b 1974 base year	Oil price US dollar/b nominal	ESCWA oil exports (Thousands of barrels)	Real revenue based on real SDR prices (Thousands of SDR units)	Approximated actual revenue nominal $US (Thousands of $US)
1974	9.5210	11.45	5,398,533	51,399,632	61,813,197
1975	8.7078	11.81	4,890,781	42,587,752	57,760,124
1976	8.3810	11.64	5,238,626	43,904,679	60,977,607
1977	8.3470	12.62	5,522,998	46,100,703	69,700,228
1978	7.4261	12.97	5,272,024	39,150,632	68,378,145
1979	14.7790	28.89	6,112,035	90,329,976	176,576,677
1980	16.6206	36.06	5,650,566	93,915,627	203,759,392
1981	16.0387	34.27	4,848,624	77,765,488	166,162,327
1982	14.8043	31.74	3,318,288	49,125,015	105,322,461
1983	13.2707	28.77	2,638,038	35,008,634	73,650,388
1984	12.9927	28.06	2,370,055	30,793,397	66,503,729
1985	12.4381	27.53	1,988,849	24,737,570	54,752,999
1986	5.1668	13.36	2,636,106	13,620,269	35,218,376
Total			55,885,518	638,439,375	1,202,821,601

Table 11 (Cont'd.)

C

Year	Fitted real SDR prices/b	Nominal SDR Equivalent SDR/b	Nominal $US Equivalent/ b	ESCWA exports (Thou-sands of barrels)	Real revenue based on fitted real (Thousands of SDR units)	Nominal $US Equivalent of fitted real SDR (Thousands of $US)
1974	9.521	9.5210	11.4500	5,398,533	51,399,428	61,812,952
1975	9.894	11.0516	13.4189	4,890,781	48,389,387	65,628,658
1976	10.267	12.3512	14.2595	5,238,626	53,784,973	74,699,986
1977	10.640	13.7788	16.0867	5,522,998	58,764,693	88,847,075
1978	11.013	15.3631	19.2346	5,272,024	58,060,795	101,405,501
1979	11.386	17.2270	22.2573	6,112,035	69,591,625	136,037,430
1980	11.760	19.6039	25.5145	5,650,566	66,450,650	144,171,364
1981	12.132	21.9832	25.9226	4,848,624	58,823,500	125,688,785
1982	12.505	24.2847	26.8103	3,318,288	41,495,191	88,964,363
1983	12.878	26.1166	27.9186	2,638,038	33,972,647	73,650,388
1984	13.251	27.9199	28.6179	2,370,055	31,405,592	67,825,872
1985	13.624	29.7003	30.1547	1,988,849	27,096,072	59,973,199
1986	13.997	30.8494	36.1925	2,636,106	36,897,576	95,407,272
Total				55,885,518	636,132,130	1,184,112,844

Table 12. **Actual and hypothetical oil prices in dollars, deutsche mark and yen, 1973-1986**

Year	(a) US dollars Actual price	Hypothetical price
1973	4.98	4.98
1974	11.45	11.45
1975	11.81	12.42
1976	11.64	13.85
1977	12.62	15.46
1978	12.97	17.47
1979	28.89	19.47
1980	36.06	21.20
1981	34.27	23.68
1982	31.74	24.55
1983	28.77	26.37
1984	28.06	29.26
1985	27.53	30.91
1986	13.36	33.07

Year	(b) Deutsche mark Actual price	Hypothetical price
1973	13.3	13.3
1974	29.6	29.6
1975	29.1	30.9
1976	29.3	33.8
1977	29.3	36.0
1978	26.1	38.8
1979	53.0	42.0
1980	65.6	44.6
1981	77.5	46.4
1982	77.0	48.0
1983	73.5	50.3
1984	79.9	52.7
1985	81.0	55.2
1986	29.0	59.8

Year	(c) Japanese Yen Actual price	Hypothetical price
1973	1,353.0	1,353.0
1974	3,343.3	3,344.3
1975	3,505.1	3,697.8
1976	3,451.8	4,153.0
1977	3,388.6	4,629.8
1978	2,729.4	5,102.4
1979	6,331.0	5,535.1
1980	8,176.2	5,990.7
1981	7,557.9	6,407.6
1982	7,905.8	6,728.6
1983	6,833.2	6,999.8
1984	6,664.8	7,449.1
1985	6,567.0	7,923.7
1986	2,251.4	8,308.0

Source: Actual prices from International Crude Oil and Product Prices, various issues.

Table 13. **Approximated* actual and hypothetical oil revenues in the ESCWA region, 1979-1986**
(Millions of United States dollars)

Year	Approximated actual revenue	Approximated actual and hypothetical oil revenue		
		Scenario I Rev.	Scenario II Rev.	Scenario III Rev.

EGYPT

1979	3,440	2,318	2,318	2,318
1980	4,411	2,524	2,499	2,448
1981	4,371	2,819	2,763	2,653
1982	3,628	2,923	2,836	2,668
1983	3,260	3,140	3,016	2,780
1984	3,347	3,484	3,313	2,992
1985	3,279	3,680	3,465	3,066
1986	1,750	3,937	3,670	3,181

IRAQ

1979	30,414	20,497	20,497	20,497
1980	32,790	22,318	22,095	21,649
1981	9,849	24,929	24,433	23,456
1982	4,132	25,845	25,077	23,588
1983	6,073	27,761	26,667	24,577
1984	6,105	30,804	29,294	26,452
1985	7,657	32,541	30,636	27,105
1986	4,497	34,815	32,449	28,130

KUWAIT

1979	20,042	13,507	13,507	13,507
1980	15,203	14,707	14,560	14,266
1981	9,480	16,428	16,101	15,457
1982	3,843	17,031	16,525	15,544
1983	5,342	18,294	17,573	16,195
1984	6,137	20,299	19,304	17,431
1985	3,912	21,443	20,189	17,862
1986	2,886	22,942	21,383	18,537

OMAN

1979	3,082	2,077	2,077	2,077
1980	3,156	2,261	2,239	2,201
1981	5,500	2,526	2,476	2,377
1982	2,613	2,619	2,541	2,390
1983	2,779	2,813	2,702	2,490
1984	2,410	3,121	2,968	2,680
1985	4,737	3,297	3,104	2,746
1986	2,529	3,528	3,288	2,850

Table 13. (Cont'd.)

Year	Approximated actual revenue	Approximated actual and hypothetical oil revenue		
		Scenario I Rev.	Scenario II Rev.	Scenario III Rev.

QATAR

Year				
1979	5,365	3,615	3,615	3,615
1980	5,846	3,937	3,897	3,818
1981	5,187	4,397	4,310	4,137
1982	3,881	4,559	4,423	4,161
1983	2,801	4,897	4,704	4,335
1984	4,025	5,433	5,167	4,666
1985	4,274	5,740	5,404	4,781
1986	2,281	6,141	5,724	4,962

SAUDI ARABIA

Year				
1979	94,141	63,445	63,445	63,445
1980	118,956	69,082	68,391	67,010
1981	111,337	77,163	75,628	72,603
1982	71,554	79,998	77,622	73,012
1983	43,901	85,929	82,543	76,072
1984	32,366	95,346	90,676	81,877
1985	19,914	100,723	94,829	83,899
1986	15,269	107,762	100,441	87,070

SYRIAN ARAB REPUBLIC

Year				
1979	1,537	1,036	1,036	1,036
1980	1,570	1,128	1,116	1,094
1981	1,318	1,260	1,235	1,185
1982	1,171	1,306	1,267	1,192
1983	1,220	1,403	1,348	1,242
1984	1,209	1,557	1,480	1,337
1985	1,004	1,644	1,548	1,370
1986	536	1,759	1,640	1,421

UNITED ARAB EMIRATES

Year				
1979	18,553	12,503	12,503	12,503
1980	21,826	13,615	13,478	13,206
1981	19,118	15,207	14,905	14,308
1982	14,497	15,766	15,298	14,389
1983	10,516	16,936	16,267	14,992
1984	10,901	18,791	17,870	16,136
1985	9,972	19,850	18,689	16,535
1986	5,468	21,238	19,795	17,160

Table 13. (Cont'd.)

Year	Approximated actual revenue	Approximated actual and hypothetical oil revenue		
		Scenario I Rev.	Scenario II Rev.	Scenario III Rev.

ESCWA excluding Saudi Arabia

Year	Approximated actual revenue	Scenario I Rev.	Scenario II Rev.	Scenario III Rev.
1979	82,435	55,556	55,556	55,556
1980	84,803	60,492	59,888	58,685
1981	54,824	67,569	66,225	63,575
1982	33,768	70,051	67,971	63,934
1983	31,994	75,244	72,270	66,613
1984	34,137	83,491	79,399	71,696
1985	34,838	88,199	83,038	73,467
1986	19,949	94,362	87,952	76,243

ESCWA

Year	Approximated actual revenue	Scenario I Rev.	Scenario II Rev.	Scenario III Rev.
1979	176,576	119,001	119,001	119,001
1980	203,759	129,575	128,279	125,695
1981	166,162	144,732	141,852	136,179
1982	105,322	150,050	145,593	136,947
1983	75,896	161,174	154,823	142,686
1984	66,503	178,838	170,076	153,574
1985	54,752	188,923	177,867	157,367
1986	35,218	202,124	188,393	163,313

* Approximated actual revenue is a product of actual price and exports and is used here for comparison purposes.

Table 14. <u>Actual and hypothetical cumulative oil revenues, 1979-1986</u>
(Billions of United States dollars)

	Actual revenue	Hypothetical revenues		
		Scenario I	Scenario II	Scenario III
Egypt	27.44	24.83	23.88	22.11
Iraq	101.41	219.51	211.15	195.46
Kuwait	66.78	144.65	139.15	128.80
Oman	26.75	22.25	21.40	19.82
Qatar	33.61	38.72	37.25	33.48
Saudi Arabia	507.07	679.45	653.58	605.00
Syrian Arab Republic	9.56	11.10	10.67	9.88
United Arab Emirates	110.72	133.91	128.81	119.23
ESCWA	883.35	1,274.42	1,225.89	1,134.77
ESCWA excluding Saudi Arabia	376.27	594.97	572.31	529.77
OPEC	1,401.25	2,039.13	1,961.47	1,815.66
OPEC excluding ESCWA	570.55	764.71	735.58	680.90

<u>Source</u>: Calculated from table 13.

Table 15. <u>US dollar equivalent of 1974 price level, 1974-1986</u>

Year	1974 SDR price per barrel	Industrialized countries GDP deflator	Real price of oil adjusted for inflation	Exchange rate $/SDR	US dollar equivalent price
1974	9.52	1.000	9.5200	1.2026	11.4488
1975	9.52	1.117	10.6338	1.2142	12.9116
1976	9.52	1.203	11.4526	1.1545	13.2220
1977	9.52	1.295	12.3284	1.1675	14.3934
1978	9.52	1.395	13.2804	1.2520	16.6271
1979	9.52	1.513	14.4038	1.2920	18.6097
1980	9.52	1.667	15.8698	1.3015	20.6546
1981	9.52	1.812	17.2502	1.1792	20.3415
1982	9.52	1.942	18.4878	1.1040	20.4106
1983	9.52	2.028	19.3066	1.0690	20.6387
1984	9.52	2.107	20.0586	1.0250	20.5601
1985	9.52	2.180	20.7536	1.0153	21.0711
1986	9.52	2.204	20.9821	1.1732	24.6162

<u>Source</u>: International Monetary Fund, <u>IFS Yearbook</u>, 1986.

<u>Note</u>: The real price of oil adjusted for inflation is the 1971 constant SDR price of oil multiplied by the industrialized countries' deflator.