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Since 1973, attempts to adjust the structure of the world economy to rapidly rising costs of energy have dominated all other economic issues. Successive efforts to accomplish this objective through international agreements between oil importing and exporting countries have met with very limited success, largely because of the attempt to link them to a range of other problems. On the other hand, adjustment in the narrower sense of maintaining essential supplies of higher cost oil within the existing framework of trade and capital flows has been quite effective for many countries. The annual growth of world oil consumption has been cut from over seven percent before 1973 to less than two percent since then, thereby eliminating the excessive drain on the petroleum resources of the nations in the Organization of Petroleum Exporting Countries (OPEC).

The cost to the world economy of this improvised solution has been quite high. In the industrial countries, half of the reduction in oil demand has been achieved by slowing down growth, largely because of their inability to cope with chronic inflation in any other way. This failure has exacerbated the problems of the less developed countries, which have suffered as much from the fall in their exports to the OECD countries as from the direct impact of the rise in energy prices. There seems little chance that these conditions will improve much until the underlying disequilibrium in energy markets is closer to resolution.

The second major rise in oil prices in 1979-80, again triggered by political events in the Middle East, confronts the world with another round of the energy adjustment. Its initial impact on the international economy has been quite similar to 1974-75: a steep rise in OPEC surpluses and oil importers' deficits, and another drop in world growth as part of the adjustment process. Many analysts see this second oil shock as more intractable, since developing country debts are rising, and the prospects for continued recycling

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of the OPEC surpluses to the countries that need to borrow seem more problematical.¹ Perhaps worst of all, the measures taken so far do not appear to be leading to solutions to the long-term structural problems of adequate energy supplies, compatible trading patterns, and sustainable international capital flows—not to mention greater equity in the pattern of world growth.

This article presents a dissenting and more optimistic view of the prospects for the world economy. I argue that the energy transition is closer to completion than would appear from the behavior of oil markets, primarily because many countries at first resisted the necessary changes in domestic prices; hence the demand and supply responses to rising prices are only now becoming evident. Second, all parties have learned a great deal from the first round of adjustments over the past eight years. This greater understanding—and particularly the demonstration that in time prices do have a substantial effect on energy demand and supply—should reduce the need for formal international agreements, which have proved to be unattainable so far.

Once the energy adjustment appears more manageable, it should be possible to resume progress on the problems of long-term development, which have been made more difficult for many countries. In general, it will be both easier and less costly to complete the required shift away from oil under conditions of more vigorous international growth than under the depressed conditions of the 1970s. The elimination of periodic energy shortages will itself facilitate a return to more normal growth.

To support these propositions, I will first examine the extent to which the energy adjustment is already in train and then take up the economic interests of the three main groups of participants in the global adjustment: the oil-exporting countries (OPEC), the industrial countries (OECD), and other developing countries (LDCs).

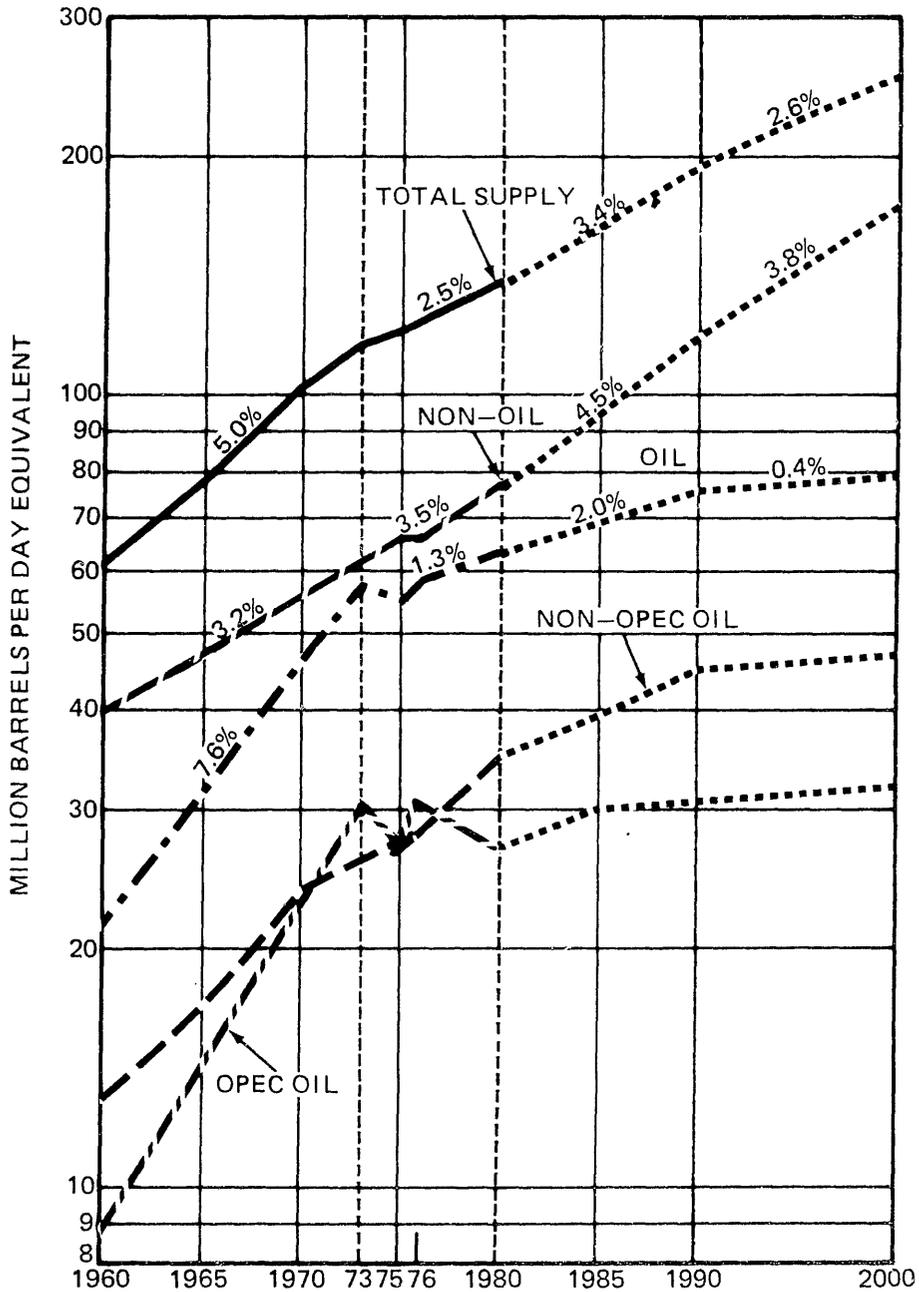
II

The overriding requirement for structural change in the world economy is the shift from dependence on cheap and versatile energy in the forms of oil and natural gas to more plentiful—and expensive—sources. Since a massive reallocation of resources among energy supplies, productive sectors, and nations is needed to transform the world energy economy, other objectives of international development must be adapted to it.

Although the timing and magnitude of the rise in oil prices

¹ Walter J. Levy, "Oil and the Decline of the West," *Foreign Affairs*, Summer 1980, is a leading exposition of this view.

FIGURE 1
WORLD SUPPLY OF PRIMARY ENERGY



since 1973 is attributable to OPEC, the underlying structure of demand and supply made a large price increase during this period almost inevitable under any form of market control. From 1950 to 1970, new discoveries in the Middle East and elsewhere far exceeded the increase in demand, and oil prices declined by 50 percent in real (inflation-discounted) terms. As a result, oil rapidly replaced coal—the dominant energy source in the 1950s—and by 1973 was supplying half of the world's energy.

The supply conditions were reversed after 1970: the continued growth of demand outran the increase in petroleum reserves and created upward pressure on prices. While the fourfold increase in price resulting from the OPEC actions of 1973 proved to be somewhat more than the market would sustain, by 1978 supply and demand for OPEC oil were again closely balanced at a price level about three times that of 1972 in real terms.

In the long run the most important feature of the shift in market control from the international oil companies to the OPEC governments has been the change in price policies to favor producers rather than consumers. Virtually all oil exporting countries have now reevaluated their production and export targets in the light of their overall development objectives. The larger economies, which are able to absorb all their oil revenues for development purposes—Algeria, Nigeria, Indonesia, Venezuela—have adopted production targets close to their sustainable productive capacity. On the other hand, the six countries with large capacity in relation to their current development needs—Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Libya and Iraq—have tended to reduce their export targets as oil prices have risen. Since these oil surplus countries account for two-thirds of OPEC capacity, the result of this reassessment has been to maintain OPEC output fairly constant at about the 1973 level of 31 million barrels per day, and it is not expected to exceed this level in the future. Other petroleum exporters—Mexico, Canada, the United Kingdom, Norway—have also taken measures to conserve oil supplies and limit the growth of exports.

This drastic shift in the supply policies of some of the oil-exporting countries is the major determinant of the adjustment that is currently required in the world energy market. The resulting differences in past and projected behavior between oil on the one hand and coal and other sources on the other are shown in Figure 1, opposite.² In the period 1960-73, oil from OPEC countries

²The data in this and other Figures are taken from the World Bank, *World Development Report, 1981*. Supporting material will be found in this Report.

supplied 40 percent of the total increase in world primary energy. Since then, the growth of OPEC supplies has stopped entirely and growth from other oil producers is slowing down; despite large price rises, other energy sources have not yet been able to accelerate to any great extent. The annual increase in energy use has therefore been reduced from about five percent in the 1960s to 2.5 percent since 1973 through higher prices, reduced demand and slower growth.

If this shift in supply conditions had taken place with some advance notice over a period of 20 years or more, it could have been absorbed with little effect on world growth and with ample lead time to develop new supplies and economize on energy use. It was the suddenness of these changes that created an oil crisis. By the same token, the resulting problems can be resolved by adjusting energy supply and demand to the higher prices of oil as rapidly as possible.

Because of the lead times involved, the solutions to the existing disequilibrium in energy markets had to come in two stages. In the first stage the principal adjustments have been mainly on the demand side, through economic responses to higher prices: conservation and slowing down growth. The fact that coal, synthetic fuels and other energy sources are potentially in plentiful supply can have little effect until sufficient investment has taken place in the energy system—mining, processing, transport and using equipment—to provide effective alternative sources to consumers.

A similar process of restructuring is required in the oil-exporting countries before they can take full advantage of their increased revenues for development purposes and thus enable consumers to pay for their imported oil through increased exports. In this first stage the willingness of oil-exporting countries to produce in excess of their immediate needs and lend their surplus funds to the importers has played a crucial role in cushioning the adjustment.

The second stage of the global adjustment will come about as the supply-side measures that are now profitable produce significant effects on energy availability and lead to a substitution of more plentiful sources for oil (and later gas). As these additional supplies start to affect energy prices, the market power of oil exporters will be reduced, prices will become more stable, and oil will again become just another commodity. In the process the share of energy in the world's GNP will have gone from four percent to perhaps ten percent, reflecting not so much monopoly power as the cost of the resources needed to produce it.

This diagnosis leads to two critical questions for national and international policy. How can we accelerate the onset of the

second stage, in which the potential for instability and global disruption from the energy sector will be gradually reduced? And in the meantime, how can we better cushion the effects of rising prices and shifting supplies so that the costs to the world economy, and particularly to the poor countries (and poor people in rich countries) is limited?³

III

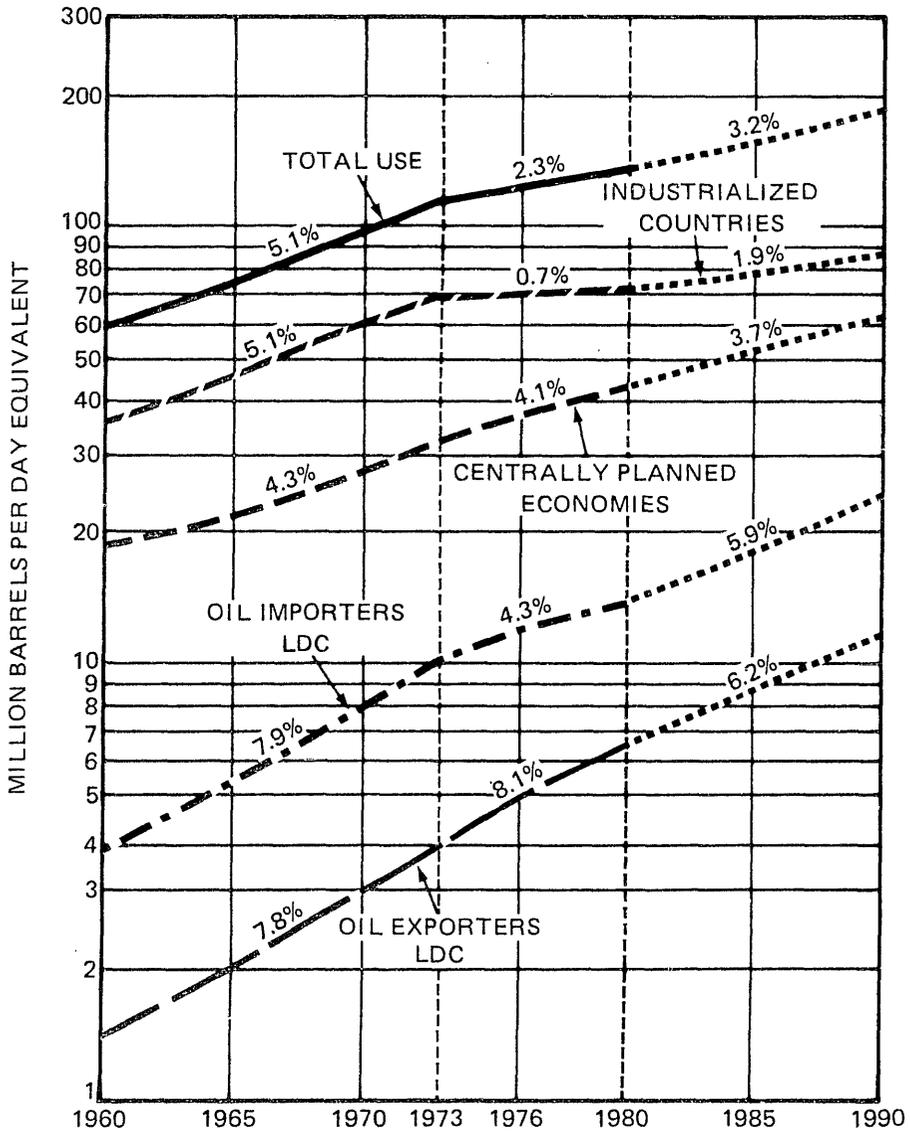
To answer these questions it is necessary to examine the various ways in which the world economy has absorbed the effects of the oil shocks and begun to make necessary adaptations in economic structures. There are four distinct mechanisms by which countries have adjusted to higher oil prices in the 1970s and will continue to do so in the 1980s: (1) an *energy adjustment* or shift in demand and supply in response to prices; (2) a *trade adjustment* through expanding exports or limiting imports in order to pay for higher cost oil; (3) a *financial adjustment* through capital flows from oil exporters to oil importers; (4) a *growth adjustment*—when all else fails—to limit energy demand by reducing GNP growth. The first two—changes in energy use and trade—constitute permanent structural adjustments that enable an energy-importing country to resume its normal growth without further strains. The other two—borrowing and reducing growth—are more temporary adaptations that are needed to bridge the interval during which structural adjustments are being completed.

These adjustment mechanisms in combination provide much greater flexibility to the world economy than would any one or two of them in isolation. To exploit this potential requires the support or at least acquiescence of the major parties involved: capital surplus countries, private banks, international financial institutions, energy producers, etc. The following discussion assesses the prospects for further adjustment in the light of the past performance of these four mechanisms.

Energy Adjustment. In summary terms, the oil shock of 1973 consisted in a cessation of growth in OPEC supplies, which had contributed 63 percent of the increase in the world's oil in the previous decade. Although the associated quadrupling of international oil prices set in motion a variety of efforts to develop

³ In an article on the first energy crisis ("Restructuring the World Economy," *Foreign Affairs*, January 1975). I tried to show the difference between more and less effective adjustments by the industrial countries. In the event, their performance has been closer to the more pessimistic scenario, although the first oil shock itself was not so damaging to the world economy as had been anticipated.

FIGURE 2
WORLD DEMAND FOR PRIMARY ENERGY



alternative supplies, their effect will only be felt in the 1980s. The first energy adjustment therefore had to take place almost entirely on the side of demand.

The distribution of primary energy use by groups of countries, and the way in which the cut in energy growth was shared among them, are shown in Figure 2, opposite. If prior trends in world growth and energy use had continued to 1980, the demand for energy would have been higher by some 30 million barrels per day of oil equivalent than the actual consumption of 135 million b/doe. Nearly 90 percent of this reduction in energy use took place in the industrial market-economy countries, although their share of total consumption was less than 60 percent.

In order to use this experience in evaluating the future, it is necessary to separate the effects of rising prices from those of recession and slow growth. Despite the tripling of international oil prices in real terms, the average energy prices to users in the principal OECD countries rose only about 60 percent between 1973 and 1979. The net result of rising cost and conservation was a fall in energy use per unit of GNP of 12 percent, or two percent per year. However, since a full reaction to higher prices requires retrofitting or replacing equipment, the long-term effect of past price rises may be twice as great.⁴

Even though the responsiveness of energy demand to rising prices has turned out to be higher than many experts anticipated, it has accounted for less than half of the reduction in demand that actually took place. The major factor has been the reduction in growth of the OECD countries from 4.7 percent a year in the 1960s to 2.5 percent since 1973. Although part of this reduction in growth was probably unavoidable, it need not be repeated in the 1980s if energy supplies increase at the rates that are generally projected.

Among the other groups of consuming countries, effects of higher prices and slower growth have been significant only in the oil-importing developing countries. Since their further development requires a proportionately greater use of commercial energy as they industrialize, the scope for energy conservation is limited. Even with rising prices, energy demand can be expected to grow as fast as GNP. As for the oil-exporting countries, they have so far

⁴ This relation is usually expressed as the price elasticity of demand: the percentage fall in use induced by a one percent rise in price. The evidence cited gives an elasticity of 0.2, which is consistent with a long-term value for the OECD countries of the order of 0.4 or 0.5. Estimates of this elasticity from a variety of sources range from 0.2 to 0.8. Energy Modeling Forum, *Aggregate Elasticity of Energy Demand*, Stanford, 1980.

not adjusted their domestic prices to international levels, and energy consumption has increased at a high rate.

The projections of energy demand to 1990 in Figure 2 represent a pattern of use that is consistent with a recovery of growth in world income and a continuation of the adjustment of demand to rising prices that is already in evidence. The projections assume a recovery of OECD growth to a four percent rate in the latter part of the decade, which can be sustained by a growth in energy use of about two percent. With this declining share for the industrial countries, the growth of world energy supplies indicated in Figure 1 would be sufficient to sustain the more rapid growth of energy use that is needed by the developing countries.

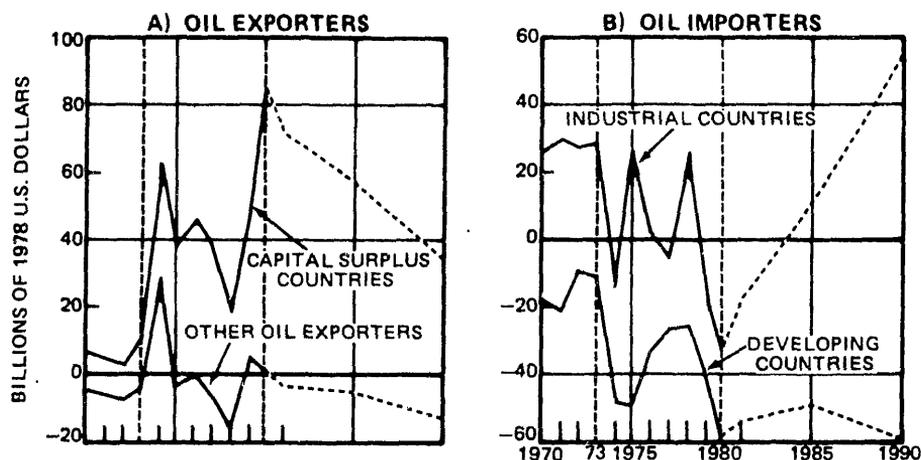
Financial Adjustment. The "recycling" of surplus oil revenues to deficit oil importers has been the most spectacular and widely noted feature of the adjustment to higher oil prices. It is largely a result of the concentration of two-thirds of OPEC production (and three-quarters of reserves) in six arid, sparsely settled countries whose oil revenues have for the time being outrun their ability to use them productively for their own development. This group of "capital surplus" countries has become the main source of the recurring financial surpluses, which tend to increase after a price rise and are then reduced as incomes and import demands rise in each country.

The OPEC surpluses are mainly channeled through the world's capital markets and lead to increased lending to oil importers. These loans reduce or eliminate the need to slow down growth during the interval in which structural adjustments are taking place in energy markets and in international trade. The additional capital also accelerates the rise in investment needed for energy production and other forms of import substitution or export expansion.

Two cycles of rising and declining surpluses in the two groups of oil-exporting countries are shown in Figure 3A—the first covering 1973 to 1978 and the second extending to the late 1980s. The corresponding deficits of the oil importers appear in Figure 3B. In the first cycle the magnitude of the \$90-billion (1978 dollars) increase in the surpluses was determined by the OPEC decision to raise oil prices in 1973, but the rapid declines resulted from the spending decisions of the individual exporting countries. Only two countries were still in surplus by 1978.

The division of the deficits between the two groups of oil importers—industrial and developing—is largely determined by the different policies followed by the two groups. On the one

FIGURE 3
CURRENT ACCOUNT BALANCES



hand, many developing countries first tried with considerable success to maintain their growth through additional borrowing. They then reduced their excess borrowing over a four-year period to its previous level of 2.5 percent of GNP. The industrial countries, on the other hand, were unable to avoid a severe recession in 1975 and hence returned to a surplus position much more quickly.

The 80 percent rise in oil prices of 1979-80 (in real terms) has produced another temporary disequilibrium of comparable magnitude between oil importers and exporters. This time the deficit of the oil-importing developing countries is about the same in relation to their GNP as in 1974 (nearly five percent), but the OECD countries now have a larger proportion of the total deficit. As before, the rate at which these deficits are reduced will be determined primarily by the oil production and spending policies of the surplus countries. So long as their surpluses are recycled in relation to the borrowers' needs for investment and imports, they permit the energy adjustment to be spread over several years and help to maintain world growth. The adjustment pattern shown here—which assumes an annual rise in oil prices of three percent in real terms—implies a return to the general pattern of surpluses and deficits of 1970 by the late 1980s, but many variants are equally plausible.

Trade Adjustment. In the long run the disequilibrium in world trade produced by rising energy prices can only be offset by either a reduction in imports (including oil) by the deficit countries or by the expansion of their exports. In the first cycle of adjustment

the OPEC countries facilitated the trade adjustment by a remarkably rapid increase in imports of 25 percent per year from 1974 to 1978. While this rapid acceleration involved considerable waste of resources by some of the oil exporters, it also made it easier for the rest of the world to pay for their imports.

This final step in the energy adjustment affected the main country groups quite differently. The transfer was easiest for the industrial countries, since 80 percent of the increase in OPEC imports was purchased from them. Most of the developing countries had to resort to triangular trade with the OECD countries, since they do not produce the industrial goods and sophisticated equipment required by the OPEC countries in sufficient quantity to pay for their oil.

The trade adjustment has been most difficult for the poorer countries. Their exports have been most affected by the slowdown in OECD growth and they have less to sell to the OPEC countries directly. Except for the poor countries that have sent large numbers of migrant workers to the Gulf states,⁵ the increase in their oil bills has cost them more than the total increase in their foreign exchange earnings since 1973. Many of the countries have only been able to adjust to this loss of foreign exchange by cutting down the growth of per capita income or in some cases stopping it entirely.

IV

In looking forward to the next round in the continuing adjustment to higher cost energy, there are several lessons to be learned from round one. The oil price increase in 1973 represented a claim by oil exporters equal to about ten percent of the annual value of world exports or two percent of world GNP. By 1979 this resource transfer had been essentially completed through increased imports and—to a much lesser extent—by the acquisition of foreign assets by the oil exporters.

Although the international economy was not significantly weakened by the adjustments that were necessary to bring about this transfer, the cost to the oil importers in lost growth was several times as great as the two percent of GNP that has changed hands. In part this loss of growth was due to the unfamiliarity of the problems faced by policymakers or their inability to act on their diagnosis—as in the case of U.S. energy policy until quite recently.

Since it follows a period of large increases in international oil

⁵ These countries include India, Pakistan, Bangladesh and North and South Yemen.

costs, 1981 has much in common with 1975. The price increase of 1979-80 has again produced a temporary surplus on world markets, which tends to reduce the perceived urgency of future adjustments. However, this slack market condition should be recognized as mainly the result of the slowdown in world growth, not the sign of a sustainable solution. The general thrust of recent studies of world energy prospects is remarkably uniform.⁶ A sustainable pattern of energy use can only be obtained at prices that will promote energy saving and permit other sources to replace oil and gas as the main source of energy growth. In the face of uncertainty as to the timing of future oil price rises, there is greater economic (and political) risk in delaying the measures needed to complete the energy transition than in implementing them too soon.

Since an oil price at least as high as the present average of \$34 per barrel in real terms—with some further increase over the decade—is likely, the oil importers are again faced with the prospect of transferring an additional two or three percent of their GNP to the exporting countries over the next several years. While transfers of this magnitude are painful, they have been made in the past few years with little loss of growth by several industrial and developing countries, once they have accepted the need to restrain the increase in consumption somewhat below the growth of income.

It is widely believed that the events of recent years have weakened the world economy and made further adjustment to rising energy prices more difficult. In support of this position are the existing high level of lending to developing countries by commercial banks, the difficulties that some of these countries have had in exporting to the industrial countries, and the growing reluctance of the OECD countries to increase concessional aid to the poor countries. These problems need to be addressed in designing more effective adjustment policies.

There are two main grounds for optimism. First is the experience acquired by all participants in the international economy in coping with inflation, worsened terms of trade, and recession in the past seven years. Second, by 1981 the effects of earlier policies and rises in energy prices are already slowing down the growth of

⁶ See, for example, Robert Stobaugh and Daniel Yergin, "After the Second Shock: Pragmatic Energy Strategies," *Foreign Affairs*, Spring 1979; Resources for the Future, *Energy: The Next Twenty Years*, Cambridge, Ma.: Ballinger, 1979; World Coal Study, *Coal-Bridge to the Future*, Ballinger 1980; Exxon Corporation, *World Energy Outlook*, December 1980; U.S. Department of Energy, Energy Information Administration, *1980 Annual Report to Congress*.

energy demand and shifting resources to new sources of supply. In sum, the main problem is not whether the world economy can survive another round of repercussions from higher energy prices, but whether it can do so without as much unnecessary damage to economic growth and social equity as took place in the 1970s.

The prospects for reducing the large indirect costs of higher energy prices thus hinge to a large extent on the ability of policymakers to learn from past experience and to acquire a better perception of the way in which different countries can adjust to the structural changes that are now under way. This argument will be developed further by examining in turn the roles of the three main groups of participants.

v

More than 20 developing countries containing 20 percent of the population of the Third World are significant exporters of petroleum.⁷ Their common objective is rapid development supported by higher export revenues. Although the rise in oil prices has often generated internal tensions, this group has benefitted substantially from accelerated economic growth and industrialization. Most of these countries have rapidly absorbed their increased oil revenues and indeed used them as a basis for additional borrowing.

The six capital surplus countries have more complex objectives and a wider range of policy choices than the other oil-producing countries. Internally, they are trying to use their oil reserves over a period of several decades to create more balanced economies.⁸ Since 1973 their non-oil sectors have been growing annually at 10-15 percent in real terms and their imports at 25-30 percent. This rapid growth almost eliminated the OPEC surplus by 1978 and eased the adjustment problems of the OECD countries, which supply most of their imports.

As oil prices have risen, the levels of oil exports needed to supply the foreign exchange required for development have declined. In deciding to produce above these levels, the capital surplus countries have weighed the returns on additional domestic and foreign investment and, to some extent, the needs of the oil-importing countries.⁹ This discretionary margin between their sustainable

⁷ World Bank, *Energy in the Developing Countries*, August 1980.

⁸ A good exposition of these objectives is given by the Finance Minister of Saudi Arabia, Mohammed Abu al Khail, "The Oil Price in Perspective," *International Affairs*, October 1979.

⁹ The oil exporters' views of these choices are given in Jahangir Amuzegar, "Petrodollars Again," *The Washington Quarterly*, Winter 1981, and al Khail, *loc. cit.*

production capacity and their developmental needs is currently on the order of six to eight million barrels per day. Recently it has been drawn on to offset the reduction of some three to four million b/d caused by the Iraq-Iran War.

For at least the next five or ten years, the capital surplus countries will continue to play a key role in the energy adjustment. Although their developmental needs for foreign exchange are likely to increase rapidly, they can maintain a discretionary margin of production by also stepping up the rate of exploration, which has been kept at a very low level, and improving the recovery from existing fields.

Since oil prices have now reached levels at which major energy alternatives are quite competitive, the conflict of interest between the importers and exporters has been reduced. Both stand to gain from more stable oil prices in the future. The long-term strategy proposed to OPEC by a ministerial committee chaired by the Saudi Oil Minister, Sheikh Yamani, envisions a gradual rise in the real price of oil linked to OECD growth and limited by the cost of alternative sources. The result would not be significantly different from the current forecasts of most Western analysts.

The other major role of OPEC, and particularly the six capital surplus countries, has been to help cushion the effect of oil price rises on the poorest importing countries. In the past about 16 percent of the surpluses of these six countries was recycled in the form of concessional aid, averaging about four percent of the GNP of the capital surplus group. This OPEC aid offset about 40 percent of the effect of the 1974 price rises on the poor countries, but it would have to be increased considerably and changed in composition to maintain this offset in the second round.

VI

Since 1973 the industrialized OECD countries have had two related economic objectives: adjustment to rising energy prices and the control of general inflation. Because of their pursuit of deflationary policies, both major oil price increases were followed by recessions and the overall rate of growth since 1973 has fallen to 2.5 percent. As we have noted, the repercussions of this drastic slowdown have been more serious for many of the developing countries than the direct effects of higher oil prices, although the two are, of course, related.

After the first energy crisis, the OECD countries eliminated their collective balance-of-payments deficit very rapidly, first through reducing growth and then through expanding exports to the OPEC

countries. The result shown in Figure 3 was that virtually the entire OPEC surplus was reflected in the current account deficits of the non-oil developing countries. However, the recycling of these surpluses, largely through the private banking system of the OECD countries, was handled more smoothly than had been anticipated in the early days of the oil crisis.

The responses of the OECD countries to the recent rises in energy prices are again critical to the successful functioning of the international adjustment processes. The bulk of the overall shift in both energy demand and supply must take place in the industrial countries, which are at once the largest users and the greatest source of capital and technological capability. Since the demand response to rising prices seems to be well under way, the most urgent contribution required of the OECD countries—and particularly of the United States—is to accelerate the production of substitutes for oil. So long as satisfactory progress is being made in these direct adjustments to high-cost energy, it should not be necessary to again restrict GNP growth on this account.

VII

The role of the non-oil developing countries in the restructuring of the world economy is perhaps the most difficult of all, since they have the least room for maneuver. Essentially they have to adjust to the rising oil prices and changing export markets that are determined by OPEC and the industrialized countries. Furthermore, the changes required in the productive structure of primary producing countries are often more difficult and time-consuming than the adjustments needed in more flexible economies.

For the non-oil developing countries, the period from 1960-73 had been very successful: their average growth was about six percent, and most countries benefitted from the rapid expansion of the world economy. Following the initial rise in oil prices, the developing countries tried with considerable success to maintain this momentum, first by borrowing and then by expanding their exports and reducing imports. This strategy was successful for most of the semi-industrial countries of East Asia and Latin America, which maintained relatively high rates of growth. It was much more difficult for the less developed countries, particularly in sub-Saharan Africa, whose economies are less flexible and export potential more limited. The large countries of the Indian subcontinent have fared considerably better than most other poor countries, partly as a result of the spillover from the rapid expansion of the Persian Gulf countries in the form of emigrant remit-

tances and imports as well as from improved agricultural policies.

As shown in Figure 3, the oil-importing developing countries as a group reduced their balance-of-payments deficit to \$23 billion in 1978 (2.5 percent of GNP), about the same proportion as in the early 1970s. Although this deficit has again been doubled by the oil price rises of 1979-80, the same strategy of adjustment through borrowing and export expansion is available to most middle-income countries, whose export growth has kept up with the growth of their debt. Many of these countries also have potential domestic energy sources whose exploitation is now profitable with higher energy costs.¹⁰

The weak link in this chain is the large group of less developed economies which are unable to borrow on commercial terms and hence are dependent on concessional loans and grants. Despite the rise in concessional lending from the surplus OPEC countries, the stagnation in OECD aid—particularly from the United States—has made it increasingly difficult for many of the poorer countries to adjust to the ongoing changes in the international environment. Although the weaknesses in their own policies are equally responsible for these difficulties, it is hard to devise solutions that do not involve some increase in concessional lending over a considerable period.

VIII

The weakness of the international economic system is not that it cannot cope with erratically rising oil prices but that the existing methods of adjustment are unnecessarily costly to certain countries and to the growth of the system as a whole. Over the past decade the losses appear to have outweighed the gains, world growth has slowed down, and prospects for reducing world poverty have been deferred. Since the previous pattern of oil-dependent growth could not have been sustained in any case, it is idle to try to allocate the blame for this condition to any one set of countries.

To what extent can future adjustment be made less costly through international action? My answer would start from the observation that the market-related aspects of the adjustment mechanism have worked surprisingly well, while progress in establishing a political framework for cushioning the adjustment has been quite limited. If the existing mechanisms can be strengthened, it should be possible to limit the range of issues requiring political agreement to more manageable proportions.

¹⁰ World Bank, *Energy in the Developing Countries*, 1980.

The evidence of the past eight years is also leading to greater consensus as to the legitimate expectations of the various participants. First, it is widely agreed that it is in the interest of almost all countries to limit energy use and increase its supply—although for a few producing countries this may involve foregoing short-run monopoly profits. In this context, the difficult role of the Persian Gulf countries in balancing the desire to conserve their petroleum assets for the future against the world's need for a smoother energy transition is more readily appreciated. Second, experience has shown that the maintenance of growth in any part of the world economy is of benefit to all. It was the surprising strength of the growth efforts of both the oil-importing and oil-exporting developing countries, supported largely by recycling of the oil surpluses through the banking system, that prevented more serious repercussions from the OECD recession of 1974–75.

If there is in fact a growing consensus along these lines, most of the requirements for completing the global energy transition can be carried out by strengthening existing approaches and institutions. Compared to the 1970s, further adjustments in energy supply and demand should now proceed more rapidly because reactions to higher prices are already under way. This shift away from oil, together with the oil exporters' policy of conservation, has already reduced the world's dependence on OPEC oil as a source of energy from 26 percent in 1973 to 19 percent now, and should reduce it to around 15 percent by 1990. As this process proceeds, the disruptive potential from future interruptions in Middle Eastern supplies will become much more limited.

The major exception to this generally optimistic outlook is the worsening position of some of the poorer countries, for whom the need to adjust to higher cost energy comes on top of the difficult problems of initiating growth. In the 1970s the increased flow of capital was financed by growth in concessional aid through international financial institutions and bilateral programs as well as by lending on commercial terms from development banks and the private banking system. Since the second oil price increase, however, there has been little real increase in concessional lending—only 37 percent of which is allocated to the low-income countries which contain more than half the population of the Third World.

The result of this squeeze on concessional lending is to make the energy adjustment more inequitable than it needs to be, reinforcing the general tendency for the benefits of development to be unequally distributed. Although an improvement in the policies of the developing countries concerned is also necessary, it

is unlikely to be sufficient without a matching increase in concessional lending. Whatever the virtues of policies for reinforcing the international economy, they must be supplemented by some form of long-term assistance to avoid the need for the poorest countries to slow down growth as the only way of balancing their international accounts.

IX

The main arguments of this paper can now be summarized.

1) The restoration of equilibrium and growth in the world economy requires shifts in energy supply and demand, international trade, and financial flows. For the next decade the objective of international economic policy should be to bring about these interconnected changes with less disruption of economic growth than in the past decade.

2) The change in policies of the OPEC countries in 1973, which stopped the growth in their oil exports, created the need for extremely rapid adjustment. The changes required to restore the energy balance include a reduction in the annual growth of world energy demand from five percent to three percent; accelerating the growth of coal and other oil substitutes to over four percent; and raising energy prices to levels adequate to stimulate these increases.

3) This set of structural changes has been more than half completed over the past eight years. International oil prices have reached levels that make coal, nuclear energy, synthetic fuels and a variety of other sources quite competitive. The rise in prices has also produced the desired reduction in the growth of demand. Continued increases in the efficiency of energy use should permit GNP to grow at rates higher than in the 1970s, without increasing pressure on energy supplies.

4) The rapid development of the OPEC countries—and particularly the surplus Gulf countries—is an important part of the restructuring of the world economy that is now under way. The development that has already taken place has greatly increased their capacity to make productive use of their foreign earnings, making it possible for oil importers to pay for their oil with increased exports and thus reduce the magnitude of future recycling problems.

5) Although the set of public and private institutions that has evolved over the past decade to deal with the recycling and adjustment problems has been surprisingly effective, these could be greatly strengthened by some form of agreement among the

major countries covering the continuity of energy supplies, the development needs of the oil exporters, and financial support for the developing countries for whom the costs of adjustment have been more serious. Now that there is less conflict of views over the long-term evolution of oil prices, the possibilities of such an agreement should be enhanced.

6) Whatever the likelihood of a formal agreement with the major oil exporters, the interests of all oil importers will be served by intensifying the development of energy sources that have now become profitable. This is the only way to eliminate the effects of limited oil supplies on future world growth. Although it will require some reallocation of investment and government priorities to accomplish this objective, the benefits of doing so will greatly exceed the costs.

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