Salah El Serafy

The Oil Price Revolution of 1973–1974

THE OIL PRICE REVOLUTION
OF 1973-1974

Introduction

It is now five years since the oil price revolution took place in 1973-1974, and we are all the wiser about its implications. A few issues have clarified, but many others remain obscure. However, the present seems to be a good time to take stock of the issues we understand better, and see if we can identify new directions for a better future, not just for the oil producers but for everybody in our small interdependent planet. This paper will be structured around three main interrelated topics, namely, price, the balance of international payments, and finally, development policy (and its obverse, the levels of oil production) in the oil-producing countries.

Price

Since 1973 our perception has improved of the factors determining the price of oil, not so much because of any progress in economic analysis, but simply on account of the gaining in currency of the notion that petroleum is...
an exhaustible asset, not just an ordinary good. In competition its price should not be equal to the marginal cost of its extraction (often erroneously referred to as production). But, being of limited supply, its price should contain a scarcity rent, deriving from the price of its substitutes. Since supply is finite, it follows that extraction results in increased scarcity; the scarcity rent therefore should rise over time.

Analysis of equilibrium in the asset market indicates that the price of oil should rise over time to allow the scarcity rent contained therein to increase exponentially at the current rate of interest. The price will attain equilibrium only when the "producers" become indifferent between leaving a barrel of oil in the ground to appreciate in the future as its scarcity increases or extracting it and investing its value at the current interest rates. Over time the increase in the price of oil will discourage demand and keep it equal to the dwindling supply until eventually demand will have shrunk to the ultimate single barrel that remains and the world's stock of oil is exhausted. Should the prevailing interest rates, however, happen to be higher than the social rate of time preference, it would be to the advantage of the oil producers to accelerate its extraction and oil would be depleted faster than society truly wants; alternatively it would be conserved longer (i.e., depleted more slowly) than the true preferences of society would warrant.¹

One advantage of a configuration like the above is that it brings into play the longer-term forces of supply and demand which are the relevant forces for this kind of analysis. And in thinking of the prices of alternatives, which determine the level of scarcity rent, the proper prices are the long-term supply prices, and these could in turn be dependent on the price of petroleum, including gas, which is the source of much of primary energy produced at present. Although the price of oil, even today, remains below the price of alternative energy sources, changes in technology, partly the product of the prevailing relatively high energy prices, could bring about a reduction in energy prices over the medium or longer term. Higher petroleum prices now could lead to lower supply prices for substitutes (increased supply) in the longer run; low petroleum prices would delay the development of substitutes and therefore contribute to higher substitute prices in the future. There are of course optimists and pessimists about

¹Cf. Robert M. Solow, "The Economics of Resources or the Resources of Economics," American Economic Review, May 1974. who recalled the analysis of H. Hotelling of "The Economics of Exhaustible Resources," Journal of Political Economy, April 1931. In a competitive market where the demand curve facing individual producers is horizontal, the scarcity rent would be the difference between marginal cost and price. Where the demand curve is downward sloping, the scarcity rent would equal the rate of marginal profit, or the difference between marginal cost and marginal revenue.
likely progress in technology in this field. But, after the initial "optimism" that foresaw a collapse of the 1973-1974 oil prices, realism has tended to set the long-term price of substitutes quite high — much higher than was thought possible before.

Of course if we knew the future of technological change we would be able to set the long-run price of substitutes correctly, and from there would set the price of petroleum correctly and see to it that it should rise year after year to allow the scarcity rent to grow exponentially at the current rate of interest. Instead, we have the present state of affairs where the producers claim that current oil prices are too low, and the consumers, or at least some of them, insist they are too high.

Although we cannot know for certain which is right, it is becoming clear that current prices are probably not high enough to bring forth significant supplies of substitutes for the next 10 or perhaps 15 years. Be that as it may and with the benefit of hindsight, there is little doubt that the current levels of petroleum prices are more in harmony with the state of its scarcity and the supply prices of its substitutes than the exceptionally depressed prices of less than $2 a barrel for crude oil that prevailed for over two decades, with a declining trend until 1972.\(^2\)

This, however, is past history; yet one could add that those depressed prices in the past were not imposed on the industry out of wickedness, but resulted from the interplay of forces that mistook the cost of extraction for the cost of production and, perhaps understandably, ignored the interest of the host countries in having a say in the rate at which their exhaustible resources were being depleted. It must be conceded that many of these countries were themselves not aware of the wealth under their own soil until the oil companies had explored for and located it and had sunk huge investments for its development. And it was indeed a fortunate developing country that attracted the attention of the oil companies and secured royalties to help finance its development. The price of oil may have been depressed by the standards of today or even by other objective standards, but nobody dreamed in the sixties that it should or could reach the heights it did in 1974. The fact is that the then prevailing and indeed falling low prices induced the industrialized countries to build a way of life around cheap petroleum which by the early seventies had become the source of three-quarters of OECD energy. The modes of travel and living, the commuting to work and the rise of the automobile, the rapid decline of coal (as a fuel and as an industry able to attract and retain workers), and the slow search for clean and replaceable sources of energy were all the products of low petroleum prices. So when the price revolution of 1973-1974 occurred,

\(^2\)See Appendix, table 1, for a series of oil prices in current and constant values.
the forces to resist it were too weak to unravel it. In a sense, therefore, the low energy prices in the fifties and sixties were the prelude and the necessary condition for the higher prices that have prevailed since 1974.

That is not to say that the situation prevailing before the oil price revolution of 1973-1974 had been stable; sooner or later it would have occurred to the principal consumers of energy themselves that such a state of affairs could not last. Even if the oil producers' preferences were to continue to be disregarded, the consumers themselves would have eventually had to regulate extraction in accordance with their relative preferences as between immediate and future needs, and prices would have had to rise. It was only on account of the abruptness and magnitude of the price change in 1973-1974 that so many passions were raised.

The price levels established in 1973-1974 have largely stuck. They have failed to bring forth the deluge of energy oversupply which many people predicted at the time. Nor have they induced significant shifts of demand away from this very handy source of energy. Despite some fluctuations in the market, the 1973-74 price levels have stood the test of time, and, in view of the projected growth of demand, practically all serious analyses now indicate a probable rise in the real price of oil, particularly after 1985. Between now and 1985, especially under the influence of some significant additions to oil supplies in the North Sea, Alaska, Mexico, and a few less-developed countries, the real price for oil may not be subjected to intense upward pressure. But the pressure would greatly increase in the late eighties. Even by 1985 OPEC would be "required" to increase its production by between 4 and 12 million barrels per day for the 1977 real price of oil to remain constant. ³ Doubt about the oil producers' willingness to expand their future production to fill in the projected gap has prompted Walter Levy recently to ask:

May we not be headed, within the next decade at most, for far more serious upheavals, in which the OPEC producing countries can — and may, if for no other reason than to protect their vital self-interest — completely reassess their present internal development policies, which, in turn, may drastically affect their policies on the supply and price of oil? ⁴

Recent events in Mexico have also reinforced this notion: that unless the terms offered to the oil producers are attractive enough, they will be forced to regulate their production according to their own development requirements, which may not coincide with the energy needs of the


⁴ Ibid.
consumers. This point will be given greater attention in a subsequent section of this paper.

**International Payments**

In 1972 the value of world trade in oil was about $25 billion, equivalent to some 6 percent of world merchandise trade and about half of 1 percent of world income. By 1976 the value of the oil trade had risen to about $130 billion, accounted for some 13 percent of world merchandise trade and some 2 percent of world income. The commotion caused by the oil price revolution of 1973-1974 contrasted with the modest place it occupied in world trade and relative to world income. The violence of the reactions to the price change stemmed, however, from the insecurity of supplies generated by the Arab embargo, the mistaken belief that the new prices, unlike the older ones, had no economic justification behind them, and lastly from the imbalance created in international payments by the new prices. Inordinate attention was to be given to this last point, almost to the neglect of all else.

In 1972 many of the densely populated oil producers were in deficit on current account, resorting to international borrowing to supplement their domestic resources in pursuit of economic and social development. Some of them, such as Nigeria and Indonesia, were also recipients of concessional aid from the richer countries. The aggregate international reserves of all the oil producers were modest and were surpassed by a number of individual country reserves including Germany and Japan. The price revolution of 1973-1974 upset this pattern and converted the surpluses of the net oil importers into deficits. The world held its breath in anticipation of a new situation in which the industrialized countries would be transferring a significant portion of their hard-earned income to a few primary producers. These producers would accumulate rising reserves, since their ability to import, alias absorptive capacity, was clearly limited. The rise of reserves would in turn generate income for the oil producers to add to the balance-of-payments burden of the oil consumers whether rich or poor. It was indeed a scenario which raised emotions high to the point of military threats being voiced against OPEC members.

In retrospect neither the surpluses nor the ever-rising reserves

---

5 The clear implication of this is that the current prices for oil are too low as compared with the long-term equilibrium prices referred to earlier in this paper. See also the Appendix entitled "On OPEC As a Cartel."

materialized in the way the forecasters (and they were many) had predicted. The growth of imports of OPEC members since 1973 has been astonishing. Merchandise imports of the major oil-exporting countries increased in nominal terms by 44 percent in 1973, 69 percent in 1974, 60 percent in 1975, 22 percent in 1976, and 36 percent in 1977.\(^7\) By contrast, their exports reached a plateau in 1974 and nominal growth since then has been in the neighborhood of 6 percent per annum. Their net service imports soared as payments for tourism, freight, workers' remittances and others exceeded all expectations. A major program of aid was also mounted, and large capital transfers for assistance and investment were made both in developing as well as developed countries. The oil nations made considerable contributions to international and regional development funds and cooperated in cofinancing with other donors a larger number of projects throughout the world. Their current accounts began to show diminishing surpluses: $68 billion in 1974; an average of $35 billion a year in the period 1975-77; an estimated $9 billion in 1978. This last-mentioned figure compares with an estimated 1978 current account surplus of $8 billion for Italy, $13 billion for Germany, and $17 billion for Japan. Thus the aggregate international reserves of this oil group decelerated in growth, and by end-November 1978 reserves amounted to 46.4 billion SDR — only 13 percent higher than the reserves of Germany.\(^8\)

As to the non-oil developing countries, these began as a group to encounter large current account deficits after 1972. Their aggregate deficits reached a maximum in 1975, but have tended to diminish in later years, with the possible exception of 1978. The oil price increase has certainly been behind the deterioration in their external payments. However, since the energy needs of the low-income developing countries are on the whole modest, the impact of the oil price increase on their balances of payments therefore has been limited. More important, perhaps, was the effect of the general deterioration of their terms of trade, caused in particular by the leap in the price of their imports of manufactured goods and by the depressed world demand for their primary exports. While the various programs of aid and special arrangements, such as the IMF Oil Facility, did in general alleviate many difficulties, there have been a few cases of hardship, especially in nations where the aid received was nonexistent or otherwise too little to offset the damage done to their economies. In sum, the impact of the 1973-1974 oil price levels on

\(^7\) That is, Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, Venezuela, and the non-OPEC state of Oman. See IMF, *International Financial Statistics*.

\(^8\) Ibid., and table 2 in the Appendix.
international payments and international liquidity turned out to be different from the disaster that had been foreseen. Here it is interesting to note that Japan, perhaps the most dependent industrial power on imported fuel, got over its balance-of-payments difficulties quite early. On current account (including official transfers), Japan's 1974 deficit was almost eliminated in 1975, and a surplus of $3.6 billion appeared in 1976. In that year Italy and the United Kingdom also began to have surpluses on current account.

Some World Repercussions

In retrospect the world seems to have adjusted fairly well to the upheaval in the oil market in 1973-1974. This is not to say that 1974-1975 was not a turning point for the world economy, for in many respects it was. In the decade prior to 1972 the industrialized economies had grown in real terms by about 4 percent per annum (Japan leading the way by over 10 percent) and the less-developed economies by about 6 percent. Growth of both groups accelerated in 1973 to about 6 and 7 percent, respectively, but has declined since. The world experienced a severe recession in 1974-1975 with inflation combined with stagnation. Improvement in activity since then has been slow, with the industrialized economies averaging 3-4 percent per annum real growth, and the less-developed countries 4-5 percent. Underutilization of resources, particularly in manufacturing industry, remains severe in the industrialized countries, whereas it had been quite modest prior to 1972. Inflation has become a structural problem. In the decade prior to 1973 the GDP deflator in the industrialized countries increased on average by 4 percent annually, and consumer prices in the less-developed countries (excluding the more volatile ones) by 6-10 percent. After two years of pronounced inflation in 1974-1975, inflation seems to have settled to a level about 7 percent per annum in the industrialized countries and at 10-25 percent (again excluding extreme cases) in the less-developed world. The "world economic order" has also been plagued since the early seventies by continuous and often violent changes in exchange rates.9

As to the terms of trade, the oil producers made considerable gains in 1973, and massive gains still in 1974; afterwards and taking changes in

---

9The IMF is the source of most of the measurements cited in this article on the terms of trade, balance of payments, inflation, and growth. See various issues of the IMF Survey; the Communiques of the Intergovernmental Group of Twenty-Four on International Monetary Affairs (Ministerial Meetings); the IMF Annual Reports; Joint Press Conference by the Chairman of the Interim Committee Twelfth Meeting and the IMF Managing Director, March 7, 1979; the Balance-of-Payments Yearbook and International Financial Statistics.
exchange rates into consideration, they have lost ground in every year, with the greatest losses experienced in 1975 and 1978. Because oil is relatively less important in their economies, the industrialized countries' deterioration of terms of trade in 1973 and 1974 was on a much reduced scale, and so were their gains in 1975 and 1978. The less-developed nations improved their terms of trade in 1973, lost ground in 1974 and 1975, and appear to have gained a little in 1976 and 1977, to lose again in 1978.

Whether or not it was the oil price revolution of 1973-1974 and its repercussions that triggered the recession, intensified the inflationary tendencies and caused or accentuated exchange instability is not important for the purpose of this article. Although the roots of all these ills extend back in time to well before 1973, there is little doubt that the drastic and abrupt change in the oil terms of trade in 1973-1974 bared economic weaknesses and intensified difficulties for many economies.

What has come out clearly from the events of the past few years, however, is the relative ease with which the new level of oil prices has been integrated into the world economy. Despite fluctuations, prices of other commodities did not soar, and the world has been made aware of the scarcity of fossil fuels. The search has begun for alternative sources of energy, but the adjustment is hardly begun, let alone complete.

Development and Production in the Oil-Producing Countries

For the oil-producing countries, the past five years have been essentially experimental. Neither they nor the rest of the world knew whether or not the new levels of prices would be sustained over the medium term. Although they became conscious of their increased wealth, they were understandably unable either to gauge the dimensions of their increased income or to ascertain their new preferences. As far as oil production is concerned (and after the short-lived Arab embargo), they were not clear as to the volumes they should be producing at the new prices, but, since demand appeared to remain roughly the same as before, they experienced no significant change in export volumes. The countries with small petroleum reserves relative to annual extraction, however, have tended to value conservation (e.g., Libya) and the poorer and densely populated countries with growing demands to finance development (e.g., Indonesia, Nigeria, Algeria) aimed for maximum production. But there has been no scramble for markets owing to the balancing effect of these two tendencies, and to the fact that the market appeared accommodating to the total oil supplied by OPEC at the declared prices. In other words the prices charged were roughly right. Saudi Arabia, with its obvious interest in the longer term, tended to exercise a moderating influence on the course of short-term
With production thus fairly given, higher prices reflected themselves in higher incomes for all the oil producers. It was fairly easy to adjust expenditure upwards, and this was done in the manner outlined earlier in the section of this paper on international payments through vast increases of imports. Expenditure on consumption rose considerably, particularly its component, public consumption, which includes defense and public administration. As mentioned before, the oil countries were also especially generous with economic aid, disbursing large amounts of resources bilaterally and through various funds and multinational agencies. But the major portion of their expanded expenditure went to the much cherished goal of economic and social development, and practically every oil-producing country either began or expanded already begun medium-term development programs. With some exceptions, the states with large populations and other complementary resources had clearer visions about the future than the relatively empty desert economies whose goals were less clear. To the latter, which amassed the largest surpluses, development in the first instance often meant infrastructural development, and the bulk of the developmental effort was therefore directed at construction. Large imports of bulky construction materials and foreign labor became necessary and ports and other transportation facilities became congested, skills short, and inflation intense.

Infrastructure, however, is normally a support for productive activities and should be developed only to the extent that it is needed to serve these activities. In many instances the development of infrastructure has surpassed likely potential. With water and labor scarce, agricultural development proved to be unpromising and industry handicapped by lack of raw materials, labor, management, technology, and markets. Many oil producers with small populations therefore fell on the notion that their industrial development should be based on the processing of hydrocarbons

---

10 See Appendix, "OPEC As a Cartel."

11 Revenues would be a better word than incomes. Strictly speaking, proper calculation of income must take account of any asset depreciation. The practice, so far adopted everywhere, to calculate GDP of the oil-producing countries does not allow for the depletion of their oil reserves. Should this depletion be charged as asset depreciation against the gross value added by oil extraction, very little income generated would remain. This is a fundamental conceptual point which is often ignored.

into petrochemicals, especially where gas, currently being flared, could be utilized. A few energy-intensive projects in aluminum or steel are also being pursued. For all this, large-scale importation of labor and management has ensued, and the foreign influx, including workers' dependents, besides causing social problems, needs to be housed and fed, transported, educated, and given health care when ill; these tasks in turn create their own labor multiplier in that the imported labor necessary to perform them requires additional labor to provide more services for them and so on. Some countries therefore have decided to limit their future growth to reduce this foreign labor influx and also to moderate inflation.

During the past five years and in the flush of increased oil revenues, many countries lost sight of the need to economize, failed to coordinate development plans sufficiently with others in the same position, and ended up by bidding resources away from each other to the detriment of their terms of trade. In industrial development and even in infrastructure they have often duplicated facilities and created a potential for conflict over future marketing. With few exceptions it is fair to say that the major task of creating viable sources of income through economic and social development to replace petroleum remains as unattainable as ever. The past five years, in fact, have witnessed a waste of resources at a time when many parts of the world, with ample complementary resources, could have benefited from increased investments. At the heart of the waste lies the understandable but irrational desire to confine investments within individual national borders. While noting this, one must be aware nonetheless of the efforts of the Organization of Petroleum Exporting Countries (OPEC) and the Organization of the Arab Petroleum Exporting Countries (OAPEC) and of the various development funds in spreading investments throughout the Middle East and beyond. But it is the overambitious development plans and not these funds that are exhausting the bulk of the oil revenues, and it is these plans which need to be debated, rationalized, scaled down and coordinated in a regional context for the benefit of the oil producers primarily, but also for the benefit of their regions and the less-developed world generally.

From now on, as argued before, the pressure will mount on the oil producers with spare capacity to respond to the growing world requirements of fossil fuels by expanding their production particularly after 1985. And these very countries now may be having second thoughts about the waste that resulted from having produced too much oil during the past five years. As in Mexico, the desire may surface for these countries to tailor their future petroleum production to their ability to make effective use of the generated revenues.

Increasingly the oil-producing nations have come to realize their interdependence with the rest of the world. Their fortunes have become
part and parcel of a world economy in which they now have an enlarged role. As producers of petroleum they require and receive technological advice and even management of their oil and gas fields which need continuous attention. Decisions on the rates of well production, secondary recovery, and use of associated gas are among many that have to be taken in consultation with their production partners and marketers. The bulk of the market for their valuable products lies outside their boundaries. The freedom of the seas should be as much their concern as that of the oil consumers. Shaping and implementing their development plans often depend on outside support. Even their consumption needs have now to be satisfied by imports, and their financial investments will forever depend on the potential and economic stability, prosperity, and sanctity of contract in the various countries in which they have already invested and are likely to continue to invest in the future.

There is little doubt in this writer's mind that the oil-producing states should respond positively if required by the oil consumers to increase production, for it is not in their interest to impede growth in the industrialized countries or inflict hardships on the poorer and less-developed nations. Expanded production, however, would mean reduced prices (reduced, that is, compared with the prices that would otherwise prevail), but it is not beyond the ingenuity of man to devise a method of fair compensation to the producers for any loss of revenue due to expanded production. But apart from price, which is a lesser issue, the producers should not regard excessive financial resources as inevitably wasteful. The world outside is hungry for investment funds, and again it should not be beyond the rationality of man to devise ways and means to channel oil surplus funds into productive investments anywhere in the world: to increase food and energy and employment-creating industrial production.\(^\text{13}\)

The world wasted a great deal of resources and time through the exaggeration of the problem of the balance of international payments, but in retrospect we know that that was an illusory problem. Waste of resources through public and private expenditures in the newly rich oil countries was tolerated, and in some instances even encouraged, to boost their imports. In retrospect it is easy to see that we are all the poorer for this waste. The lesson of the past few years seems clear. There should be a concerted effort for cooperation among all parties. The consumers want an assurance of

\(^{13}\) In this context, one should note the recent decision by the World Bank to embark on an energy development program in less-developed countries. Increased production of oil and gas as a result of this program may not add substantially to the supply of petroleum in the world market and will take some time to materialize, but it is a step in the right direction and should alleviate some of the hardship in a number of the poorer countries. Additionally, it should contribute to lessening the pressure on oil producers to increase sales.
security of supply and some elasticity over time in response to growing demands. The producers want a fair price that reflects the growing scarcity of their exhaustible resource. If sinking excessive resources in the producers' own economies is wasteful, such resources should be invested in financial or physical assets that have to lie outside the oil producer countries themselves. Much dispute over oil prices and the volume of oil output has come from the fact that no effective outlets have been developed to afford the producers equitable returns on their investments. Such returns, as noted earlier, at equilibrium should be equal to the returns the producers can legitimately expect from leaving their oil in the ground to appreciate. The fact that the producers have been paid in depreciating dollars, and that their financial investments have often carried negative real returns, is not encouraging for production expansion should this be needed in coming years. For the future it should be possible for oil to be priced in a currency other than dollars, say in the International Monetary Fund's Special Drawing Rights (SDRs) and investments could likewise be denominated also in SDRs carrying positive interest rates. Side by side with the raising of returns on financial investments, returns on the physical formation of assets also should be boosted. If the oil countries have no immediate investment opportunities within their borders, they should expand their outside investments. The major development funds should be integrated and their resources greatly expanded. The primary target should be to promote regional development, and after this to promote development anywhere else in the less-developed world.

Regionalism in the Middle East may be viewed as comprised of the Arab League. It may come as a shock that if all the income of the region including that of Saudi Arabia, Kuwait, and the United Arab Emirates is evenly divided among the population of the countries of the Arab League, income per capita would amount to no more than $1,134 in 1976, as compared with a world overall average of $1,697. The Arab world average income, therefore, is only about two-thirds of that of the world average (see tables 3 and 4 of the Appendix for details). In other words, the Arab countries, taken as a whole, are not a rich part of the world — except perhaps in potential, and for the potential to be realized a great deal of hard work and vision is necessary, and the help and cooperation of the outside world is essential.

Conclusion

To sum up, it may be helpful to emphasize a few points elaborated in this paper. The world has become so interdependent that it is no longer possible for any one group to realize significant gains at the expense of others without damaging its own interests. The outside world has so far failed to
develop substitutes for petroleum, and the higher prices of 1973-1974 have more or less prevailed; but the search for alternatives has been put in motion, and it is just a matter of time before these substitutes are developed. The producers therefore must attempt to develop other sources of income. The oil exporters already have considerable financial interests through investments in other parts of the world and thus have become much more sensitive than before to peace and prosperity globally. World requirements of petroleum are projected to grow at the current level of real prices and if the present conditions should prevail, the oil producers will lack sufficient incentive to expand production and ease the pressure on prices to rise. The prevailing conditions include payment for oil in depreciating dollars, negative-bearing financial investments, and wasteful expenditure at home. To induce the oil producers to maintain and even expand their oil output there should be cooperation by all sides to offer them a fair price for their product, boost their financial returns through inflation-proof investments which are safe from exchange depreciation, and offer them the opportunity to channel their investment outside their borders where the returns on investments should be higher. If this is done, they are bound to respond by offering the world the energy supplies it will so badly need.

Appendix

On OPEC As a Cartel

The Organization of the Petroleum Exporting Countries (OPEC), which began as a consultative forum for the oil-producing countries in 1960, is now often referred to as a cartel. A cartel seeks to raise the price of the cartelized product over and above the price that would rule if free competition prevailed. The logic behind a cartel is that the conditions of demand for the product are such (e.g., price elasticity being lower than one) that a smaller supply would fetch higher revenue than a larger supply. A cartel would seek to limit supply and allocate the limited supply as quotas among its members (usually by reference to some historical sales). In commodity markets there have been many instances of cartels being formed only to break up after a short period of time. The artificially higher prices they maintain bring forth supply expansion outside the cartel, and also induce buyers to seek substitutes for the product; the market would then revert to competition.

Although the members of OPEC had consulted with each other about policy prior to 1973, the characterization of OPEC as a cartel did not become current until the oil price revolution of 1973-1974. The fact that OPEC began afterwards to hold periodic conferences, at which a price was declared for OPEC members, reinforced the image of the organization as a cartel. It was immaterial whether or not OPEC limited supply. By fixing price, total supply was determined. Although there was no allocation of quotas among the various producers, Saudi Arabia appeared to play a balancing role of adjusting its own production so that the declared oil price could prevail. Saudi Arabia seemed to be in the special position of being fairly indifferent to the level of its production since its financial requirements could be accommodated within a wide range of possible levels of production. Saudi Arabia thus appeared to perform the necessary limitation of supply on which a cartel has to depend.
Little attention was given to the fact that the $2 per barrel price that preceded the price revolution of 1973-1974 had been determined in a market in which the oil multinationals enjoyed great powers (supported often by the military and political powers of their principals) over drilling, the rate of extraction, technology, distribution, and prices. That they acted often as oligopsonists with influence on prices and revenue-sharing with the host countries cannot be denied. Gradually, however, the powers of the host countries did increase pari passu with the decline of the old empires and the changed balance of world power.

The abrupt rise in prices under the aegis of OPEC in 1973-1974 caused passionate reactions. As argued in the text of this paper, this rise was only possible because the price had been depressed for a long time, and the world had become addicted to cheap petroleum as a major source of energy. Many analysts, some of them eminent, believed that the petroleum market had been competitive before and was now being artificially cartelized. There was also large-scale confusion over the cost of extraction which was often identified with the cost of production. Account tended not to be taken of the fact that petroleum was an exhaustible resource.

It was therefore common to believe in 1974 and 1975 that the oil "cartel" would eventually have to disband, and the artificially high prices would collapse as the industry reverted to its previous state of "competition." Professor Houthakker wrote:

> There may be markets where the price can be doubled or tripled without changing the balance of supply and demand, but the petroleum market is certainly not one of them. The incentives for increasing production are tremendous, and no matter what the Club of Rome may say, the potential for greater output exists, not only in the currently exporting countries, but also in the United States. In the very short run not much can be done, but at prevailing OPEC prices we are likely to see a surplus of oil within the next year or two. Normal responses to higher prices on the demand side will work in the same direction. The producer cartel will then have to adopt prorationing if it wants to keep the price up.¹

Fundamentally, people who took the Houthakker line, and they were legion, believed that the new level of prices was sustainable only by supply limitation, and that OPEC was truly a cartel.² If, on the other hand, the higher prices are judged to be more in harmony with competitive conditions, being sustained essentially by fundamental market forces, then the concept of a cartel becomes superfluous, and it is the pre-1973 market form that was then at variance with competition. In the present conditions of oil shortage, with Iran's production interrupted, it is easy to defend the latter position. The OPEC declared prices now are being exceeded in bids in the spot market (early 1979), and individual producers are raising their


²It was a strange cartel whose members behaved discordantly at the height of the Arab embargo in 1973. The non-Arab members of OPEC did in fact expand production to take advantage of the reduction of Arab supply, and some of the Arab members themselves disagreed with the embargo. OPEC also has been unable to regulate the premia and discounts (for quality and location) around the Saudi marker crude, and these have often fluctuated widely. Moreover, some OPEC members resorted to bartering their oil at prices which could not be known.
prices without consultation with each other. But even if Iranian production is fully restored, the price of oil is expected by a growing number of analysts to increase not to fall over time. The world has had five years to adjust to the higher prices, but substitutes on either the demand or supply side of the market have been scarce. In these conditions if OPEC were to be liquidated voluntarily, the price of oil would probably not fall. Thus OPEC does not seem to be the cartel it is held to be. ³

In the recent past, particularly since the Doha meeting of OPEC in December 1973 when a two-tier price reflected internal dissensions, it has become obvious that the organization is unable or unwilling to achieve a consensus that is truly binding on its members as to price and, therefore, volume of production. Sporadic increases in prices, declared by individual members of OPEC in early 1979 in reaction to the Iranian crisis, also indicate that OPEC's real function has become one of providing a forum for the oil exporters to consult with each other. Such consultations are necessary and useful, but it is high time that they were extended to include the major oil consumers. OPEC would be an ideal venue for such consultations. Even the acronym, OPEC, could remain unchanged, standing for the Organization of Petroleum Exporters and Consumers, and the OPEC would henceforth be rid of the cartel image it has unfairly assumed.

Table 1

<table>
<thead>
<tr>
<th>Year</th>
<th>Saudi Arabian Realized Price a (current)</th>
<th>Index of Price of Manufacturesb (1975=100)</th>
<th>Saudi Arabia Realized Price Deflated by Index of Price of Manufactures (1975=100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>1.71</td>
<td>36.5</td>
<td>4.70</td>
</tr>
<tr>
<td>1955</td>
<td>1.93</td>
<td>42.3</td>
<td>4.56</td>
</tr>
<tr>
<td>1960</td>
<td>1.50</td>
<td>45.0</td>
<td>3.35</td>
</tr>
<tr>
<td>1965</td>
<td>1.33</td>
<td>46.6</td>
<td>2.87</td>
</tr>
<tr>
<td>1970</td>
<td>1.30</td>
<td>52.9</td>
<td>2.46</td>
</tr>
<tr>
<td>1975</td>
<td>10.72</td>
<td>100.0</td>
<td>10.72</td>
</tr>
</tbody>
</table>


² Light crude oil, 34°-34.9° API gravity, f.o.b. Ras Tanura.
³ Prices of manufactures (SITC 5-8) c.i.f. index converted from an index based on 1970. Classification includes chemicals, manufactured goods classified by materials, machinery and transport equipment, and miscellaneous manufactured articles.

³ Practically all oil producers, with the exception of Saudi Arabia, produce up to the limits of their capacity — capacity being defined to take depletion into account, not just the transient facilities that happen to be in place. Saudi Arabia could, of course, deluge the world with oversupply, but this would be contrary to its own interests as it lacks alternatives for financial investments that would give it returns equal to the returns that would accrue through appreciation by leaving its oil in the ground.
Table 2

OIL-EXPORTING COUNTRIES:
EXPORTS, IMPORTS, AND INTERNATIONAL RESERVES\textsuperscript{a}
(in billion U.S. dollars)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports</td>
<td>24.27</td>
<td>38.34</td>
<td>118.46</td>
<td>109.42</td>
<td>132.88</td>
<td>145.30</td>
<td>(67.01)\textsuperscript{b}</td>
</tr>
<tr>
<td>Imports</td>
<td>13.50</td>
<td>19.54</td>
<td>32.41</td>
<td>51.28</td>
<td>62.61</td>
<td>85.12</td>
<td>(48.86)\textsuperscript{b}</td>
</tr>
<tr>
<td>International reserves (total end-year)</td>
<td>10.90</td>
<td>14.35</td>
<td>46.16</td>
<td>58.63</td>
<td>64.82</td>
<td>72.42</td>
<td>58.38\textsuperscript{c}</td>
</tr>
<tr>
<td>International reserves (addition during year)</td>
<td>3.10</td>
<td>3.45</td>
<td>31.81</td>
<td>12.47</td>
<td>6.19</td>
<td>7.60</td>
<td>-14.04\textsuperscript{d}</td>
</tr>
</tbody>
</table>

Source: International Monetary Fund, \textit{International Financial Statistics}.

\textsuperscript{a}Cover Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates, and Venezuela.
\textsuperscript{b}First half of 1978 only.
\textsuperscript{c}At end of November 1978.
\textsuperscript{d}Eleven months until the end of November 1978.
### Table 3

**POPULATION, GNP PER CAPITA AND TOTAL GNP OF MEMBERS OF THE ARAB LEAGUE, 1976**

<table>
<thead>
<tr>
<th>Country</th>
<th>Population, Mid-1976 (000)</th>
<th>GNP at Market Prices 1976 (million)</th>
<th>Per Capita (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iraq</td>
<td>11,510</td>
<td>15,960</td>
<td>1,390</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>9,240</td>
<td>40,860</td>
<td>4,420</td>
</tr>
<tr>
<td>Syrian Arab Republic</td>
<td>7,655</td>
<td>6,320</td>
<td>830</td>
</tr>
<tr>
<td>Yemen Arab Republic</td>
<td>5,406</td>
<td>1,620</td>
<td>300</td>
</tr>
<tr>
<td>Lebanon</td>
<td>3,266</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Jordan</td>
<td>2,792</td>
<td>1,820</td>
<td>650</td>
</tr>
<tr>
<td>Yemen, People’s Democratic Republic</td>
<td>1,743</td>
<td>470</td>
<td>270</td>
</tr>
<tr>
<td>Kuwait</td>
<td>1,030</td>
<td>14,380</td>
<td>13,960</td>
</tr>
<tr>
<td>Oman</td>
<td>796</td>
<td>2,090</td>
<td>2,620</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>694</td>
<td>10,050</td>
<td>14,480</td>
</tr>
<tr>
<td>Bahrain</td>
<td>320</td>
<td>1,220</td>
<td>3,810</td>
</tr>
<tr>
<td>Qatar</td>
<td>210</td>
<td>2,440</td>
<td>11,460</td>
</tr>
<tr>
<td>Egypt, Arab Republic of</td>
<td>38,228</td>
<td>10,680</td>
<td>280</td>
</tr>
<tr>
<td>Morocco</td>
<td>17,197</td>
<td>8,900</td>
<td>520</td>
</tr>
<tr>
<td>Algeria</td>
<td>16,463</td>
<td>16,700</td>
<td>1,010</td>
</tr>
<tr>
<td>Sudan</td>
<td>16,127</td>
<td>4,390</td>
<td>270</td>
</tr>
<tr>
<td>Tunisia</td>
<td>5,732</td>
<td>4,580</td>
<td>800</td>
</tr>
<tr>
<td>Somalia</td>
<td>3,579</td>
<td>400</td>
<td>110</td>
</tr>
<tr>
<td>Libya</td>
<td>2,537</td>
<td>15,140</td>
<td>5,970</td>
</tr>
<tr>
<td>Mauritania</td>
<td>1,495</td>
<td>380</td>
<td>250</td>
</tr>
<tr>
<td>Djibouti</td>
<td>273</td>
<td>160</td>
<td>580</td>
</tr>
<tr>
<td><strong>Total Arab League</strong></td>
<td><strong>139,761</strong></td>
<td><strong>158,560</strong></td>
<td><strong>1,134</strong></td>
</tr>
</tbody>
</table>


*aExcluding Lebanon and “Palestine.”*
Table 4
WORLD POPULATION, GNP PER CAPITA AND TOTAL GNP
BY MAJOR REGIONS, 1976

<table>
<thead>
<tr>
<th>Region or Countrya</th>
<th>GNP Per Capita 1976 (US$)</th>
<th>GNP 1976 (US$ billion)</th>
<th>Population, Mid-1976 (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>7,880</td>
<td>1,877</td>
<td>238</td>
</tr>
<tr>
<td>Japan</td>
<td>5,090</td>
<td>574</td>
<td>113</td>
</tr>
<tr>
<td>Oceania</td>
<td>5,320</td>
<td>115</td>
<td>22</td>
</tr>
<tr>
<td>Europe, excluding U.S.S.R</td>
<td>4,280</td>
<td>2,215</td>
<td>518</td>
</tr>
<tr>
<td>U.S.S.R.</td>
<td>2,800</td>
<td>718</td>
<td>257</td>
</tr>
<tr>
<td>Middle East</td>
<td>2,250</td>
<td>176</td>
<td>78</td>
</tr>
<tr>
<td>South America</td>
<td>1,230</td>
<td>270</td>
<td>219</td>
</tr>
<tr>
<td>Central America</td>
<td>1,000</td>
<td>109</td>
<td>109</td>
</tr>
<tr>
<td>Africa</td>
<td>420</td>
<td>180</td>
<td>426</td>
</tr>
<tr>
<td>Asia, excluding Japan and Middle East</td>
<td>290</td>
<td>586</td>
<td>2,040</td>
</tr>
<tr>
<td>World</td>
<td>1,697</td>
<td>6,820</td>
<td>4,020</td>
</tr>
</tbody>
</table>


a For definitions of area refer to source.
THE WORLD BANK

Headquarters:
1818 H Street, N.W.
Washington, D.C. 20433, U.S.A.

European Office:
66, avenue d'Iéna
75116 Paris, France

Tokyo Office:
Kokusai Building,
1-1 Marunouchi 3-chome
Chiyoda-ku, Tokyo 100, Japan

The full range of World Bank publications, both free and for sale, is described in the World Bank Catalog of Publications, and of the continuing research program of the World Bank, in World Bank Research Program: Abstracts of Current Studies. The most recent edition of each is available without charge from:

PUBLICATIONS UNIT
THE WORLD BANK
1818 H STREET, N.W.
WASHINGTON, D.C. 20433
U.S.A.