CAN OPEC MAINTAIN CURRENT PRICES?

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In the second half of 1970, demand for oil began to outrun supply and prices began slowly but steadily to increase, up to the Middle East conflict in October 1973, when they abruptly rocketed upwards. The trends underlying these price increases are more complex than usually assumed, and are certainly not entirely due to the justified demands of the producing countries for a higher revenue from their oil exports. The new prices reflect a profound change in the structure of the oil industry with far-reaching effects for the world economy. The present energy crisis has its roots in the political economy of the oil industry and not, as argued by the prophets of doomsday, in the depletion of oil reserves within one or two generations.

A great number of factors will, therefore, affect the ability of OPEC to sustain or raise current price levels. For the purposes of this paper we will draw attention to the ones we regard as the most relevant, namely: (a) future trends in oil demand stemming from current price levels[1] (b) the potentialities regarding increases in supply (c) the political coherence of OPEC.

Characteristics of Demand

A. In the short term

It is generally agreed that in the short term, say, 1974-76 oil prices

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[1] In the discussion which follows, "current prices" are taken to mean those ruling in international markets keyed around a Gulf fob price of some $8-9 per barrel in 1974. The relationship between these prices and the posted price and tax rates of the oil producers is explained in the "Diary of Events" by Frank Ellis in this bulletin.

are unlikely to be brought down by events on the demand side of the international market. The reasons supporting this statement are as follows:

(a) Low short-term price elasticity of demand. This reflects the fact that oil has come to be a basic necessity in the economic and industrial structure of consuming countries. Its uses for mobility fuels (aircrafts, vehicles, diesel trains and ships bunkers) for space heating, steam raising (electricity and industrial power) and as a petrochemical feedstock (plastic, fertilisers) have reached a degree of dependence which would make major reductions in consumption impossible in the short term.

(b) Low short-term cross-elasticity of demand. Oil consumption cannot be reduced immediately simply because the price has become less competitive relative to other energy sources. Alternative sources are not perfectly substitutable since equipment designed for oil must usually be scrapped if conversion to gas or coal is contemplated. This involves not only high capital costs (e.g. some £0.5 million for UK household conversion to North Sea gas) but a considerable delay, as conversion would take several years. It should also be borne in mind that oil was relatively low-priced in comparison to some other sources of energy and therefore much of the price rise merely reduces its comparative advantage.

(c) Feasibility of rationing. The experience of rationing schemes has not been successful. Moreover for rationing to be effective it would require the concerted action of all the major consuming countries, which must be regarded as very unlikely.

B. In the long term

The long-term picture is less certain since much depends on the speed of technological innovation and the introduction of new energy sources. The following points may be made:

(a) Demand satisfied from sources of oil other than OPEC

(i) Efforts to develop existing alternative reserves will be increased (e.g. North Sea oil and Alaska).

(ii) Current prices will lead to extraction of oil from sources previously uneconomic (tar sands, oil shale).

What matters for the demand for OPEC oil is the cost and prices at which these alternative supplies might become available. Current estimates for the costs of North Sea and Alaska oil vary considerably according to source (oil companies, independent researchers) but are generally reckoned to be between $2 and $6 a barrel. However, even if further discoveries eventually enable production to be raised well above levels currently envisaged they seem unlikely ever to make a really significant impact on the demand for OPEC oil. Production of oil from tar sands and oil shales, variously estimated as costing around $7 per barrel require technical developments, environmental clearance and massive capital injections. The lead times are so long at present that these will have no direct impact on demand for OPEC oil before 1980 and little major impact before 1985.

(b) **Demand satisfied from alternative sources of energy**
This poses a greater threat to the long-term stability of current oil price levels. There will evidently be some switching in all consuming sectors to alternative fuels.

(i) Electricity generation converted to coal or nuclear power.

(ii) More extensive use of hydro-electric potential.

(iii) Accelerated development of alternatives to the internal combustion engine.

(iv) Conversion of domestic and office heating to natural gas.

Offsetting these tendencies will be the high cost of the conversion work itself, as well as the increased demand for other sources resulting from conversion. This will bid up the prices of alternative sources.

(c) **Research and development of new energy sources**
In whatever direction R & D moves in the future as a consequence of the increase in oil prices, account must be taken of the cost of such research, and the long delays before new energy sources become a commercial proposition.

(d) **Greater efficiency in use**
The greatest single factor in the growth in demand for oil is the result over time of a change in attitudes from regarding oil as cheap and plentiful to acknowledging it as expensive and insecure. All future

research, design and choices in the market for oil burning machines in the western developed world will henceforth be influenced by this change – a change that will be progressively reinforced by fiscal, legislative and possibly social forces. As there is so much waste in existing utilisation patterns, it is possible to envisage continued growth in industrialised economies without major growth in oil demand and imports over the next decade. This however would require a collective self-discipline that is not yet apparent in the affluent societies and that cannot be taken for granted.

In summary demand factors suggest that OPEC may indeed be able to maintain prices at current levels. This is because of the high cost of conversion to alternative fuels; the high cost and delays in research and development in new fuels; and the fact that oil is by no means priced out of the market at current levels. Whether there is any possibility of increasing prices further without causing collapse of demand in the long term is a rather different question and one which will not be answered here.

The Supply Situation

(a) General considerations

It is apparent that oil producing countries are no longer going to allow their rates of production to be determined solely by oil importers' requirements, and this therefore necessitates a more detailed analysis of the factors influencing production decisions and the range of practicable options open to them.

In the past, the volume of production in individual countries was primarily determined by the international oil companies to meet their expected market demands. Production levels are now largely in the control of the governments of the producing countries. Questions on optimal depletion rates, conservation, reserve/production ratios led to cutbacks in production in Libya in 1970, and in Kuwait and Venezuela in 1972.

(b) The short and medium term (1974-1980)

It is difficult to prepare up-to-date forecasts of world crude oil production, taking into account the price incentives created by the

recent OPEC decisions and their effects in bringing onto the market the production of some of the marginal oil fields of producing and consuming countries (as well as faster development of other sources of energy).

It seems likely that the more populous countries of OPEC will continue to expand production carefully within technical limits – e.g. Indonesia, Nigeria, Iran and possibly Algeria – although even those countries may be inclined to defer marginal production. Kuwait and Libya are likely to maintain or even intensify their policy of restriction. This implies that any major increase in production will have to come from Iraq, Abu Dhabi or Saudi Arabia. All three have referred on occasions to plans to raise production potential towards levels of 4.0, 3.5 and 20.0 million b/d respectively by 1980. The production policies of these countries will not be determined by technical factors, but fundamentally by political considerations of both an internal as well as an external nature.

To obtain a clearer feel for the significance of changes in decisions on production levels by individual OPEC members, we attach three

TABLE 1
Three Scenarios for oil supply in the 1970s.
million barrels per day

	A DEMAND DETERMINED SCENARIO		A SUPPLY CONSTRAINED SCENARIO		A HIGH SUPPLY SCENARIO	
	1974	1980	1974	1980	1974	1980
Iraq	2.3	5.0	2.3	3.0	2.5	5.0
Kuwait	2.7	2.8	2.1	1.5	2.5	3.0
Saudi Arabia	7.7	9.1	7.6	5.8	8.3	12.0
Neutral Zone	0.5	0.8	0.4	0.5	–	–
Abu Dhabi	1.6	3.0	1.0	1.5	1.9	3.5
Qatar	0.5	0.5	0.5	0.4	0.6	0.9
Iran	6.2	7.5	5.8	5.5	6.5	8.0
Algeria	0.8	1.0	0.8	0.8	1.2	1.5
Libya	1.9	2.2	1.4	1.0	2.3	2.5
Nigeria	2.1	1.8	1.6	1.0	2.5	3.5
Indonesia	1.5	2.4	1.5	2.0	1.8	3.2
Venezuela	3.2	2.0	2.4	1.0	3.4	3.2
Ecuador	0.3	0.9	0.3	0.6	0.3	0.7
TOTAL OPEC	31.3	39.0	27.7	24.6	33.8	47.0

"scenario projections" (Table 1). The first is a projection of a possible "high supply scenario". This reflects continuing growth in demand, albeit at a lower level than hitherto. It reflects the potential for growth in production in certain Arab countries but assumes that financial and other considerations will progressively reduce the rate of production.

The second is one in which the growth in world demand is progressively reduced from former levels of around 8% compound per annum to modest levels. Most producers meet this reduced growth by broadly sticking to current levels of production, with expansion virtually confined to Saudi Arabia, Iraq and Abu Dhabi. In this projection Saudi Arabia's surplus fund accumulation is contained by coming back from peak production of 10 million b/d around 1978. This can be called a "demand determined" scenario.

As a third alternative we have a "supply constrained scenario" in which the implications are contained in the individual decisions of oil producers to reduce production towards levels that closely approximate their development needs, given the current level of prices. In order to maintain the requirements of industrialised economies without incurring serious risk of economic dislocation, Saudi Arabia is shown as still producing a volume of oil of around eight million b/d in the mid-1970s, but OPEC's production in aggregate is at levels slightly lower than those reached in 1973.

It is certainly possible to extend the range of scenario projections but these three illustrate the likely range and are indicative of the sort of supply/demand circumstances in which political and other considerations will probably operate.

Even in the "supply constrained" scenario Saudi Arabia is shown as producing a volume of oil vastly in excess of the revenue needs of the country, while in all three scenarios Saudi Arabia is producing at much less than its technical capacity. This illustrates the key role of that country in any analysis of OPEC's capacity to maintain prices in the period under review.

(c) The longer run (after 1980)

Although there is a current consensus among geologists, for what it is worth, that ultimate conventional oil reserves will prove to be about

three times current levels, there declining expectations of finding a "second Middle East". If anything the best prospects lie in the Middle East itself and this will merely reinforce the power of OPEC. Moreover, major discoveries in or adjacent to any of the smaller and less populated countries of the world will generate the same pressures for new producing countries to conform to the same patterns of response as those of OPEC members. Membership of OPEC will thus tend to grow but growth should not, per se, have any significant effect in weakening its powers.

The Political Coherence of OPEC

The political coherence of OPEC has not been an easy matter to achieve given the political, economic, social and institutional differences between the various countries that make up the organisation. Table 2 lists the relevant factors that should determine the optimum rate of oil extraction in oil producing countries; and the differences in terms of reserves and oil production, population, gross national product, and expected revenues between the different countries, become quite evident.

During the 1960s when prices were at a very low level Venezuela tried unsuccessfully to negotiate an agreement within OPEC for reducing supply by the prior rationing of production among its members. This formula was the only one capable of giving the oil producing countries a measure of control over their own resources as well as higher revenues for developmental purposes. The proposals gained the support of countries such as Indonesia and Iraq, but were flatly rejected by Saudi Arabia and Iran and in the end were not adopted.

The conditions prevailing in the 1960s and underlying the weakness of OPEC during the period can be summarised as follows:

(i) the divergence of interest of the member countries that barred the way to any agreement capable of raising the price for oil in the international market.

(ii) The production, transport, refining and marketing of oil continued under the control of the multinational companies. The

governments of the oil producing countries were mere tax-collectors which from time to time introduced timid administrative controls upon the industry.

(iii) An abundance of oil in the international market.

TABLE 2

Factors determining oil production — the economic characteristics of the OPEC countries.

		Saudi Arabia	Abu Dhabi	Kuwait	Qatar	Libya	Iraq	Algeria	Iran	Venezuela	Nigeria	Indonesia
A. Supply factors												
Reserves 1.1.73	billion bbls	146.0	20.8	72.9	7.0	30.4	29.0	10.5	65.0	13.7	15.0	10.0
Production 1st quarter 1973	million b/d	7.2	1.3	3.3	0.6	2.3	1.7	1.1	5.8	3.3	1.9	1.2
Current R/P ratio	years	57.0	45.0	60.0	32.0	35.1	47.5	25.1	30.9	11.4	21.6	25.0
Years to decline (zero growth)	years	46.0	34.0	49.6	21.0	25.3	35.8	15.2	19.8	10.5	10.7	15.0
Exploration expectations		HIGH	FAIR	LOW	LOW	LOW	HIGH	LOW	MEDIUM	LOW	MEDIUM	MEDIUM
B. Demand Factors												
Population 1973	million	7.8	0.1	1.0	0.14	2.2	10.4	15.4	31.5	11.2	59.4	124.0
GNP/per capita 1972	$ US	540	3150	3860	2370	1450	370	360	450	1060	140	80
Foreign exchange reserves (Nov. 1973)	billion	3.5	—	0.4	—	2.0	1.0	1.0	0.5	1.1	0.3	0.9
C. Expected Revenue												
1975 Revenue per barrel	bbl	7.61	8.16	7.58	7.91	10.33	8.28	10.07	7.68	8.89	9.48	5.02
1975 total revenues (IBRD Estimates January 1974)	billion	22.85	6.55	8.7	1.65	10.05	7.55	4.25	17.1	10.55	8.50	2.20
D. Other Factors												
Internal value added		LOW	LOW	LOW	LOW	LOW	MEDIUM	MEDIUM	HIGH	MEDIUM	HIGH	HIGH
Future price objectives		DOWN	DOWN	UP	–	–	–	UP	UP	UP	UP	UP

Various sources: *OPEC Bulletins* and results of individual research by J. Chamont Sarmiento, Peru; F.D.O. Enwefah, Nigeria; G. Jillings, United Kingdom; P.A. Rodriquez, Venezuela; A. Zarinnia, Iran.

1970 marks the dividing line for the international oil industry when oil prices began to escalate and a buyers' market was suddenly transformed into a sellers' market. This has certainly strengthened OPEC as an organisation and has placed within its orbit the setting of oil prices which was previously in the hands of the oil companies.

Whether this newly acquired responsibility will further strengthen the organisation in the future, or will turn out to be a divisive force within it, is the fundamental question to be solved. The events

underlying the rapid increase in prices in the early 1970s may provide us with a better clue to what the future holds for OPEC, than the simplistic calculation of supply potentials.

The increase in prices in the period from 1970 up to the October war in 1973 was due in part to an extraordinary rate of increase in the demand for oil and to cutbacks in production in Libya and Kuwait. Oil consumption during the first nine months of 1973 was 11.3% above the same period of 1972 while consumption in 1972 was 7.2% above that of 1971. The curtailment of production in Libya was the result of retaliatory measures taken by the multinationals as a consequence of the partial nationalisation of the industry in that country. Kuwait had to curtail production when she rather belatedly became aware that her reserve production ratio was much lower than the oil companies had led her to believe.

The Middle East conflict of 1973 hastened an already confirmed trend. The oil embargo that ensued was linked with a 25% curtailment of production by the Arab states. In January 1974 prices underwent a fourfold increase as compared with 1970. Whether prices would have reached those levels in a gradual way at a later stage, as a consequence of the trends in the international market is difficult to say: the point to be stressed is that both in early 1970 and following the October war in 1973, OPEC responded to events that were by no means endogenous to the pure economic characteristics of the oil market. The price rises were not the consequence of a deliberate policy pursued by the organisation, but the consequence of political and economic events of a much wider significance. OPEC has certainly been successful in the 1970s but in our view part of its success has been in spite of itself.

The dynamic of events in the world, and specially in the Middle East, point strongly towards a solution of the conflict in that area. The embargo imposed by the Arabs on certain countries of the western world has been lifted and production will soon reach pre October 1973 levels. The main issue that arises is how the Arab countries will respond after ending the embargo, and in particular, what will be their production policy, in view of the present level of prices and its effects both on the surplus funds they are accumulating and on the

demand for crude oil from the industrialised countries. The pattern of divergence of interest between member countries, so noticeable during the 1960s, is still very much present in the post October period, but admittedly under different circumstances. The consolidation of the gains already obtained will depend to a large extent on whether OPEC will be able for the first time to act as a coherent institution with clearly defined objectives.

The differences of opinion in the organisation were sharply present at the meeting held in Quito in June of this year, when a compromise agreement was reached to keep oil prices stable for a further three months. It is well known that some countries such as Algeria, Ecuador, Iraq, Nigeria and Venezuela pressed for a further increase in the price of oil; while Saudi Arabia was seeking a 20% reduction. In these circumstances the question was postponed for an extraordinary meeting of OPEC to be held in Vienna in September of this year. The final declaration reflected the compromise between the two powerful conflicting views when it stated that the industrialised countries had a last opportunity to bring inflation under control or otherwise price increases would follow.

The differences between Saudi Arabia and the other countries of the organisation may deepen in the future over this fundamental issue. The government of Saudi Arabia argues that the rise in oil prices has been too severe, and is endangering the stability of the western world on which Saudi Arabia, given its level of development and its socio-political structure, depends.

The Strategy and Objectives of the Oil Companies

One of the most obvious and striking consequences of the "oil crisis" has been the extraordinary high profits reaped by the international oil companies.[2]

The events that have taken place in the oil producing countries in the 1970s, shifting the control of production from the oil corporations to the governments, were foreseen by the multinationals at a much

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[2] See "Diary of Events" by Frank Ellis in this bulletin.

earlier stage. The oil companies were able in the 1950s and 1960s to maintain oil prices at very low levels because of the tight control they exerted over all the phases of production and distribution. The rationale for these low prices was to keep out new entrants that might have jeopardised the monopoly power of the cartel. With the growth of nationalism in Asia, Africa and Latin America after the second world war and given the knowledge acquired by the producing countries in the running of the oil industry, it became clear that a shift in ownership was at least possible if not imminent.

One of the long-run objectives of the companies has been to extend their monopoly into alternative sources of energy, an objective they have gone a long way towards achieving; particularly given the financial resources at their command and their technological knowhow which together constitute the basis of their economic and political power. In the USA the five major American oil companies control 50% of the atomic energy industry and 32% of that country's coal production. It is against this background that the multinationals have started the implementation of a strategy for reducing their operations in the Middle East and other OPEC countries; this withdrawal will be gradual and may last anything between 10 and 20 years. The likely fall in the rate of profit in the near future, caused by the growing demands of the oil producing countries for a bigger share in the industry, together with the requirement that they should reinvest part of the profits obtained from their operations in the countries concerned have slowed down considerably the rate of investment of the corporations in oil ventures in those areas.

In order to make the best of this situation, the oil companies have since 1970 implemented the following strategy in accordance with their long-term objectives already mentioned:

(i) to bring about a steep increase in the price of OPEC oil to the levels prevailing in the USA, in order to eliminate the price differential enjoyed by Western Europe and Japan, which by paying a much lower price for their oil were in an advantageous competitive position;

(ii) to obtain an increase in their profit margins in an industry that hungers for financial resources in view of the investments required for maintaining a reasonable reserve/production ratio;

(iii) to make new sources of energy within the USA available for commercial exploitation.

It is of no small significance that during the last ten years the search for crude oil, as well as for non-conventional sources of oil, has been almost entirely restricted to the developed nations and a few countries considered to be firmly entrenched within USA's zone of influence. Oil prospecting has been very intensive in the North Sea, Alaska, Canada and the Amazon basin while research has been directed towards solving the technological problems involved in the exploitation of bituminous shale, coal, and the Athbasca sands. As an example that confirms this trend we can point out that the oil companies in Venezuela have not invested any significant amount of money in exploration activities since 1965.

We can thus summarise the medium and long-term objectives of the multinationals as follows:

(i) to monopolise all alternative sources of energy such as coal, bituminous shale, asphaltic sands, atomic energy, etc;

(ii) the gradual reduction of dependence for oil from developing countries which are considered politically unstable for investment purposes;

(iii) the maintenance of a high level of oil prices for making other sources of energy competitive with oil;

(iv) to increase their control in the distribution and marketing side of the industry in order to compensate for the losses in production.

As Ernest Harsch has pointed out, "..... the United States monopolies have welcomed the oil price hikes as a way to make domestic oil and alternate energy sources more competitive with foreign oil. Domestic crude oil had been selling for $5.25 to $8.73 per barrel and estimates for shale oil extraction range from $6 to $8 per barrel. Thus, the increase in the world market price of oil from Arab-Persian Gulf makes domestic oil more competitive and the large capital outlay for the development of shale oil more feasible. From

the viewpoint of the oil companies, further price hikes would not be necessary".[3]

It is clear by now that in the price rises of the 1970s the oil companies played an active role, though the full details of that role are unlikely to be uncovered until recent events have become history. It seems obvious that the OPEC countries may rely at least on a certain amount of indifference on the part of the large corporations and the US government in their efforts to maintain prevailing price levels. For the US economy as a whole, given the large energy resources and plentiful capital with which that country is endowed, the high prices may to some extent be welcomed in the medium and long term for they will restore the competitivity of American industry vis à vis the industry of Europe and Japan and will have the effect of encouraging moves towards self-sufficiency in energy production – an option not attainable in the foreseeable future for either Europe or Japan.

[3] *Review IEEC Spectrum*, July 1973.