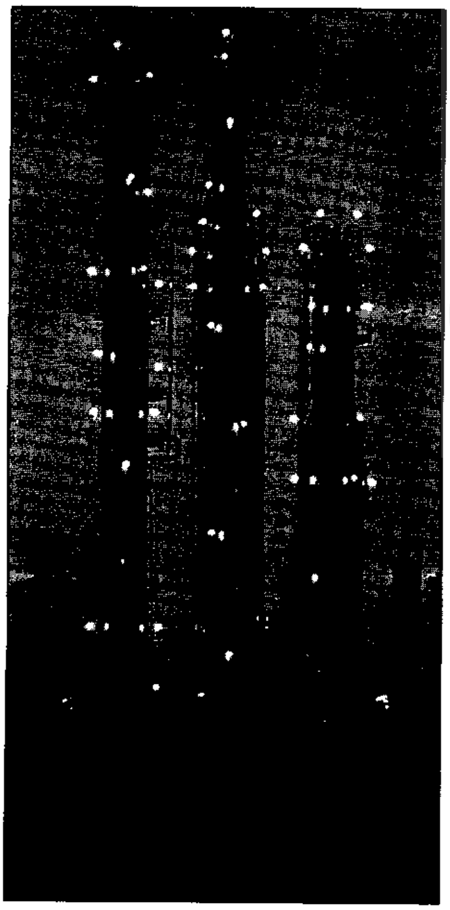
8 Long-term Strategy: OPEC's Active Role in Expectation Formation

An examination of the history of OPEC's decision-making mechanism suggests that OPEC has been by and large acting only as a crisis management organisation. At the heart of this mechanism lied the principle of converging strategies at lower prices and divergence of strategies when prices are strong and rising. However, the critical fact is that OPEC should act as an established long-term regulatory organisation in the global oil market.

The preceding argument implies that with regard to the massive reserves and the low cost of production particularly in the Persian Gulf region, OPEC can lead the global oil market if and only if the organisation can effectively condition market expectations regarding both the crude oil supply and the resulting price dynamics.

The most critical instrument in this long-term policy is the regulation of the crude oil supply to generate a price differential which does not particularly encourage investment outside OPEC. In other words, the supply variance should be carefully optimised so as to minimise expectations regarding an attractive profit margin in non-OPEC production capacity expansion. The following three considerations are of vital importance in achieving the above-mentioned objective.



▪ Further Growth in OPEC's Production Capacity Expansion

Designing and implementing the optimum level of crude oil supply over time necessarily requires the existence of considerable excess capacity in the OPEC member countries. Except for Saudi Arabia, excess production capacities in other member countries are not significant. The current policy of attracting foreign investment in exploration and development is the right policy towards that objective.

▪ Policy Co-ordination between Saudi Arabia and OPEC's Key Producers

The behaviour of OPEC as a stabilising factor in the global oil market depends largely on a successful co-ordination of policy formulation between Saudi Arabia and the key producers particularly in the Persian Gulf. This co-ordination should cover production levels, production cutbacks and production capacity expansion. In the past, it was Saudi Arabia which mostly shouldered the burden of defending the price whenever a crisis occurred in the market. with over 260 billion barrels of proven crude oil reserves, Saudi Arabia's current level of production can be viable for another 100 years. This may concern Saudi's strategic policy-makers. Like the UK's coal reserves, Saudi's massive oil reserves may become a stranded asset in unknown future circumstances.

▪ Development of Regulatory Institutions in OPEC

The development of appropriate monetary and fiscal institutions is a prerequisite for successful implementation of OPEC's stabilisation policies. No regulatory authorities, in a country or in a region, could have ever been able to succeed without appropriate institutions. As a starting point, OPEC can think about establishing a *strategic fund* to safeguard its members' budgets at the time of excess supply and falling price. This fund can be based upon a percentage of the incremental revenues, which occur to the OPEC members following a policy of production cutbacks. Financial support, at the time of budget crises, may be given only to those members who have both actively participated in production cutbacks and satisfactorily complied with their pledged cuts. The strategic fund will not only act as a budgetary security to OPEC members in their long-term planning for economic growth and development but, more importantly, will send a strong signal to the global market that OPEC is both determined and able to carry out its stabilisation policies. Regulating market expectations is the key factor in OPEC's stabilisation policies.

This, and similar financial innovations can lead to serious monetary co-operation. The similarity of economic structures in key producers in the Persian Gulf-OPEC and their high degree of dependency on oil revenues suggest that financial co-operation would be mutually beneficial and, if managed well, could lead to monetary co-ordination and common foreign exchange policies.

In summary, a successful OPEC policy to stabilise oil prices and to secure sound oil revenue in the long-term should be formulated within the wider context of member countries' macroeconomic settings. This should best be carried out in certain sequential stages. An ideal starting poing is the implementation of the above-mentioned optimal co-ordination policies in the Persian Gulf region, which has the highest crude oil reserves in the world and shares similar economic structures. Only with strong determination and a favourable political environment can OPEC achieve its long-term objectives. ■

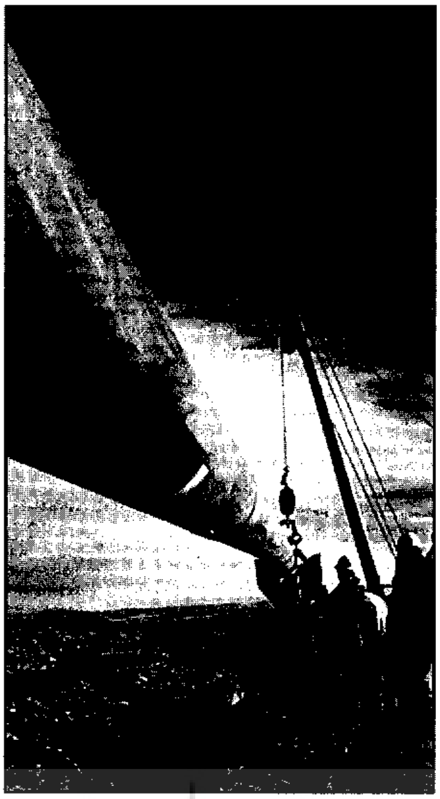
encourage investment in production capacity expansion outside OPEC in the medium to long-terms? The base price will be a function of the cost structure in non-OPEC, and therefore varies over time. I would like to emphasis the medium to long-term character of this base price because investment policies to expand production capacity outside OPEC depend mainly on the long-term structure of the crude oil price.

The inelastic demand for crude oil ensures that any substantial cutbacks will generate a price setting much above the base level. Let us call the difference between these two prices the *differential price*. The second question is how to discourage production capacity expansion outside OPEC and at the same time avoid excess supply by over-production of key OPEC member countries?

A continuous evaluation of this base price in the light of the developments in market conditions is a prerequisite for implementation of OPEC's stabilisation policies. A serious difficulty associated with the identification of this base price is the estimation of the cost of production outside OPEC. We all know that despite frequent references to the cost of production, this term is not universally defined and varies across different producing regions outside OPEC.

In summary, the real and sustained benefit which OPEC can gain from production cutbacks is mainly the accumulated income generated by the price differentials. To make the policy of limiting output a success and to achieve equilibrium between OPEC's short and medium-term interests and its long-term strategies, the following points should be taken into account.

1. With regard to the cost of crude oil production, OPEC member countries in general, and the Persian Gulf region in particular, benefit from an absolute comparative advantage. Despite all the achievements in technological progress, new institutional arrangements within the major companies and innovations in cost-reducing schemes among the companies operating in a region, the cost outside OPEC is relatively very



high. According to an exhaustive field-by-field study of the production cost in the North Sea carried out at the Centre for Global Energy Studies, "the latest 1998 information reveals the rather unexpected result that the unit cost for more than half of the fields studied here still have production costs above $ 10/bbl and less than one-third have costs above $ 15/bbl; the production costs for few are even above $ 20/bbl."

The cost structure of non-OPEC production implies that the recent low price of crude oil can become much stronger without the likelihood of considerable additional investment in non-OPEC countries.

2. A strong expectation of future excess supply has played an active role in the recent unprecedented price fall. Massive programmes of foreign investment for production capacity expansion in some giant oil fields in the Persian Gulf, the somehow exaggerated reserves and production possibilities of the Caspian region, technological progress and the resulting downward trend in production costs, sluggish demand for oil resulting from the slowdown of the world economy in general and the Asian dynamic economies in particular have all been responsible for the formation of the expected excess supply.

The widespread psychological effects of the expected excess supply played a critical role in the formation of a strong tendency for prices to fall. The biased reports of certain circles of oil analysts, who were greatly influenced by this biased information, were also conducive to the price fall dynamics. The serious intention of the OPEC members to stabilise the crude oil price has considerably changed this psychologically unfavoured environment. The outlook for Dated Brent has dramatically risen from less than $ 12/bbl in the first quarter of 1999 to over $ 20/bbl for the fourth quarter of 1999. This is a strong indication of OPEC's powerful impact of the global oil market.

3. So far, the response of the market to the current price rise has been the expectation of an unlikely adherence by the OPEC members to their production cuts. Any evidence to support the hypothesis that differences in strategy could appear among OPEC members as a result of higher prices will put OPEC's credibility at risk and exert a downward pressure on prices. OPEC should prove that its determination for full compliance is solidly established.

The favourable and encouraging political environment in the Persian Gulf, unprecedented in recent years, can greatly facilitate OPEC's show of solidarity in keeping the price on its rising trend. this is particularly the case for the key OPEC players in the Persian Gulf. Furtunately, the current Iran-Saudi rapprochement with the recent visit of the Saudi Deputy Premier and Defence Minister to Iran, and the realisation of the fact that their constant co-operation is essential to stabilise the crude oil price has been particularly influential in strengthening the price trend. Saudi-Venezuelan rapprochement and the intention of the latter to establish closer oil policy links with Saudi Arabia and Iran is another promising and productive development. The persistence of this political and economic co-operation and strategic oil policy formulation will solidly substantiate market expectation for a firm and upward trend.

take advantage of the higher prices.

It should be noted that there are certain technical facts which generate the market expectatian that OPEC cannot make a sustained effort to achieve long-term market stability by adopting the short-term policy of production cuts. The cost structure in the Persian Gulf-OPEC differs from that of other member countries. The Persian Gulf-OPEC is characterised by low drilling costs associated with relatively shallow reservoirs, much higher wellhead productivity and a much smaller number of producing wells. This makes, to say the least, the employment consequences of shutting down the wells in the Persian Gulf-OPEC much less severe than that of the other member countries where the production is based mainly on secondary recovery.

To conclude this section, let us summarise the argument by saying that the prevalent market structure has placed OPEC on the horns of a dilemma. Assuming all other things to be equal, when the oil price is falling OPEC output is almost bound to rise in order to maintain the total revenues derived from oil exports. This will encourage the utilisation of foreign investment for production capacity expansion, which in turn will push the price further down by creating an expected excess capacity and hence an expected excess supply. However, as oil revenues become increasingly unacceptable for key OPEC members' budgets, production cutbacks will become a policy imperative. Nevertheless, as prices start to recover following the cutbacks, the urgency of compliance will decline and over-production by some member countries may occur. The problem has been aggravated by the wide range of proposed foreign investment programmes in certain key OPEC's producers.

6 The Likelihood of OPEC's Policy Achievements

Let us first examine the likelihood of the success for OPEC co-operation in stabilising the market. The current economic conditions prevailing in the global oil market can be considered as some of the most promising conditions ever existing for successful OPEC co-operation, The followintg are a brief economic account of these conditions.

As far as the supply side is concerned OPEC's proven reserves of crude oil are more than three times that of the non-OPEC, and OPEC's exports of crude oil are more than the total export of oil from outside OPEC. On the demand side, OPEC is faced both with relatively inelastic and stable demand as well as unorganised buyers. The cost structure is also in favour of OPEC's co-operation. The key OPEC producers in the Persian Gulf benefit more or less from a similar cost structure, which os comparatively lower than the cost in non-OPEC. And finally, the key OPEC producers have a similar economic structural dependency on oil export revenues. An important point is, however, to differentiate between OPEC's short to medium-term policies and those policies that should be implemented in the long-run to achieve OPEC's objectives.

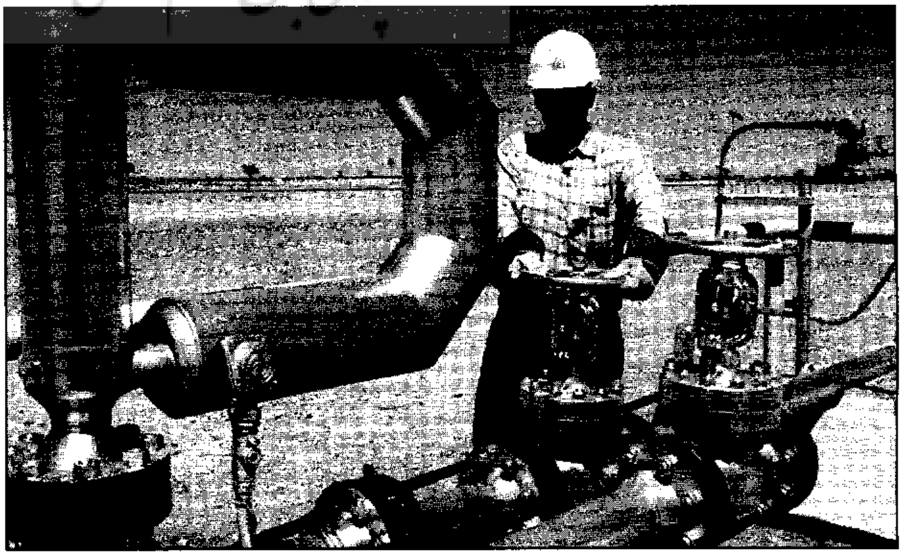
7 Short and Medium-Term Policies: OPEC's First Game of Expectations

Successful OPEC stabilisation policies in the short and medium term should be carefully based on market conditions and utilise the dynamic forces at work in generating

The Favourable political environment in the Persian Gulf can facilitate OPEC'S show of solidarity in keeping the price on its rising trend

an upward trend in oil prices. The analysis we have presented so far shows that limiting output is a policy imperative for OPEC at the time of persistent price fall. On the other hand, there is a strong tendency for a lesser degree of compliance as crude oil price moves upward. This has produced an expectation in the market that sooner or later the price will fall. It follows therefore that as long as this expectation holds, investment for capacity expansion outside OPEC will be minimal. In the short-term, OPEC member countries can exploit current market rational expectations by adopting a policy of strong compliance with their pledged production cutbacks.

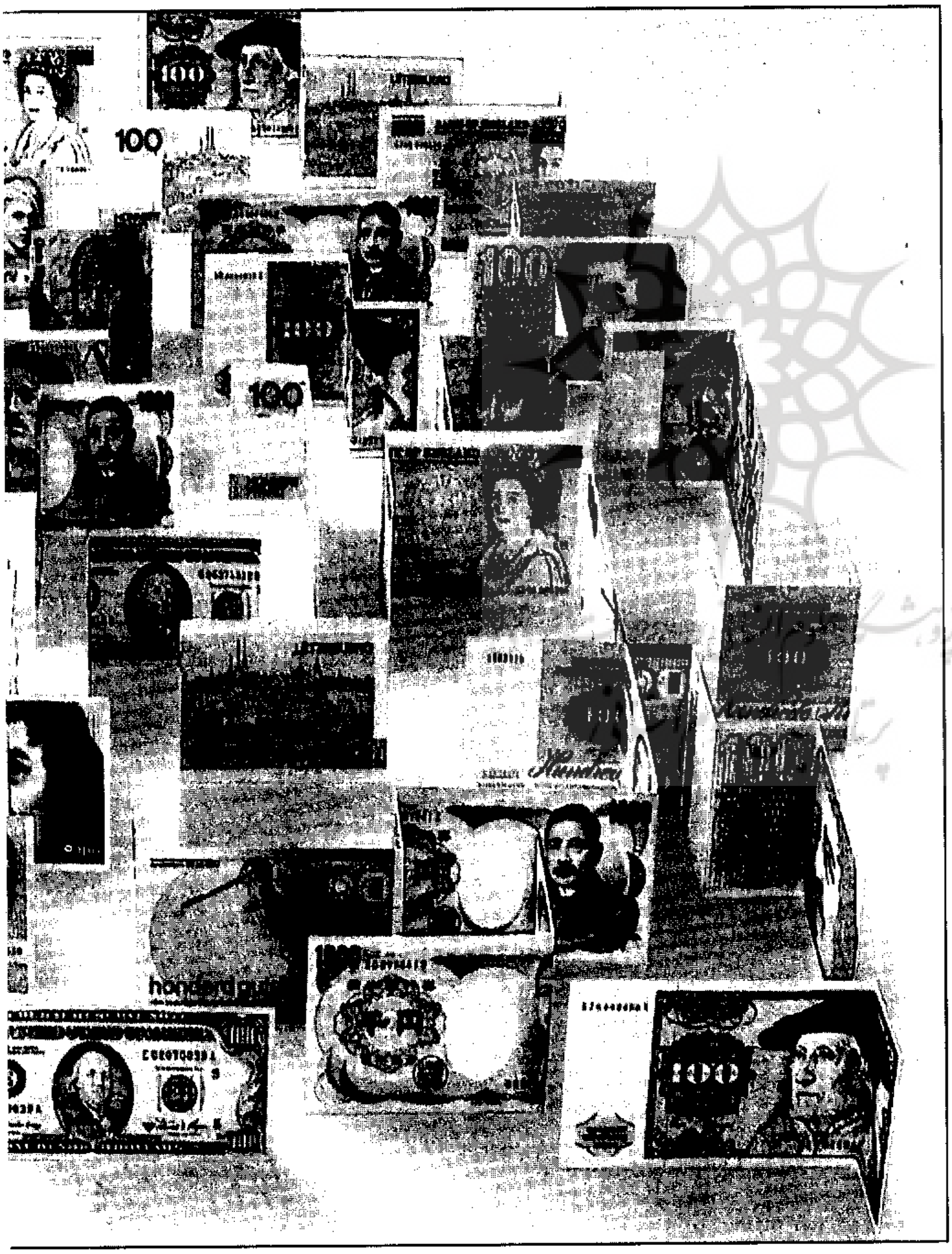
However, in the medium-term, the main problem for OPEC is the determination of optimal level of production and optimal distribution of capacity expansion to achieve a long-term higher price in order to secure long-term higher income. An analysis of the following question paves the way for the solution of that problem. What is the base crude oil price which does not particularly



5. Adverse Effects of Production Cutback Policy on the Balancing of OPEC Strategy with Short-term Concerns

The higher price of crude oil which follows from OPEC's policy of substantial production cutback will generate a new round of developments in the global oil market, which can, in turn, induce a fall in crude oil price. The effects of higher oil prices on market structure are widely known. The following are of the greatest importance.

1. Crude oil production outside OPEC will increase. This will not only generate a tendency to depress prices but will adversely affect OPEC's market share.
2. Investment in the utilisation of fuels other than oil will be encouraged. This will weaken the demand for oil whereby the crude oil price will be depressed.
3. Research and development efforts to discover alternative sources to fossil fuels will be promoted, which yields a contraction in demand for crude oil.
4. And, more importantly, there will be a greater incentive to increase crude oil output by OPEC member countries to benefit from the income effect of higher prices. This will not only discerdit OPEC's machinery of policy formulation to stabilise the market but will weaken the price of crude oil through an upward shift in supply.



Some of the above-mentioned srtong arguments against the policy of production cutbacks are purely theoretical. Problems such as the production rise outside OPEC, investment in the utilisation of non-oil fuels, and R&D promotion for fossil fuels substitution will take place if and only if the market believes that the supply constraints are firmly established and the consequential rise in the price trend is consolidated. More importantly, there should exist an expectation in the market that the price rise will persist in the foreseeable future.

The prevailing market conditions imply that an expectation of a sustained high crude oil price does not exist. The opening of giant oil fields in certain Persian Gulf-OPEC member countries to foreign investment have already prompted an expected enlarged production capacity, which will significantly add to the existing excess capacities. With regard to the comparatively low cost of production in OPEC member countries this means that the tendency for investment in capacity expansion outside OPEC will be minimal in the foreseeable future especially under the prevailing crude oil price dynamics.

As mentioned earlier, the hypothesis that higher prices will induce a greater incentive for output growth by OPEC member countries is of critical importance. This will not only weaken the possibility of a higher price persistence and hence the likelihood of a production rise outside OPEC, but will seriously discredit OPEC's reputation as a powerful balancing force in the market. Let us examine this point further.

The current powerful thirst for hard currencies required to fuel economic growth and development and to secure the political stability in certain key producers in OPEC has been unprcedented in the modern era of OPEC history. This has made the market widely believe that the recent agreement to cut production will soon be violated by certain member countries who would like to decreased substantially despite its massive and unparalled proven oil reserves and its comparatively low cost of production.

From a purely theoretical economic point of view, one can argue that the downward price shift resulting from OPEC's effort to increase production to offset its falling market share may reduce investment outside OPEC where the cost of production is relatively high. This will, in turn, lower non-OPEC oil production and hence will both restore OPEC's market share and induce a stabilised firm trend in oil price.

However, it should be noted that theoretical possibilities do not always share an empirical counterpart. What matters in reality is the high degree of dependency on oil revenues since planning for economic growth and development in the OPEC member countries depends largely on oil income. In the scenario of a weak crude oil price, the key OPEC producers need to increase the volume of oil exports to secure higher levels of income for financing their economic develpoment. This need is exacerbated by the present young population structure and the increasing level of welfare expectations in OPEC's member countries.

OPEC cannot, therefore, afford politically to adopt the policy of wait and see, allowing economic force to shape events and to produce an equilibrium in accordance with economic textbook reasoning. The long-term concern of OPEC member countries is to secure a stable and growing oil income. It seems that the policy of maintaining market share in the global trade of oil has been primarily a policy option, which aimed at securing oil income in the long-run to finance long-term development programmes. However, the policy of production cutbacks and supply restrictions, albeit running counter to the policy of market share, has been the only effective instrument available for OPEC to achieve price stability and to secure a fair level of income.

Our first conclusion is that the existing imbalance between OPEC's strategies and its short-term concerns is basically structural. To achieve a balance, a set of careful policy options should be developed. However, let us first gain an insight into the nature of this imbalance.

4. Is OPEC's Policy of Limiting Output Imperative?

The short-term objective of production cutbacks is to attain a higher crude oil price. A question of prime theoretical importance and significant practical implication is whether the dynamics of the current oil market justifies a price rise which is based only on market forces? My answer to this question is negative. Let us briefly examine this point in the light of economic fundamentals of reserves, investment for production capacity expansion, operating costs, alternative energy sources, and the degree of dependency on oil revenues in OPEC and particularly among the Persian Gulf-OPEC member countries.

During the past 25 years, the world proven crude oil reserves have substantially increased. OPEC's proven crude oil reserves during this period have, in fact, doubled. This has given a clear signal to the market that oil will continue to be available in the future. This has also generated an expectation that with advances in technology more oil will be discovered and/or the rate of discovery will increase. The availability of investment required to bring oil to the market, the drastic cuts in costs and advances made in energy conservation by major consumers outside OPEC all exert downward perssures on crude oil price. The fact that the Persian Gulf-OPEC member countries, with over 84 per cent of OPEC's proven reserves and 64 percent of proven world reserves, have shown a high degree of dependency on oil exports, and at the same time have exhibited their serious intentions regarding capacity expansion, has intensified the downward pressure on oil price.

The history of the global oil market during the past 25 years shows that the following two determinant factors have been mainly responsible for the rise in the price of crude oil:

- A sharp production cutback or an expectation of such cutback, which is usually associated with a political crisis or regional military conflict.
- A strong show of solidarity between the key member countries of OPEC regarding limiting output.

Moreover, according to the contemporary history of the global oil market, certain OPEC member countries had to carry the burden of price defence by cutting their own production significantly. Hence, under the current structure of the global oil market, the oil price will increase if and only if production is actually cut.

may exist between governments and the major oil companies' political and economic interests, and concentrate only on their mutual interests. Their main concerns are as follows: diversification of crude oil supply under the conditions of political and economic uncertainty and the signifiance of the oil industry in their own countries in generating employment and income and inducting technological innovation.

It should be noted that the diversification of crude oil supply has been of critical importance for the external players. For example, during the past 25 years, the Persian Gulf- OPEC producing countries have faced serious competition from outside OPEC as well as from other member countries in OPEC, and hence have greatly lost their market share in the global trade of oil. In fact, import dependencies of both Western Europe and the US on crude oil from the Persian Gulf-OPEC substantially declined during that period.

3. Objectives and Interests of OPEC

Let us confine our analysis to the following two prime interests of OPEC, which are sufficient enough to provide an analytical framework to study the questions posed in this paper. First, the promotion and / or the maintenance of the market share in the global production of crude oil, and secondly, the stability of the crude oil price. The former is justifiable in the light of OPEC's huge proven reserves, and the latter can ensure a stable flow of oil revenues to finance economic growth and development in the OPEC member countries. The second objective is of vital practical importance since the economic structures of the OPEC member countries are largely dependent on hard currencies derived from oil exports.

OPEC can think about establishing a strategic fund to safeguard its members' budget at the time of excess supply and falling prices

It is not difficult to identify a natural tendency of divergence between OPEC and the external players' interests. This is the underlying factor that generates a system of imbalances between OPEC's short-term and long-term concerns. In fact, the diversification of the supply sources simply implies a gradual downward trend in OPEC's market share. The consequential response of OPEC to increase its production while non-OPEC is expanding its share will lead to an excess capacity, which induces downward pressure on oil price.

An examination of the global oil market during the past 20 years verifies this point. OPEC's share in the global production of oil has

Balancing OPEC Short and Long-term Concerns with Capacity Expansion by Member Countries

Dr Masoud Derakhshan

1. Introduction

The problem of balancing OPEC's short-term and long-term concerns with the impact of member countries' plans for production capacity expansion is the subject matter of this paper. This problem can . . best be examined within an analytical framework in which both external and internal factors affecting OPEC's supply of crude oil are taken into account.

The analysis of the interactions of these factors necessarily requires an identification of the basic characteristics of the performance of the global oil market. I will confine my study within the economics of these interactions. The political considerations, which are beyond the scope of this presentation, could best be carried out on the basis of the economic fundamentals derived in this analysis. In my presentation, I will try to avoid as much as possible, frequent references to quantities and numbers, and instead focus mainly on the analytical and qualitative nature of the argument.

Let us start by a brief examination of the economic context in which OPEC's interaction with the external environment takes place. To provide an answer to the questions which constitute the main theme of this paper, the following assumptions are made for the analysis of the global crude oil market.

- The price elasticity of crude oil with respect to supply variations is extremely high.
- Investment by major oil companies for exploration and development is price elastic.
- Investment for the development of energy substitutes for crude oil depends largely on the price of crude oil.

2. Interests of External Players

As far as the scope of this study is concerned, external players consist of the governments of western advanced industrialised countries and the major oil and gas companies. For the sake of simplicity, we can leave aside the possible co-operation and the serious discrepancies that