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## **THE WAR OVER THE PRICE OF OIL; Oil and the conflict on the Persian Gulf.**

**Iraq's invasion of Kuwait on August 2, 1990 was called the biggest armed robbery in history. From an economic and natural resource point of view, however, disagreements as to what price policy to pursue for oil might have been an even more important reason for the invasion. In the same way vital economic interests, that wanted moderate oil prices, were an important reason why the allied forces, led by the U.S., went to war against Iraq on January 17, 1991. In view of the importance of the price of oil for the economies of both oil exporting and importing countries, the power to influence this price is of great significance. The more one-sidedly dependent a country is on oil in the economy the more important it is who has this power. In the Gulf conflict the oil producing and consuming countries for which oil is very important, and that also have major military means, were the principal actors.**

An economic argument for the war, expressed in the disagreement over the level of the price of oil, does not exclude explanations that the conflict was founded on other motives too. Additional reasons for Iraq's invasion of Kuwait may have been the conflict over the property rights to Kuwaitian oil, and the oil field Rumaila, as well as territorial claims and Saddam Hussein's ambitions in international politics. Moreover, pressure against Israel to promote the interests of the Palestinians might have played a part. The response of the allies, and in particular the U.S., may also be explained by global political and strategic interests, a wish to protect Israel and promote stability in the region. In this article, however, the oil related explanation is discussed as if it were the only reason behind the conflict. In all probability the conflict was a result of many of the reasons mentioned above. The absence of one argument might have resulted in a different course of events than what was really the case. It is up to the reader what importance he or she attaches to the oil political/economic argument as set forth in this article in comparison with other arguments.

Firstly, in this article I will give some arguments why in a geopolitical perspective the control of oil reserves & production often can be seen as a contest as to who shall decide the price of oil. Then, I shall discuss how this conflict over the oil price gave rise to Iraq's invasion of Kuwait and the subsequent reactions on the part of the Western countries and their military intervention.

I shall assess what Iraq might have achieved if the country had managed to "get away with" its action against Kuwait, and what the allies may hope to have obtained by defeating Iraq. Since the discussion is based on the assumption that the parties have tried to defend their interests by attempting to influence the price of a raw material in an international market, I shall also assess to what extent it seems probable that the wishes of the victors have come true: What price levels can be expected for oil in the short, middle and long term? How has this been affected by the conflict? Finally, some remarks will be made on what might be the economic and political interests of Norway, now being one of the worlds largest oil exporter, in relation to the conflict?

## **THE PRICE OF OIL AS AN INTERNATIONAL PUBLIC GOOD**

Nearly 2/3 of the world's known oil reserves are found in 5 countries on the Persian Gulf: Saudi-Arabia (25%), the United Arab Emirates (10%), Kuwait (9%), Iran (9%) and Iraq (10 %).<sup>1</sup> Still, however, the Commonwealth of Independent States (20%) and the U.S. (14%) are the world's largest producers of oil. The five Gulf states represent only about 1/4 of the world's total oil production. But they represent almost half of the world trade in crude oil. Since globally the price of oil is determined by the balance between the import demand for and export supply of oil, this area becomes particularly important for price formation. Due to the fact that both production of oil and oil reserves in countries outside the Gulf states are decreasing, this area is expected gradually to become more important for world supply.

The price of crude oil is formed in an interplay between a number of qualitatively different factors. On the demand side, economic growth, demand and price elasticities, the existence or lack of substitutes, technological development and the coordination of energy conservation and diversification measures, as well as market operations (as carried out by e.g. the IEA). On the supply side the reserve base and production horizon of producer countries, the geographical concentration of resources, the need for revenues, domestic and foreign political interests, inelasticity of supply as well as the ability to coordinate production and price policies (e.g. through the Organization of Petroleum Exporting Countries, OPEC). Obviously when the price is formed in the combination of a number of such qualitatively different factors it is obvious that assumptions as to the future price of oil often will be relatively uncertain.

In spite of great uncertainty as to which model is preferable there seems to be general agreement that the supply of oil from the Persian Gulf is the most important single factor affecting the price. Since this price is the same both for producers and consumers, as an international public good (some would say evil), when adjustments are made for varying quality and transport costs, all operators in the oil market are particularly conscious of how this area develops.

For importers this means that even if the country from which they buy their oil lies in a quite different part of the world than the Middle East, they will have to pay the same price as for oil imported from that region. Any price rise due to a reduced supply from the Gulf area then, will result in a transfer of revenues from the consumers to the producers all over the world, irrespective of geographical or political position. This happened during the previous two price

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<sup>1</sup> BP Statistical Review of World Energy (1990).

shocks 1973/74 (OPEC I) and 1979/81 (OPEC II). The most important reasons, thus, for Norway's high oil revenues in the first half of the 1980s were Khomeiny's assumption of power in Iran, the war between Iran and Iraq and the building up of stocks after the war due to fears of substantial supply shortages and a continued rise in prices. It had little or nothing to do with Norwegian politics.

For oil exporting countries the revenues are of crucial importance as to trade balances. Most oil producing countries in the Persian Gulf depend on these revenues. Of total exports oil represents 93% for Saudi-Arabia, 90 % for Kuwait, 89 % for the United Arab Emirates, 94% for Iran and 98% for Iraq.<sup>2</sup>

When considering the ability of exporting countries to manipulate the price of oil, particularly through reduced production, it is a problem that production reductions also benefit other countries, which implement no reductions, because the price is an international public good. Any producer, therefore, wants others to carry the costs by increasing the price, whereas they themselves want to be free riders in relation to the measures. Combined with a disagreement as to which price level is the right one, this is an important reason for the endless disagreement within OPEC, between the countries on the Persian Gulf and also between OPEC and non-OPEC countries, such as Norway, over production rules and Quotas.

For an oil importing country's dependence on oil, the fact that it may import small quantities of oil from the Gulf, means less than a rise in the price of oil if their economy is oil intensive. In 1989, for instance, the U.S. imported only 13 per cent of its oil from the Middle East. For the remaining 87 per cent of their oil imports they have to pay a price as high as the one they pay for Middle East oil, whether the oil comes from Norway, Alberta, Venezuela, Mexico or Algeria. Also, the same price has to be paid for oil produced in the U.S., which represents about half the consumption. The vulnerability, therefore, of an oil importing country as regards the scarcity of oil (in time of peace) can be defined as a vulnerability to too high oil prices through a substantial transfer of surplus from consumers to producers. Besides, for many countries this means a proportional rise in import costs. Too high prices leads to unemployment, inflation, trade balance deficits and recession, as we have seen in the wake of the two oil price shocks.

In the same way as some countries want to be free riders in relation to the measures taken by other countries as regards the supply of oil, oil importing countries also have an interest in other countries reducing their consumption, so that the price of oil can be kept as low as possible. This is the germ of a beginning discussion particularly between Japan and Western Europe on the one hand and the U.S. on the other, and is seen, among other things, in the disagreement over excise taxes on petroleum products. Thus, for the price consumers have to pay and producers receive, the crucial factor is the international portfolio of measures regulating demand and production both in the short and the long term. These measures can include taxes, regulations and economic and political negotiations. Partly, the measures are substitutes for each other, partly they are complementary and partly they exclude each other reciprocally. One country

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<sup>2</sup> See this author's "En vurdering av produksjonskapasiteten av olje i fem land ved Den persiske gulfen" ("An Assessment of the Production Capacity for Oil in five Countries in the Persian Gulf") (Report to the Ministry of Finance published as NUPI-report no.150 in October 1990).

that prevents the common good (evil), i.e. the price, from moving in a favorable direction may have an adversary effect on other countries interests. The "offended" country may take action to defend it's interest. Warfare is the ultimate political measure any country can take to reach its economic and political goals. In the case of oil, the physical control of oil reserves and production may give a country possibilities of influencing the price and thus being a measure to be considered in order to defend it's interests.

## **THE OIL POLICY PRELUDE TO THE IRAQI INVASION OF KUWAIT.**

The Iraqi invasion of Kuwait revealed opposing economic and political interests between the producer countries Iraq (and Iran) on the one hand and Kuwait (and Saudi-Arabia and the United Arab Emirates) on the other. Both from an economic and foreign policy point of view the disagreement materialized in differences as to the pricing of oil.

After the war against Iran from 1980 to 1988 the Iraqi economy was on the verge of a complete collapse. The state, with an orthodox socialist organization, was functioning very poorly. Debts to western countries totalled about USD 20 billion. In addition, Iraq had "borrowed" large amounts from its neighbors Kuwait, Saudi-Arabia and the Emirates to finance the war against Iran. It is assumed that these "loans" amounted to USD 40-50 billion. Iraqi export earnings has been completely dependent on revenues from the oil sector and have had very limited possibilities of any substantial increase in its export capacity in the short term. In view of the country's limited access to ports, as well as costly and potentially vulnerable pipeline access through Turkey and Saudi-Arabia, a long-term build-up of capacity might also turn out to be difficult. In the short and middle term an increase in the price of crude oil may have seemed to be the only possibility of saving the country from economic chaos. In the long term improved physical access to reach the world market would also be important.

The Kuwaitian economy has had a very different structure. The country has had large incomes from it's foreign investments and refineries and chains of petrol stations (e.g. Q8) in Western countries. Thus, the country's currency revenues have not only depended on the price of crude oil, but also on the price at which the country has been able to sell its products in the market, as well as the return on investments in general. Kuwait has been more dependent on a Western economy capable of functioning than Iraq (and Iran). Countries like Saudi-Arabia and the United Arab Emirates have not wanted too high prices either. Instead these three countries have increased revenues through increased production.

The role of oil in foreign politics is accounted for by on unstable security policy in the area. Kuwaitian policy of high prices, implemented by means of a somewhat reduced growth in output, would have resulted in increased revenues for the neighboring countries Iraq and Iran as well. From a Kuwaitian point of view this might finance new aggression in the Gulf region and towards themselves. High prices, from the point of view of foreign politics, have not been desirable either for Kuwait, Saudi-Arabia or the Emirates. The good relationship of these countries with oil importing countries in the West reinforces this view.

The low price policy of these three countries was carried out by constantly increasing production, so as to almost eliminate the price effect of an increased demand for oil. The oil

price was kept fairly stable at a level of \$16-19 per barrel (1992 value) during the last five years prior to the invasion of Kuwait. This has been the lowest price level since 1973.

In the OPEC context this meant an almost continuous violation of agreed production quotas, especially on the part of Kuwait and the Emirates. In Saddam Hussein's opinion this low price policy was an aggression against Iraq, particularly after he had fought the war against the common enemy Iran. Given the difficult economic situation his country was in he might have felt forced to do something drastic. The option of some drastic action, i.e. occupying Kuwait, and possibly parts of Saudi-Arabia as well, fitted in well with his geopolitical ambitions. The fact the Iraqi did not pay much attention to OPEC quotas when the country was able to increase oil production, obviously meant very little to Saddam.

### **Something more than history's biggest armed robbery....**

During 1990, the Iraqi's frustration at its difficult economic situation became more and more apparent. At the time of the OPEC meeting on May 2 -3 Mr. Aziz, the foreign minister, stated, with over-producing Kuwait and the United Arab Emirates as his addressees, that "this is a very serious issue.....we warn them against continuing with this irresponsible game". In spite of the formal agreement reached at the meeting about reduced output the two countries continued their large over-production, compared to the quotas, each of them exceeding them by more than 1 million barrels per day (mb/d).

Gradually Iraq explicitly blamed Kuwait for the poor state of its economy. As late as July 11, Kuwait promised to keep its oil production within its OPEC quotas. The market, however, did not react to these signals in the form of rising prices, based on the experience that such rhetoric had not been followed by concrete action on the part of Kuwait over the last years. On July 27 Saddam Hussein made a speech in which he indicated the possibility of forcing production discipline on the members of the OPEC by means of unilateral measures. He also marched up troops on the Kuwaitian border in order to underline the serious nature of the situation. In addition he put pressure on Kuwait to be released from war debts.

At the OPEC meeting in Vienna, which was taking place at the same time, Kuwait again accepted to observe its production quota, which at the same time was raised from 1 million barrels a day to 1.5 million barrels a day. The compromise price was fixed at \$ 21 a barrel. Few expected Saddam Hussein to attack Kuwait since to some extent his demands in relation to the over-producers had been met. These concessions, however, were obviously not sufficient for Iraq, or they were too late in an advanced process. Moreover, Iraq argued that the price of oil ought to be \$25 per barrel, while Iran demanded \$30 per barrel.

The transfer of property rights to Kuwait's oil resources was an additional powerful economic argument for Iraq's invasion. Based on the fact that Iraq wanted to take over Kuwaitian oil the invasion may very well be looked upon as "the world's biggest armed robbery". However, the price effect of this "transfer" of property rights would have a much greater effect on international politics and economy, besides, it would increase the value of Iraq's "spoils". This greatly contributed to the fact that so many oil consuming countries immediately involved themselves in the conflict. These Western countries could hardly be said to have felt directly physically threatened by Iraq (as some Arab countries, not least Saudi-Arabia, could).

Whether or not Iraq was aware of this crucial link with western economy is an interesting question. If they did not attach any great importance to this connection, the allied reactions may have been a great surprise to Iraq. If they were aware of this in advance, the invasion may be looked upon as a provocation, especially of the West, similar to the use of the oil embargo weapon in 1973/74. Still the intensity of the West's reactions may have been a surprise to Iraq. The reason for a wish to provoke the West may have been a combination of circumstances, such as a wish to increase oil revenues by higher prices, as well as north - south issues. Iraq, traditionally supported by the Soviet Union, may have thought that they would be backed up by Moscow's in view of the Kremlin's traditional political interest in a global perspective of harming the West through high prices of crude oil.

### **THE OIL POLICY PRELUDE TO THE ALLIED MILITARY ACTION**

Oil is still the most important single commodity in the international economy and one of the most important variables for economic growth and welfare of consumer countries. In the wake of the previous two oil price shocks, thus, large investments have been made in energy conservation and diversification to reduce dependence on oil.

After the fall in the price in 1985/86, however, the immediate incentive to continue the efforts for a reduction of the consumption of energy has been weakened. However, there are great differences between the policies pursued by the U.S., Japan and Western Europe. To a large extent European OECD countries and Japan have managed to prevent a sharp rise in the consumption of oil through fiscal means and other measures. In Japan the consumption has turned out to be very stable, whereas Western Europe has lowered its consumption by some 2 mb/d since the oil price shock in 1979/81.

The U.S. on the contrary, has allowed market forces to work almost directly to the benefit of the consumers. Before the Iraqi invasion of Kuwait the price of petrol in the U.S. was USD 0,3 - 0,4 per litre while in Europe this price was almost USD 1 per litre. The low price has resulted in a sharp rise in the consumption of oil in the U.S., and consumption is now nearly as high as it was during the peak of the late seventies and prior to the first oil price shock in 1973/74. On the whole, the energy policy pursued in the U.S. over the last decade has been limited to building up strategic petroleum stocks to be able to cut off the peak of a more or less temporary leap in prices.<sup>3</sup>

At the same time domestic American oil production has fallen. After the fall in prices in 1985/86 the so-called stripper-wells in the US Mid West have turned out to be some of the world's most marginal oil resources from an economic point of view. The net effect of this has been that US oil imports have increased by around 3mb/d over the period 1986 - 1989. This

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<sup>3</sup> See the author's two works dealing with aspects of American energy policy: "Strategies for reducing U.S. Oil Dependency", NUPI report no. 130/1989 and "De strategiske petroleumreservene som oljepolitisk kriseredskap" ("The Strategic Petroleum Reserves (SPR) as an Emergency Tool in an Oil Policy Context") in "Sosialøkonomen" no. 1/1991.

increase in imports represents about half the increase in exports from the OPEC countries during the same period. The other half of OPEC exports increases has gone to developing countries and NIC countries. Altogether this increased demand for imported oil resulted in a beginning pressure for higher oil prices before Iraq's invasion of Kuwait.

The below figure (to the left) shows how major oil saving measures during the seventies have made all western economies less oil intensive over the last two decades. These saving measures have been most successful in Japan and Western Europe, but also the U.S. has become less dependent on oil. Over the last few years, however, the development has levelled out for all these countries.

The problem with which the U.S. is faced, however, is the fact that historically the consumption of oil per GDP-unit has been considerably higher than in other Western countries, even before the first oil price shock. Consequently, when measuring not only the changes in oil dependency, but also the absolute levels, oil consumption per GDP-unit in the U.S. turn still to be the double of what it is in Japan and Western Europe. There has also been a strong increase in oil imports per unit of GDP in the U.S. over the last few years (the figure to the right), which reflects the combination of a high oil intensity in the economy and declining domestic production. Before the Gulf crisis in 1990, thus, the U.S. imported about as much oil per GDP-unit as it did in 1972.

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Source: "European Economy, Supplement A no. 10" October 1990

A rise in the price of oil, therefore, will have a much stronger effect on the level of costs in the American industry and lead to a stronger rise in prices there than with its competitors. Thus, sustained high prices of oil may result in a weaker competitiveness for the US in relation to the rest of the OECD countries. The advantage of letting the consumers enjoy the benefit of low oil prices during the eighties may be turned into an economic handicap in the nineties. By means of temporarily low prices of oil it is possible to check this problem for the time being. Of course, EC countries and Japan suffer from high prices of oil as well. But due to the fact that their economies are less oil intensive the effects are smaller, relatively speaking. Besides, economic

growth presupposes a stronger increase in the import of oil (from the Middle East) and consequently to a greater aggravation, of the trade balance for the U.S. as compared with Western Europe and Japan. This illustrates that the way in which the EC countries and Japan have adapted to the high price of oil during the seventies and the first half of the eighties has been a long-term policy that has reduced their vulnerability to possible to wish prices shocks explosions during the nineties more than the U.S. From that point of view high prices of oil can be very favorable to oil saving. But such saving can also be obtained by means of excise taxes which for a consumer country normally is preferable to transferring revenues to oil producing countries. Rather the domestic treasury should get the rent. In the U.S., however, it has been politically difficult to pursue a policy with higher taxes on petroleum products. Low prices of oil over a number of years may thus result in increased dependence on oil in the US. In this way economics (long term) and military (short and long (?) term) to some extent become substitute means by which a problem of oil dependency in a consumer country can be reduced.

### **WHAT COULD IRAQ HAVE ACHIEVED BY CONTROLLING KUWAIT?**

If Iraq had succeeded in maintaining control of Kuwait and been able to enter the international oil market again "Great Iraq" would have increased its production capacity from about 3.5 to 5.5/6.0 million barrels a day. Before the invasion total estimated output in Iraq and Kuwait was a little more than 5 million barrels a day. This was nearly as much as Saudi-Arabia's output. Saudi-Arabia, however, had unused capacity for 2 - 3 million barrels per day and would in any event have remained the (potentially) biggest producer in the region. The unused production capacity was used by Saudi-Arabia as from the time when the crisis started.

With respect to output, however, the combination of Iraq and Kuwait would have assumed an important no. 2 position in the oil market. In addition Saddam Hussein had a standing army of 1 million men, many of whom had combat experience from the war against Iran. The combination of an enhanced importance for Iraq through an increased market share for oil, with major and active military forces could have made Iraq the most powerful country in the region.

As regards oil, Iraq, with the control over Kuwait, would have become so big that the country might have been able to influence the pricing of crude oil. On the whole only Saudi-Arabia has been able to play such a role alone. Saudi oil policy has been pursued for long-term goals, and often (but not always) it has been more in keeping with the wishes of the Western countries than many other Arab countries have favored. Iraq would have been a more anti-western market regulator and this would have meant higher prices of oil. Through the strengthened military position, as well as a boosted position in the context of oil politics, Saddam might have been able to put pressure on neighboring countries for a reduced output of oil in these countries and have had plans of increased production capacity in these countries stopped. In a situation of crisis the supply of oil from Iraq and other countries could have been dramatically reduced. This might have implied a possibility of an increased economic-political pressure both regionally and internationally.

To some extent this illustrates the dilemma the U.S. (in particular) found herself in as regards oil politics after Iraq's invasion of Kuwait. With Saddam in a strong position in the Middle East, a geographical region of crucial importance for the supply and thereby the price of oil, it is very

likely that this price could have been kept at a higher level than before. When Iraq was driven out of Kuwait it was correspondingly logical for them to destroy the country's production installations. In addition to this "land destruction" argument, the consequence of such physical destruction would be a more restrictive oil market, and a hope that Iraq would be able to reenter the world market at an earlier stage than would have been the case had the destruction not been carried out.

### **WHAT HAVE THE ALLIED ACHIEVED BY DEFEATING IRAQ?**

Since, on the other hand, the war did not destroy more of the production capacity than the installations found in Kuwait and parts of Iraq, a third price shock directly caused by the war has been avoided. Due to these destructions, however, the market has become relatively strict, which means that it will not be able to tolerate a new interruption like this without an increase in the price until the capacity in Kuwait, Saudi-Arabia, or Iraq has been restored.

The perhaps most important aspect of the allied victory is that it may lead to increased Western influence in Saudi-Arabia, the Emirates and Kuwait. Production capacity may be increased more than previously planned. This reinforces the opinion these countries hold (with the exception of Iraq) that the reserve situation indicates a long-term production horizon and low prices. This long-term economic interest and the aspects relating to foreign politics will be accepted more easily by the OPEC when one of its hawks, namely Iraq, is no longer a military threat.

Power inside OPEC has also been removed in the direction of the "doves" (especially Kuwait, Saudi Arabia and the United Arab Emirates) and away from the "hawks" (Iraq, Iran, Libya and Algeria). After the situation has become stabilized this may result in a low price of oil for many years to come unless new dramatic events occur at the Persian Gulf or anywhere else, leading to loss of production capacity.

The transfer of surplus between consumers and producers of oil as a result of a change in the price of oil of for example \$10 per barrel is substantial. Before the war the OECD area as a whole imported about 22 million barrels a day and will thus be able to save some USD 70-80 billion annually in import expenses only, if the price is kept at \$17.50 per barrel as compared to \$27.50 per barrel. The transfer of revenues from producers to consumers (or their treasuries) is even bigger. Whereas the nominal value effect is highest for Western Europe as regards changes in trade balances, a price reduction like this will have a smaller effect on the actual economy in Europe as compared to the U.S., since in the U.S. more oil is used per unit produced. Apart from this the former Eastern European countries and the developing countries seem to be among those who "profit" if the prices are kept at a low level in the time to come.

Isolated, the oil producing countries are the big losers of export earnings. For the oil the Middle East producers a price difference of \$10 per barrel represents a loss in export value of about USD 50 billion. For the United Kingdom, who now consumes about as much oil as she produces, these changes will mean less. Norway, on the other hand, would have had increased earnings by about USD 6-7 billion annually if the oil price had risen by \$10 a barrel. It is interesting, moreover, to notice that a price of oil at \$15 per barrel in 1990-value corresponds to about \$5 per barrel in 1973-value, which is marginally above the actual price at that time; the

average price for the year 1973 was \$4 per barrel.

What then is the probable development of the price of oil after the war and the allied victory?

## **PRICE DEVELOPMENT FOR OIL**

An alternative to constructing expectations as to the future price of oil based on more or less deterministic price forecasts (which have often been misleading), is the so-called Scenario Planning method, which enabled the oil company Shell largely to predict the oil price shock in 1973/74.<sup>4</sup> As part of such a method it is useful to fix lower and upper limits for the price of oil.

The lower limit level is supposed to be stipulated at a level above the marginal costs of producing oil. This is partly due to the fact that alternative energies (such as gas and coal) have higher marginal costs than oil. A price stipulated lower than the marginal costs of important alternative energies is not desirable from the consuming countries point of view. If so consumption of oil, and thereby the dependence on the Middle East, will increase again. Also for producing countries it would be hazardous to allow the price to fall too much (e.g. to \$5-10 per barrel in 1990-value), even if this could be desirable in order to increase market shares. This can partly be accounted for by the fact that low prices will encourage consumer countries to increase excise taxes on petroleum and thereby deprive the consumer of surplus, without this being transferred to the producer, and partly by the fact that it will not lead to any substantial output reduction outside the OPEC, nor to any particular rise in demand before the consumer countries will introduce taxes. Again, the important thing is the portfolio of measures. Even if the U.S., for example, does not introduce taxes on petroleum, whereas Western Europe and Japan do, the effect of the latter may be strong enough to make low prices unprofitable from the point of view of procuring market shares.

Even if reservations are made as to the supply side's ability to act concertedly it may seem that such a minimum political-economic price level is around \$15-20 per barrel (in 1992 value). This implies that even if prices should fall to for instance \$10 per barrel for a certain period of time they will be stabilized somewhere at this minimum price level through political measures by the dominant exporter of oil.<sup>5</sup>

Correspondingly there is also an upper limit for the price determined by the price of alternative energies (backstop prices) and ability to pay by the purchasing countries. On the basis of various calculations of prices for alternative energies and empiricism from the eighties as to the level of

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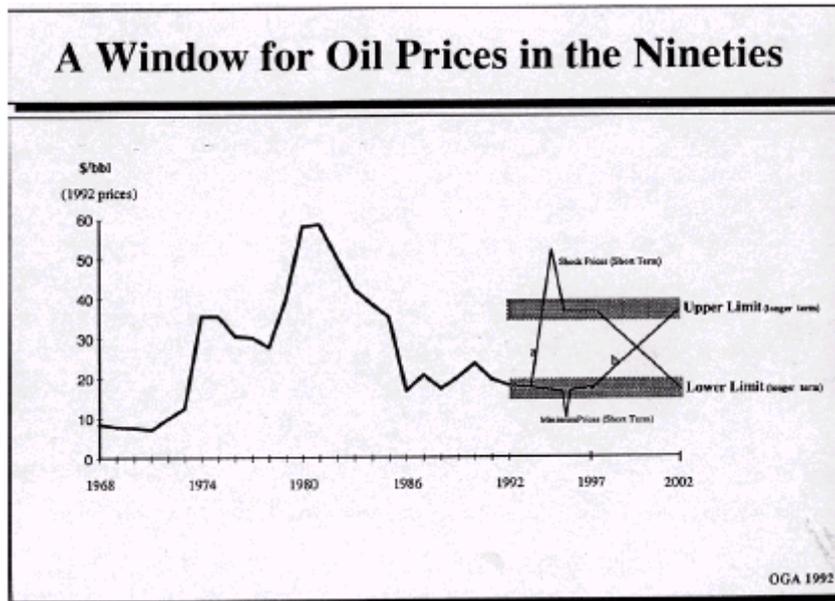
<sup>4</sup> See Wack (1985): "Scenarios: Uncharted Waters Ahead", Harvard Business Review, September-October 1985 and Austvik 1992: "Limits to oil Pricing: Scenario Planning as a Device to Understand Oil Price Developments", Energy Policy Journal, November.

<sup>5</sup> The minimum level can be lowered if the fear of supply interruption is considered to be small, or consuming countries taking physical control of the reserves at the Persian Gulf, if other or new energies can be produced at considerably lower costs, if consumer technology in the use of energy is substantially improved, if the OPEC or the concentration of power on the supply side breaks down, or if major new oil with low production costs are made in some other parts of the world.

the price of oil when net demand declined, the maximum limit can be assumed to be around \$30-40 per barrel.<sup>6</sup>

Together with the real oil price development over the last 25 years these price range limits have been included in the below figure to show as a possible range of price developments during the nineties.

**Figure. A window for the price of oil during the nineties (1990 value)<sup>7</sup>**



Scenario a in the figure implies that new wars or unforeseen events that influence the supply of oil occur in not too long a time. Output loss beyond Kuwait's and part of Iraq's shares might lead to a rise in the price of oil for a certain period without other producers being able to compensate for this loss. If, on the other hand, the price of oil is kept at a low level during the next years, without the introduction of any substantial excise taxes on petroleum products, scenario b illustrates a situation with a strong growth in demand. If this is not met by means of a further extension of production capacity in the Gulf area prices may go up.<sup>8</sup> In the figure it is

<sup>6</sup> Neither a dramatic breakdown in oil production of the Commonwealth of Independent States, nor a new war in the Persian Gulf, an unexpected strong increase in the demand for oil, new nuclear accidents, a breakdown in the tanker market or political upheavals in the Middle East in favor of e.g. Iran or Libya should result in prices above the maximum limit for more than a limited period of time. However, the introduction of new low cost backstop energies and technologies, or a breakdown in world economy might lead to a reduction of the upper limit. On the other hand, a concentration of demand towards the transport sector could lead to a higher upper limit.

<sup>7</sup> The vulnerability in relation to substantial changes in the assumptions laying the ground for the analysis are studied through sensitivity tests as an extension of the analysis.

<sup>8</sup> See the author's NUPI report no 150/1990.

indicated that in this scenario might occur in the mid/late nineties.<sup>9</sup>

A perception that the oil market can be understood by such an analysis indicates that Iraq's price demand of \$25 per barrel (and perhaps also Iran's demand for \$30 per barrel) before the war started was not completely unrealistic in relation to the economic tolerance of the market and the purchasing countries economics. To a large extent the difference in price between \$25-30 per barrel and \$15-20 per barrel will consist of a redistribution of revenues from consumer to producer countries, except of course, for a gradual reduction in the demand growth.

If oil consuming countries can solve their energy problem through military action, like the war in 1990/91, and given the present dependence on oil and overall political structure, this might prove cheaper than paying high and possible unstable prices for oil. As an illustration, military presence in the Middle East that might keep the oil price at \$17.50 per barrel as against alternatively \$27.50 per barrel, may involve annual costs of USD 30-40 billion and still be profitable for the U.S. alone seen in relation to import costs for oil.<sup>10</sup> If other OECD countries are included, the military costs may well be the double of this, and still it is possible to defend a military presence financially if the alternative is a price rise of \$10 per barrel. In addition the difference in other main economic variables, such as growth and inflation as a result of a price rise, probably involving figures much higher than these, have to be taken into account.

Another question is whether in the long term particularly the U.S. will be better off by a reduction of its dependence on oil in its economy and thereby its economic dependence on the unstable Middle East. A more peaceful way of dealing with the energy situation would be to make intensive efforts directed at a more efficient and diversified use of energy perhaps in addition to the military means. A reduced dependence of oil would reduce the possibilities of totalitarian regimes to perform of economic-political blackmail in the future.

Towards the end of the war President Bush presented a proposal for a "New Energy Strategy". With respect to demand the plan contained no proposals relating to taxes on petroleum products or any requirements that the fleet of cars should be more efficient in its use of oil. Instead the car manufacturers are to be encouraged to make cars that use other fuels, such as ethanol, methanol, gas, propane, electricity and others. Besides, increased use of nuclear power is encouraged. Oil import duties to protect domestic production were not proposed. Instead it is believed that tax cuts for oil companies, increased exploration in the environmentally sensitive Alaskan National Wildlife Refugee area and the use of technology that will better utilize reservoirs, as well as new drilling techniques will increase domestic output of oil. The U.S owned part of the Strategic Oil Reserves were planned to rise from around 590 million barrels to some 1 billion barrels. The situation of stable low prices of oil that has developed after the allies, headed by the

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<sup>9</sup> The probability that shock prices as illustrated in the figure will actually occur has been reduced through the building up of strategic oil reserves in order to prevent such price peaks. An interruption must be very substantial and the market very tight in order for the SPR, not to be big enough to be able to cut off prices above the maximum price level. Correspondingly, the probability that the minimum price will occur is reduced by the awareness that OPEC, or central producer countries, will adjust the price up to the minimum price level after some time.

<sup>10</sup> Besides, the USA has received financial contributions from other Western Countries and some Arab countries that cover much of the expenses.

U.S. and Saudi Arabia, won the Gulf war does not seem to indicate that the proposed measures will dampen demand and increase domestic output as assumed.

## **THE PEACE ALSO HAS TO BE WON**

Whether oil purchasing countries can promote their energy political interests through military action does not only presuppose that the war, but also the peace, has to be won. It may turn out to be politically difficult to keep forces in the area for a long time, and anti-western sentiments may grow stronger than ever before. It may appear that the only possible way of reducing dependency on oil from the Middle East in the long term is increased conservation and diversification.

Furthermore, if the low prices that the consumer countries want should prevail also the economies of Iran, Libya and Algeria. It will be interesting to observe how these countries will behave, faced with an possible outcome of the conflict which implies low oil prices and low revenues over a long period of time. The possible lack of a stable peace settlement will "reasonable" prices, may lead to new conflicts in the future both internationally and regionally in the Middle East and the Arab world. For example, it will have a stronger stabilizing effect politically in the area if Saudi Arabia chooses to price its oil in the upper rather than the lower part of the low price range of \$15-20 per barrel.

Russia is also dependent on energy export to earn hard currency. In the short term low prices of oil mean a loss for Russia. If, however, the forecasts of reduced output of oil from Siberia materialize, and the country ceases to export oil, and perhaps even becomes a net importer, its interests will change more in the direction of the interests of the U.S., i.e. in the direction of a desire for low prices. Therefore it is not obvious that such a low price policy will affect Russia negatively in the long term, even if it is too soon to be certain about this as yet. As long as energy, oil and gas, is the only commodity the country can sell to Western countries in the foreseeable future it is possible that priority will still be given to this sector, even at high domestic costs.

## **NORWEGIAN INTERESTS**

It has already been mentioned that a \$10 per barrel price rise of crude oil amounts to an annual export value of Norwegian oil of about USD 6-7 billion. In addition, loss through lower export revenues on natural gas must be taken into account, due to the fact that the price of natural gas on the whole varies in relation to the oil price with a time lag. On the positive side, however, the fact that non-oil related activities in the countries will have lower costs, and that the markets for exports other than petroleum may be improved, must be taken into account. Balancing these different interests against each other makes it rather dubious whether it is in the interest of Norway that oil prices are as low as the U.S. and Saudi Arabia may wish. The argument that it is in Norway's best interest that oil prices are low, because the extra revenues are not spend in a sensible way, might be correct in a limited sense. But then, rather than wishing for low prices of oil, one should focus more strongly on finding these sensible ways of spending the money instead of "eliminating" the problem by removing the income.

Considered in a perspective of foreign politics Norway's situation is somewhat different. Norway is part of an international community and has no interest that the kind of forces that Saddam Hussein represents assume any considerable influence over international economics and politics. Norway has a common interest with our Western allies in stability and a set of international rules that function. Dictatorships such as that of Iraq can lead to increased instability and unpredictability in the international community, which in itself implies economic inefficiency and loss for Norway too.

The ideal outcome of the conflict for Norway, when the conflict was actually a fact, would perhaps have been (the impossible) that Saddam Hussein had managed to obtain some of his price objectives and at the same time had been thrown out of Kuwait. However, when a "choice" had to be made there seems to be no difficulty in looking upon the superior political regards as more important than considerations relating to oil economy. A number of other oil producing countries with an interest in an even higher price of oil than Norway supported similarity the actions, as well.

Norwegian output of oil at present is considerably higher than that of Kuwait before Iraq's invasion. In addition, substantial amounts of natural gas is exported. The export of oil is expected to increase in the years to come, so that Norway will gradually become one of the world's largest exporters of petroleum.

If one looks upon Saddam Hussein's motives for the invasion in the context of a wish to perform "the biggest armed robbery in world history", it is in Norway's interest as an oil producing country that the world community reject and fight down such aggression. Moreover, Norway too, may risk being involved in a global political game in which the wish to change the level of the price of oil is a central issue, and which involves the world's economic and political great powers. The "greed" that the latter might possibly show is something that must be taken into account in Norwegian international oil policy as well.

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