

WORLD OIL MARKET AND ITS FUTURE¹

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In the last few months the high price of oil has become the dominating subject of interest not only for the international oil business, but also for the global economy and the domestic economies of most countries in the world. With the price of West Texas Intermediate in the New York Mercantile Exchange approaching fifty US Dollars per barrel (\$50/bbl) in the latter part of August, such dominance should not be surprising. The recent oil price rise has also been compared with the “oil price shocks” of 1973, 1979-80 and 1990. This article is an attempt to put this comparison in perspective, examine the technical fundamentals/political factors in the present oil market and suggest some views and possibilities for the short- and long-term future trends in the oil market. Neither a single explanation for the present nor a clear forecast for the future price will be given - no crystal ball is in the possession of the writer for the future of the oil market! The intention is to examine the various factors contributing to the high prices, share some ideas for the oil market outlook and let the reader reach his/her own conclusions.

THE PRESENT STATUS OF THE OIL MARKET

Comparison With ‘Oil-Price Shocks’

A profile of the price of oil for the last few years is shown in Figure 1. It is clear that oil price has generally been rising since early 2002 but more consistently so since spring 2003 and more steeply in July/August 2004. This gradual rise in price is different from the sudden jumps that had occurred on the occasion of the oil price shocks.

More importantly, those shocks were caused by sudden disruptions of oil supplies brought about by the Arab oil embargo at the time of the Arab-Israeli war (October 1973), Iran’s Islamic Revolution (1979) and then Saddam Hussein’s attack on that country (1980) and lastly, Saddam’s invasion of Kuwait (1990) and the military operations of Desert Storm (1991) for liberating Kuwait. On the other hand, the main reason for the present oil price rise has been the healthy and strong demand for oil in 2003/4 brought about by economic recovery in many parts of the world, in particular China and the United States.

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No More A Sluggish Oil Demand Growth

For some years, the annual increase in world oil demand was few hundred thousand barrels per day (tbpd). As shown in Figure 2 the annual increment had been 300 tbpd in 2002, 700 tbpd in 2001 and 800 tbpd in 2000. The market had apparently accepted that the sluggish world oil demand growth was to be a long-lasting trend. Moreover, the market had also been used to the continuation of an increase in supply from Non-OPEC areas (about 1 mbpd per year) and that their annual increase in supply will be greater than the increase in demand. As a consequence of the demand and supply trends, OPEC had been reducing its oil production in the last few years in order to avoid a decrease or collapse of the price of oil. By reducing their production, the OPEC countries and particularly Saudi Arabia were left with a growing volume of unwanted oil production capacity.

Many analysts were assuming a continuation of the above trends in the coming years and some had been forecasting that the squeezing market share and production of OPEC would soon lead to the demise of the Organisation. The expectations were that the lowering of OPEC ceiling and the decreasing production quotas for the individual countries would inevitably lead to the breakdown of production discipline, growing overproduction by the member countries, and finally, the disruption of OPEC!

However, in contrast to the sluggish oil demand growth in those years, world demand grew by 1.7 mbpd (million barrels per day) in 2003 and is estimated to grow by 2.5 mbpd in 2004. More importantly, it took some time before this impressive increase was recognised. This was because the information gathering from different parts of the world and their dissemination involve delays and varied standards of accuracy. The earlier data are often provisional and are subsequently revised up or down. The revision might occur on a number of occasions and sometimes even a few years later. Therefore, different interpretations of the data are not unusual, particularly in the first few months and even a year or so later.

The monthly Oil Market Reports published by the International Energy Agency (IEA) in Paris illustrate some of these problems. The Agency compiles and publishes the most comprehensive global oil data. In its successive monthly reports since last year, the IEA applied several revisions, each time increasing the estimated annual growth in world oil demand for 2003. In total, the estimated growth changed from 1.0 mbpd to 1.8 mbpd between July 2003 and July 2004. Similarly, the Agency's estimate for the 2004 growth in world oil demand was revised up several times from 1.0 mbpd to 2.5 mbpd, in its monthly publications between November 2003 and July 2004. Further revisions are likely in the rest of 2004 and in 2005, as more information becomes available about the actual value of world oil demand in 2004.

The revival of world oil demand growth had taken many analysts by surprise³.

³ The comments are not intended as a criticism of any individual or organisation, but reflect the difficulties in global oil analysis. Interestingly, since this paper was written, a major revision of the historical world oil demand data was published by the IEA in the August 2004 issue of their Oil Market Report. These revisions have not been incorporated here since they do not seriously affect the discussions on the annual growth in demand as analysed in this paper.

Supply Growth

The annual growth in the oil supply from Non-OPEC areas (about 1 mbpd) has been insufficient to meet the larger than usual annual growth in oil demand in 2003 and so far in 2004. OPEC (particularly Saudi Arabia) has been increasing its oil production and exports by utilising its unused capacity in response to the growing world oil demand. The concern in the market is that OPEC has not increased its production sufficiently to meet the increase in world oil demand and that the Organisation might not increase it sufficiently or quickly enough to meet the demand in the coming months. As discussed below, there is also a more serious concern that the size of OPEC spare oil production capacity might not be sufficient even if the Organisation wants to increase its production and exports.

Tight Market

The above supply-demand situation has created a relatively tight global oil market. More importantly, the level of oil inventories around the world is low. This follows the developments in the world oil market in the last few years and in the world oil industry since the early 1990s.

In the last few years OPEC has been careful not to oversupply the market. In particular, following the experience of the collapse of the price of oil in 1998-1999, the Organisation's endeavour has been not to allow an unbridled increase in the global oil stocks. On the other hand, since the early 1990s, the management of the private oil companies (from the super majors to the small independents and the minions) have been under pressure from their shareholders and the financial community to concentrate on the performance of their shares in the stock market. In managing their operations, they have been forced to put greater emphasis on the companies' short-term performance, reduce costs and increase profits. One outcome of these management policies has been a reduction of their crude oil and petroleum product inventories. Obviously, reducing inventories lowers the working capital as well as the cost of maintaining the inventories. Analysts were giving serious consideration to the 1990s trend of inventory reduction. Some were even discussing the pros and cons of "zero stock" oil companies.

In brief, the market fundamentals indicate a tight supply-demand balance, reduced level of global oil inventories and decreasing OPEC spare production capacity. They imply a diminishing 'back-up' and less 'reassurance' for the global oil industry operations and oil market trade.

Fear That An Oil Shortage MIGHT Occur

In spite of the above situation, in practice oil supplies have been sufficient to meet world demand. The market, however, has remained fearful of a possible shortage of crude oil and/or petroleum products.

Various transitory factors have also been influencing the market. For example, seasonal variations have accentuated the anxious market sentiments. During the

spring of 2004 (as indeed of the previous years), there was fear of a shortage of gasoline approaching the summer driving season in the northern hemisphere, especially in the United States. Since mid-summer 2004, there has been fear of a shortage of middle distillates and heating oil approaching the winter. Gasoline shortage did not occur and heating oil shortage also might not occur. The refineries are running at maximum capacity and their output could be sufficient, especially if the winter in the northern hemisphere happens to be a mild one. Nevertheless, the fear of a supply shortage persists in the global oil market.

More importantly, the market's fearful sentiment is aggravated by bombing, terrorism, social strife, oil company/government disagreements, domestic and global politics and other events in different parts of the world. To remind ourselves of some such events:

- The military campaign in Iraq, the fall of Saddam Hussein's regime and the subsequent looting, terrorism, armed conflict and sabotage of oil installations in that country.

- The terrorist attack near Saudi Arabia's petrochemical plants and clashes with and arrests of terrorists in different parts of that country.

- The oil workers strike in Venezuela, the later dismissal of thousands of oil industry staff and the call for a referendum on President Chavez's position.

- The protests and clashes in the onshore oil producing areas of Nigeria.

- The saga of Yukos oil company in Russia, its tense relationship with government authorities, the press headlines and the fear of the cessation of the company's oil production and exports.

- Last, but not least, some analysts have voiced concerns about the reducing size of the spare oil production capacity of OPEC and whether it is sufficient to replace a possible supply disruption anywhere in the world. Some have even raised questions about the size of the reserves and the present and future production capability of OPEC member countries, including Saudi Arabia. These questions have further increased market anxiety and have deepened the fear sentiment for a supply shortage and an impending global energy crisis.

Uncertainty Contributes To The Increase In The Price Of Oil

Understandably, a result from the above status of the market has been that those who need oil for their refineries, gasoline retail chains, manufacturing plants, aircrafts, power generators and other requirements, have become too anxious about supply availability. They are prepared to pay a premium in the physical and futures market and secure their current and oncoming supply requirements. Obviously, they have contributed to the increase in the price of oil.

In addition, non-commercial funds and speculators and even pension funds have also entered the oil market and have been playing an increasing role. With the lacklustre

performance of the stock market, fund managers have been entering the commodities markets, including oil. Their entry into the market has contributed to the tightness of the oil market accentuating the high price, market volatility and price fluctuations. Conversely, when the market fundamentals and/or sentiments change, their exit from the oil market would accelerate the price decline. This is in contrast with the refiners, airlines, product retailers and others who have been and will continue to remain in the oil market. However, it should be mentioned here that the role of such funds in the oil market is a subject of debate. Another view is that the funds take the risk, provide liquidity and are necessary as counterpart to the refiners, airlines and others who might wish to hedge against the vagaries in the world oil market.

Price Response Before Any Physical Change In Market

Another important feature of the oil market is that it reacts to news before any actual change occurs in the physical oil supply and demand conditions. For example, any disruption of oil exports in the Persian Gulf would be observed in the form of changes in oil deliveries - about a month later in Northwest Europe and about two months later in the US. Yet the market's reaction to the news of a possible disruption is almost instantaneous, even before the disruption actually occurs. Similarly, a forecast for a cold winter causes a reaction in the oil market long before the arrival of winter. Anticipation, perception and sentiment play an ever-increasing role in the oil market, as indeed they play in the stock market in general. With the tight oil market conditions, any news from Iraq, Russia, Venezuela and other areas causes a knee-jerk reaction in the price of oil in the international arena.

It is difficult to quantify the magnitude of the price rise from the 'non-fundamental' factors. The definition of such factors is itself vague. Numerous parameters are involved and many have feedback effects on each other. Their separation and identification is extremely difficult. Nevertheless, the estimates of their effect on price vary from few to more than ten Dollars per barrel. As an example, quoting Senator John Kerry in his US presidential election campaign, \$8-15/bbl in the price of oil is due to President Bush's foreign policy!

Blaming OPEC For Low Production Capacity – The Market's Wish List

It is interesting that OPEC countries have been blamed for the present market conditions and for not having expanded their production capacity to higher levels in the past few years! This is ironic. It is helpful to remember that in order to defend the price of oil, OPEC drastically reduced its production in the early 1980s and was left with 15 mbpd unwanted production capacity (see Figure 3). More recently, between 2000 and 2002, OPEC reduced its production by 2 mbpd. Most importantly, until late 2003 and even in early 2004, the conventional wisdom among many analysts had been for a low growth in world oil demand, greater growth in Non-OPEC production and the continuation of the squeeze on OPEC in the coming years.

These and similar comments suggest that the world oil market's wish-list includes 4-5 mbpd unused spare oil production capacity, as well as large crude and oil product

inventories to be available around the world and at all times. These requirements might have been provided in the past, but cannot be taken for granted in the future.

On wishing for large oil inventories, it was already noted that private oil companies have been reducing their inventories since the last decade. A large inventory is an unproductive asset that reduces profits, is expensive to maintain and increases the company's operating costs.

On wishing large spare oil production capacities, it is important to emphasise that developing and maintaining unused spare production capacity are much more costly than holding inventory. No private oil company would undertake this. The national oil companies in OPEC are also under pressure to reduce costs and become more efficient. They are less inclined to undertake the prohibitively expensive production capacity expansion and maintenance, only to keep them as spare for meeting the vagaries of the international oil market. Large spare oil production capacities can no more be taken for granted. They require public policy decisions in the producing countries and a justification for their high costs.

SHORT-TERM OIL MARKET OUTLOOK

Examining the market prospects in the coming months, world oil demand is expected to increase by about 2.5 mbpd from summer to winter. Thus the generally tight market conditions shall remain. However, the outlook should not be so worrying. At least the indications for supply and demand fundamentals suggest a calming of the market in the coming months, unless a serious flare up occurs in Iraq, Nigeria, Russia or elsewhere.

Firstly, oil demand growth will be slower due to a slowdown in economic growth. For example, the actual USGDP growth rates in the first half of 2004 have been less than the earlier expectations and the forecasts for the coming months have been revised down. The Federal Reserve has already increased the interest rate of Dollar on two occasions. Further rise is possible and other initiatives also point to a lower GDP growth. Similarly in China there has been a slowdown in the economy and even concerns if it might not be a "soft landing".

A slowdown in global manufacturing activity was also observed in August. Interestingly, this appeared more like a synchronised slowdown in all leading economies in the world. More importantly, because of the high price of oil, the governments in different parts of the world are already introducing regulations for restricting oil and energy consumption.

On the supply side, production from Non-OPEC areas could increase by several hundred thousand or even more than a million barrels per day in the second half of 2004 and further increase is expected in 2005. Some observers have expressed concern that the international oil companies have been slow to increase their exploration and production expenditure. This is true when compared with the large increase in their revenue from the high price of oil, but in absolute terms, they have been increasing their expenditure and Non-OPEC production will rise. More importantly, the high price regime is encouraging exploration and production in high-

risk and high-cost areas, though the resulting production will reach the market later in the future.

The fear of limited OPEC production and capacity is also not justified. Firstly, OPEC has been producing above its own ceiling for a few years already (see Figure 4). More importantly, the overproduction became greater in spring-summer 2004. It was 2-3 mbpd relative to the OPEC production ceiling set for April 2004 and 1-2 mbpd relative to the ceiling set for July. Overproduction has probably been even greater in August. Lastly, as discussed below, the existing spare oil production capacity of the Organisation and the field development operations in progress in the various member countries of OPEC are expected to result in higher production capacities in the rest of 2004. In particular, Saudi Arabia's oil production capacity could reach more than 11 mbpd by the end of 2004. The confirmation of President Chavez has improved the prospects for political stability and a slow growth in Venezuelan oil production. Increases in OPEC capacity and production are also expected in 2005.

LONG-TERM OIL MARKET OUTLOOK

It is surprising how most of us tend to follow each other's "conventional wisdom". It is even more surprising that we appear to fall in the trap of "short-term memory". The recent trends and events influence us most in our forecasts, no matter how sophisticated our econometric models! If the recent oil price trend has been flat or declining, our oil price forecast would be flat or rising only gently. On the other hand, if the recent oil price has been rising, our price forecast would be a steeply rising curve. In other words in a soft market we forecast sluggish demand, growing supplies of oil and other energies, shrinking market share for OPEC and even the demise of the Organization. Conversely, in a tight market (as at present) we tend to forecast strong growth in demand, become sceptic about production capability of OPEC and even about world oil reserves and see inevitable crises of oil shortage ahead. "Limits to Growth" and "Energy in a Finite World" become fashionable again!

Oil Demand Growth For Ever?

In the 1950s and 1960s world oil consumption was growing at rapid rates. At that time, it was expected that those rates would be maintained with the continuation of economic growth in the industrialised countries, and more importantly, with the rising population and the increasing aspirations in the developing countries. Had those growth rates continued, world oil demand would have already reached unsustainable and explosive levels. However, almost forty years later, the reality has proved to be different. The explosion in world oil demand did not occur. The growth was much slower and in some years demand actually declined: 1974-75 and 1980-83 (see Figure 5). The declines were so impressive that "security of demand" became a great concern for oil producers.

It is interesting to note that each of the other high oil price spikes in the last two decades is also associated with a slowdown in oil consumption for two or three years after the price spike. These are clearly shown in Figure 5. A similar demand response

to the present oil price spike is almost a certainty – at least from this simple-minded graphical analysis!

The high prices themselves and public policies (especially in the industrialised countries) proved very effective in arresting the rampant oil demand growth. Among the more tangible contributing factors one could note:

Energy and oil conservation.

Increasing efficiency of oil use in industry and households.

Substitution of oil by other energies.

Various subsidies and tax exemptions for oil conservation and the production of other energies and the legal prohibition of oil use in some sectors.

And many other parameters.

The main question today is whether the future growth in world oil demand would be at the high rates experienced in the 1960s and in 2003/2004, or they would be at the low rates experienced for most of the last three decades. The 2003/4 growth rates might tempt us to think of the former. However, a more realistic assessment would suggest the latter.

High Oil Demand Growth Could Be Transitory

It is important to remember that a result of the above-mentioned energy and oil policies in the last thirty years has been a restructuring of the global economy and less reliance on oil. For example, for the world as a whole and since the early 1970s, there has been nearly 40% reduction in oil consumption per unit of GDP in real terms (see Figure 6). The reduction has been most impressive (about 50%) for the industrialised countries (“Old OECD”⁴). It has been smaller (24%) for the rest of the world. In other words, world economic growth is now much less dependent on oil.

The actual level of oil use should also be examined more closely in Figure 6. On an aggregate basis, oil consumption per unit of GDP fell from about 1.5 barrels to 0.9 barrels for the total world. However, while it fell from about 1.4 barrels to 0.7 barrels in the industrialised countries, it fell from about 2 barrels to 1.5 barrels in the rest of the world. It is important to underline this comparison. It shows that a great potential still exists for the reduction of oil use in the world outside the industrialised countries. More importantly, this potential is quite realistic since it has actually been achieved in many countries already. One could say that oil consumption per unit of GDP in the rest of the world could decline from more than 4 barrels at present to less than 2 barrels in the future. This is an important point and is most relevant for the outlook of world oil demand.

⁴ “Old OECD” excludes Czech Republic, Hungary, Poland, Slovakia, Mexico & South Korea.

For the future, it appears that the industrialised countries are carrying on with their public policies to reduce oil consumption. Any recent implicit complacency due to low oil prices is already disappearing. One could envisage that we will soon observe a reduction in the purchase of cars with high gasoline consumption, such as SUVs and Humvees. Energy conservation, oil substitution and other measures are already being encouraged and similar policies are reintroduced. In addition, market forces will play their role and the high prices themselves will contribute to the reduction of oil demand.

The oil-importing developing countries have followed and are continuing to follow similar energy and oil policies. As in the rest of the world, their oil-using capital and consumer goods are now more fuel efficient, the utilisation of natural gas is expanding and other measures are continuing. More importantly, however, their GDP could not grow to any significant extent and oil demand growth due to the income effect will be moderate. It is sad, yet true, that the gap between the rich and the poor has widened and the harsh realities of the world unfortunately are not favourable to the ideals we all wish for the developing world. In practice, on a macroeconomic level, their investment, production and exports could not rise except at low rates. Consequently, the growth of their energy and oil consumption would only be at very slow rates.

More specifically, as noted above the recent spectacular rise in oil demand for China might not continue. Questions have been raised about the sustainability of that country's very high economic growth rate, the overheating of the economy, high inflation, the migration from the agricultural regions to the slums around the cities such as those in the southeast, the dangers of economic collapse and social disorder. China is still a command economy and under central planning. The authorities are already trying to control these developments, limit economic disparity and avoid social and political crises. For example, credits have been reduced for industrial plant expansion and for car purchase. Coal use continues and natural gas production, imports and pipeline construction are expanding. Already the data indicate a slowing down of the economy and the moderation of oil demand.

For the world at large and as an indication for the future, it is important to note that oil has already been substituted in many sectors. Alternative sources of energy and renewables have been under development for a few decades and some have been successful in various sectors of the economy. Bulk heat generation is no more reliant on oil for producing electricity and for industrial activities.

Oil, however, remains the dominant fuel for the transportation sector and most forecasters expect this to continue in the coming decades. These forecasts could cause complacency by oil producers. Nevertheless, one should not ignore the possibility of technical breakthrough for liquid fuels derived from sources other than oil. In that case, the oil monopoly in the transportation sector could be broken. Many other options exist already and have been subject of research and development and pilot scale tests. The costs are high but they have been greatly reduced by the researchers and technologists. Some might have even become feasible with the recent high oil prices.

In brief, the world's continued reliance on oil and the growth in world oil demand might not last forever.

World Oil Reserves Running Out – How Soon?

This debate has continued for many decades. Some believe world oil reserves will soon be exhausted. Others believe that market incentives will encourage technical ingenuity and innovation and that more oil will be discovered and more will be extracted from the existing fields and from the new discoveries.

Unfortunately, the debate between the two groups has become too emotional and rhetoric in recent years. One side refers to the other as optimists, flat-earth believers, wishful thinkers, etc. The other side refers to the first as pessimists, alarmists, crying wolf, etc.

With the changing oil market conditions, one or the other side of the debate might become more fashionable. Recently, the alarmist views have attracted greater attention following the headline news on the high price of oil, questions on the size of the oil reserves of Shell, etc. However, both groups are correct, but in different contexts and according to different definitions.

It is only fair to note that the professionals with years of upstream oil industry experience are too aware of the seriousness of the operational and financial difficulties, the scale of the exploration and production work, its investment needs and also the bitter experiences of 'dry holes' and poor reservoirs. They tend to be more conservative (or realist-as they refer to themselves) and prefer not to extrapolate or make large estimates for the size of the future oil discoveries and production rates. They are honourable and honest professionals, expressing their sincere views. Although one may disagree with their forecasts for the time of reaching the peak oil production or for the level of the peak, it has to be acknowledged that they have played a useful role and have served the world community by expressing their views and their warnings and by reminding us of the non-renewable nature and exhaustibility of oil as a resource. They are not scaremongers.

On the other hand, those in the second group, often without the above-mentioned bitter operational experiences, have observed the outstanding technical achievements of the first group. They have come to believe in the continuation of the lowering of costs, decreasing number of dry holes, making more and more oil discoveries, increasing the recovery factors, upward revision of reserves and sustained production from the old oil fields that should have already been depleted and abandoned. This group is more optimistic about the future and expects the continuation of those impressive achievements.

One could say that the first group has become a victim of its own success and has created too much expectation.

Some Estimates

The US Geological Survey (USGS) has estimated the world's total oil resources – produced so far and that could be made available by 2030 - at more than 3 trillion (thousand billion) barrels. About 1.4 trillion barrels (Tbbl) of these will be added in the next three decades. Nearly half of this addition will be new discoveries and the rest will be reserve growth in the known oil fields.

The first group sees the USGS figures as exaggeration and estimates the total resources to be about 2 Tbbl, while some other analysts tend to accept higher figures in between. Conducting another study of world oil supplies would require a team of qualified professionals, access to world geological and petroleum industry data and obviously sufficient funds and time for the research work.

However, examining the case of Iraq, the studies conducted by the CGES/Petrolog team in the late 1990s support an optimistic view of its oil reserves and resources. In fact the team's estimate of the undiscovered oil resources for Iraq is much greater than that by the USGS. If one can take this as an indicator for the rest of the world, then global oil resources could also be greater, or at least one would tend to have greater optimism.

Another very qualitative support for optimism on the future world oil supplies could be the significant volumes of sediments that exist around the world's continental margins and extend down to the oceanic floor. These remain almost unexplored. Furthermore, not all the sedimentary basins in the world have been explored in detail. Even the already known and explored sedimentary basins on land and offshore should not be discounted. The possibility of pleasant surprises and new discoveries cannot be ruled out. Such pleasant surprises in recent years have been quite encouraging, as in the Middle East, Caspian Sea, West Africa and even onshore India (the Rajasthan discoveries are small, but indicative of the possibilities). These could continue in the coming years.

Furthermore, the USGS estimates are for conventional oil. Extending the definition to all hydrocarbon liquids will make the estimates larger. One could include heavy and extra-heavy oil, tar sands, natural gas converted to liquids, etc. It has to be stated that the studies by the first group give a sceptic view also on these sources of liquid hydrocarbons. They provide some strong arguments for their cautious views. For example, there should be no euphoria for the future of Canadian oil sands. In fact, the forecasts by Canada's National Energy Board are for an increase of 0.7 to 1 mbpd in the supply of synthetic oil and blended bitumen by the middle of next decade. However, most of this increase would be needed to compensate for the decline in the production of conventional light and heavy oil. Canada's total oil production would increase only marginally between 2004 and 2015. Nevertheless, the total from all such sources in different parts of the world could become significant.

Finally, the most important point and the critical issue in this debate on the long-term is not the limitation of oil supply but the future of oil demand as noted above.

Oil Companies' Reserves Exaggerated?

The recent downgrading of reserves by Shell and some other companies might be interpreted as an indication of the limitation of world oil resources. Such interpretation is misleading since this issue has been more a question of definition/categorisation, auditing and reporting. As covered by the press, the case of Shell has also involved management failings and poor handling of the relationships with shareholders, the investment community and communications with the media.

It is important to note that not all the reported proved reserves by oil companies around the world are according to the definitions of the SEC (the US Security and Exchange Commission) and not all are exaggerated and incorrect. The SEC definitions are very restrictive but have been applied to the oil and gas fields within the US. For the rest of the world, the definition of proved reserves has been more flexible and expansive and has included more oil than the SEC definition.

The key question is whether the companies whose shares are traded in the US should follow the SEC definition also for their oil and gas fields outside the US. It appears that this is a grey area and leaves room for different interpretations.

Some industry professionals have been critical of some SEC requirements. They point out that the definitions were prepared few decades ago, are unnecessarily too restrictive, cause wastage of funds and should be updated to take account of the advances in exploration and production technology. It is interesting that the SEC recently accepted part of the industry arguments and allowed greater reliance on seismic information rather than confirmation only by drilling. However, this acceptance has been restricted only to the US part of the Gulf of Mexico. International companies are now pressing for its wider application in other parts of the world.

POLITICS AND OIL BUSINESS

A discussion of the oil market and its future cannot be complete without examining the role of politics - whether global, regional or domestic. Idealistically speaking, politics distorts the operations of the industry, the oil business and the oil market. Nevertheless, politics has played an important role in oil in the past, it is critical in the world oil scene today and it seems inevitable to continue playing such a role also in the future.

Politics – Concerns Of The Producing Countries

Many producing countries still remember the excesses of the former oil concessionaires and their own nationalisation campaigns in the early to middle of the last century. The world is now different but memories remain. For many decades the world oil industry was run by a limited number of major international oil companies in a kind of global oligopoly. They were operating in different parts of the world – partly with a tacit agreement as to each other's 'turf'. The companies held oil concessions in many countries and in most cases the concessions covered large parts of the country.

The influential role of those companies is now well documented. Numerous books have been written and further studies are carried out as more of the formerly classified documents become available to the public in different countries around the world. The concessionaires operated almost as a state within a state, were very influential in the government policies and the domestic politics of the producing countries. They even brought about changes of ministers, governments, presidents and even initiated military coups. Some of these companies were acting almost as the extensions of the foreign and intelligence services of their home countries. The unfair terms of agreement, the one-sided relationships and failed oil nationalisation attempts in those producing countries were some of the results of the closeness of the oil companies with those services.

However, the world has changed. Today, the oil companies are very different from their predecessors in the first half of the last century. The governments in the producing countries are also different. Moreover, many of these countries have experienced decades of running their own oil industries with their national companies. Yet, some have re-established business relationship with the international oil companies and others wish the companies to re-enter their countries' oil and gas scene. Nevertheless, it is important to remember the historical background because those events and political/oil developments still persist in the minds of many in the producing countries and some are still quite emotional about those developments.

Politics - Concerns Of The Oil Companies

Companies today try to operate as businesses and prefer to keep away from politics. They negotiate with the producing countries around the world, strive to reach agreements and to operate under mutually beneficial relationships. They are no more wielding undue political influence as in the days of the concessions.

In fact the oil companies now complain the governments in the oil producing countries are imposing increasingly stringent regulatory regimes and often change the terms of taxation and export rules to the disadvantage of the companies. In addition, the companies complain that frequent unforeseen changes in the countries' domestic political scene cause yet new changes in the regulatory terms and introduce further uncertainties for their operations. The companies have also faced revolutions and wars in these countries in the past few decades. The political risks in the producing countries are said to be greater or at least as important as the technical risks they face, such as dry holes and complex reservoirs and low rates of production. Nevertheless, after decades of activities around the world, the international oil companies are well experienced in operating under uncertainty and exposure to domestic politics and changing regulations and even revolutions and wars.

The companies and governments negotiate on a formal basis and also through informal dialogue during conferences and roundtable discussions, in response to government working papers prior to legislations, etc. Both sides try to reach mutually beneficial 'win-win' agreements.

The companies also realise that some producing countries' governments still have political considerations in their dealings with foreign oil companies. One example was that the late President Haydar Aliyev of Azerbaijan insisted that the signing of contract with the US oil companies should take place in the White House and in the presence of President Clinton. Another case has been the Russian government's recent restrictions on Yukos oil company and the reported political tensions with President Putin. The international oil companies are generally familiar with these realities and consider them as part of their international business and operational environment.

Politics in the Companies Home Countries - Concerns Of Oil Companies And Producing Countries

This is a relatively more recent phenomenon that the companies face political risk and uncertainty also from their own home country governments. The best example is the imposition of the US oil sanctions on many countries around the world. As a result, numerous prospective and attractive areas remain outside the reach of American oil companies. In fact, non-American companies also face threat of sanctions from the US government. The extraterritorial validity of such US laws has been legally challenged. Nevertheless, the companies still face these threats if they decide to work in some parts of the world.

Obviously oil and gas investments have been less and they have also been delayed in the countries under US sanctions. The delays in production capacity expansion in Iraq, Libya and to some extent in Iran are examples that have now become more noticeable under the present market conditions. However, the American oil companies have also lost some attractive business opportunities to their competitors from Europe, Asia and other parts of the world that have participated in oil activities in the sanctioned countries. Nevertheless, the pros and cons of the US sanctions and their effectiveness remain a subject of continuing debate.

SOME DELIBERATIONS & DISCUSSIONS ON THE LONG-TERM OUTLOOK

Company/Government Relationships

In trying to form an impression of oil industry operations in the coming decades, we should realise that the oil business and the status of the world have both changed significantly since the early days of the oil concessions discussed earlier. The companies have become more business oriented and try not to get involved in political manoeuvrings. The countries also recognise the role of the companies in providing capital, technology and management. Both sides acknowledge their mutually complementary roles.

Moreover a third side is also playing an increasingly influential role in the world oil scene, namely the oilfield service companies. The consolidation in the services sector in the last few years has created 'major' and 'super major' service companies. They are now consortia providing the whole spectrum of upstream operations, i.e. field, laboratory and office services, including some of the disciplines traditionally carried

out by the oil companies, such as seismic interpretation, reservoir analyses, production planning and even operations management. If capital is available, the producing countries could contract these service companies or establish strategic alliances with them and apply advanced technology and field practice in their oil industries. An example could be the impressive performance of the oil industry in Russia in the last few years. In other words, the growth in the services sector could provide alternative arrangements for the supply sector.

Politics and Security of Oil Supplies

Another point that should be stated about the future of oil supplies is that all countries that have oil are and will be keen to sell their oil into the global market. This statement is valid for the members of OPEC, those outside the Organisation or for the countries in which oil might be discovered in the future. Politics could cause temporary disruptions but will not end their oil exports. Oil supplies have become geographically more diversified, but more importantly, all producing countries have become most dependent on the revenue from their oil exports and cannot survive without that revenue. Any possible disruption would be temporary. Obviously a disruption of exports from a major oil producer will cause a crisis in the world oil market. However, the disruption would not be sustainable. In other words, the global oil market should not be concerned about the security of long-term supplies due to political developments.

Demand Outlook

Trying to peer into the future of the oil market, most forecasters (e.g. the IEA) expect relatively high growth of world oil demand in the coming decades. Our discussions above do not disagree with those expectations. However, they suggest a possible alternative, namely that world oil demand might grow at lower rates and might even become stagnant. If in the coming years the world experiences a period of strong oil demand growth, that experience would again be a wake-up call for not remaining complacent. The strengthening of the public policies and other developments would tend to reduce demand. More importantly, if the price of oil remains high, the prices themselves would lead to lower demand.

Although we have been experiencing high oil prices, it is important to emphasise that the producers should not become complacent about the continuation of the high prices and a secure future demand for their oil. The large quantities of coal in the abandoned coalmines should be borne in mind! This possibility, though rare, may not appear fashionable under the present oil market conditions but should be stated in a discussion of the long-term outlook for oil.

Supply Outlook

Most forecasters also expect that oil supplies will be sufficient to meet the future demand. Our discussions above tend to suggest that oil supplies would be sufficient at least well into the next decade. Obviously, oil supplies cannot increase indefinitely

and supply constraint could, theoretically, occur. Oil is a finite resource and the warnings by the “pessimists or realists” are well justified.

However, the world would not suddenly run out of oil. Various indicators would provide warnings beforehand. The dwindling of oil resources would manifest itself as a slowdown in supply growth and then a few years of plateau rate of production. The total world ‘system’ is much more intelligent and versatile than each of us individually. The ‘system’ will somehow deal with the reduction of supply, apply ‘corrections’ and adapt to the new situation long before the world runs out of oil.

Figure 1 - Oil Price (Dated Brent)



Fig 2 - Incremental Demand in the Main Geographic Regions

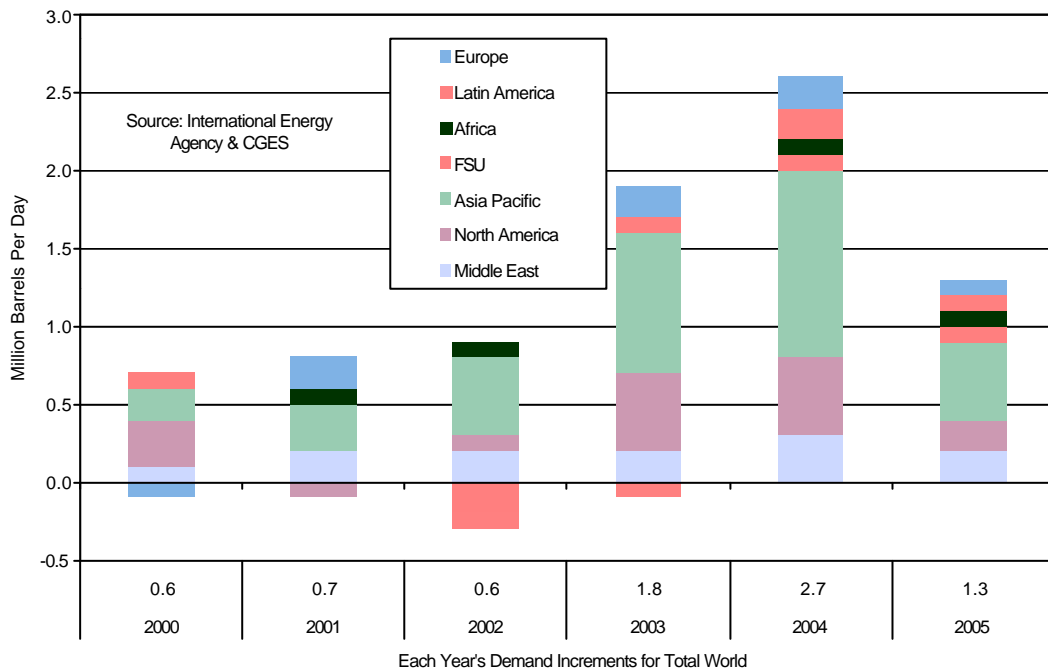


Figure 3 - Crude Oil Production by OPEC and the Rest of the World

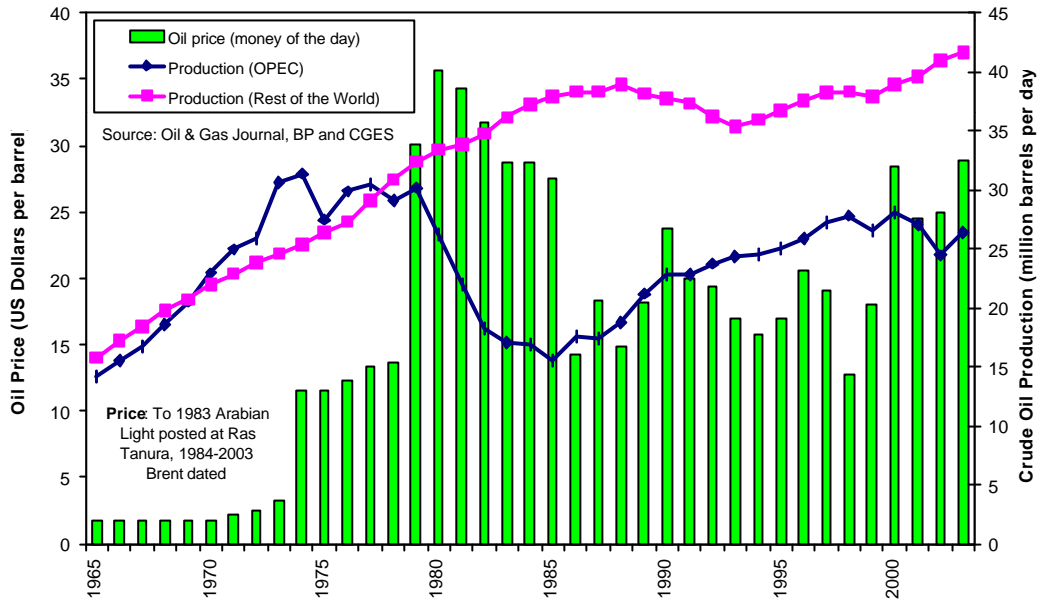


Figure 4 - OPEC Crude Oil Production & Ceiling

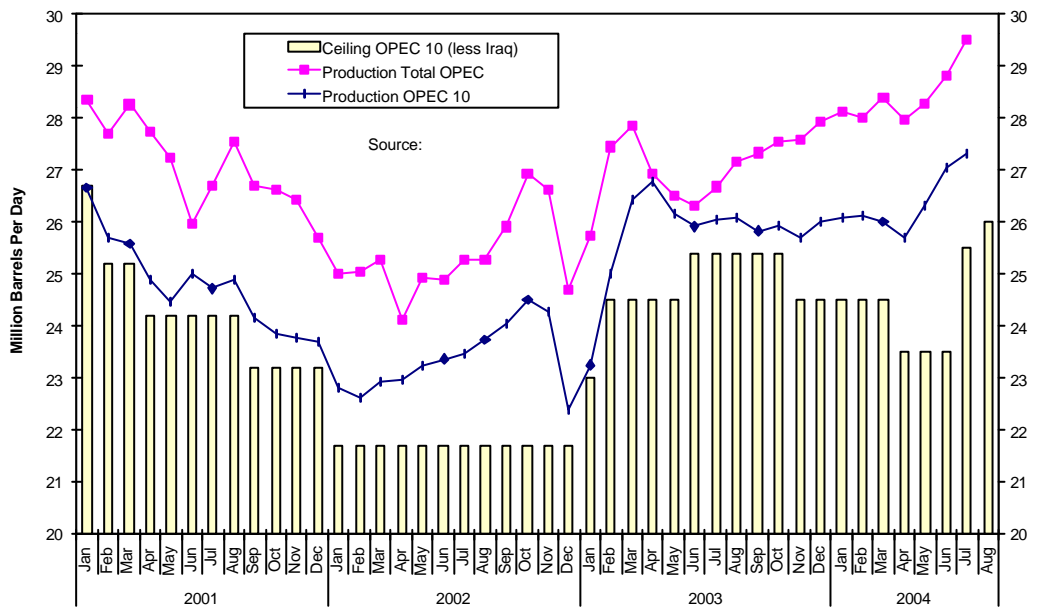


Figure 5 - Oil Consumption and the Price of Oil

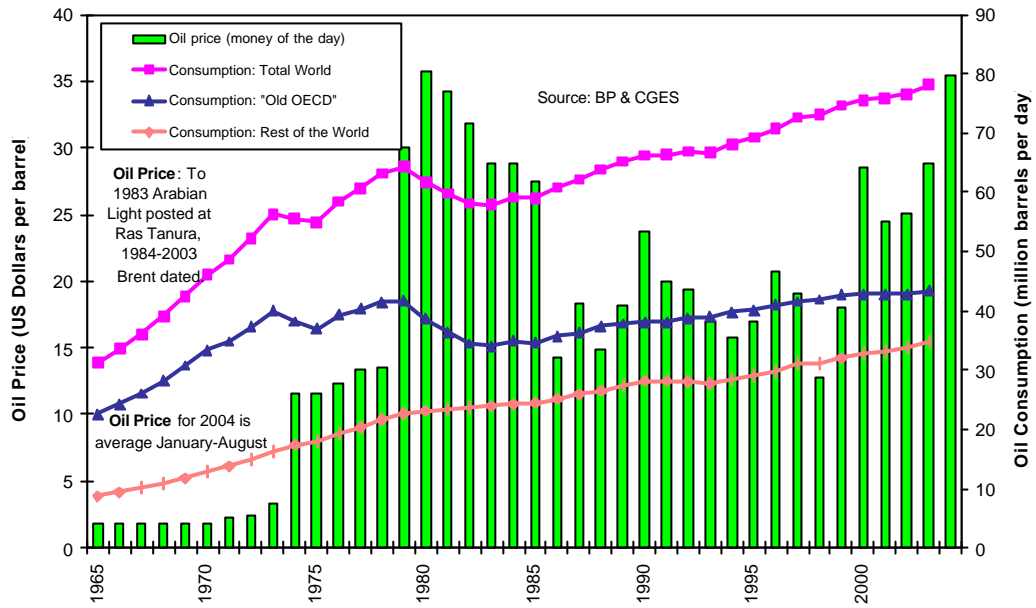


Figure 6 - Oil Consumption Per Unit of GDP (Constant 1990 Prices)

