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**Energy and the economy**

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**OIL PRODUCTS...SECURITY OF SUPPLY AND RELATED ISSUES**

During the last two years assurance of adequate energy supply has become a principal concern around the world, attracting attention among governments, commentators and the public.

Of course, no one would expect something different in a situation with crude prices of \$ 70 per barrel.

In the 1990s we had a world that was characterized by low energy prices. Crude oil averaged around \$ 20 per barrel and at one point some commentators and analysts were seeing single digit numbers for the crude price in the near future.

And there were reasons for that. To mention some of them, even at the risk of multiple repetition:

- Demand for energy was suppressed due to the weakening of the Russian economy, among others.
- The first Gulf war in 1990 was a matter of some weeks only leading to the conclusion that the USA was a superpower which could “fix” geopolitical problems effectively and quickly, so oil would be plentiful.
- On the supply side, political changes around the world, (especially in Russia) led to a gradual opening of areas that were previously closed to investments, and the resources of the Caspian began to be accessible to international companies. I can still remember discussions around the theme of Caspian crude flooding the market, and moving prices at very low levels.

All these contributed to a low prices environment, and energy security was not in the top of the agenda. The market seemed to operate efficiently, and could be left alone to do the job.

Since the beginning of the 21st century however, a series of events changed the situation and removed this sense of complacency. The energy landscape started changing.

First and most important of all, the demand for energy started growing. Driven mainly by China, which since the beginning of the century contributed more than 50% of the total demand growth, average compounded growth rate during the first five years of the 21st century climbed to 3%, while during the 1990 to 2000 period the same number was just 1.1%.

At the same time, production from the mature fields in the non OPEC established oil provinces such as the North Sea and Alaska began to decline.

The second war against Iraq was not resolved in a matter of weeks and that continuing conflict has reminded people that energy security cannot be achieved by military means alone.

In Russia, the Yukos affair reminded people that Russia, despite much progress was still somewhat unpredictable and the unexpected could still happen. And the 2006 Ukraine episode triggered additional discussion on how secure Europe was when relying on Russian Gas supplies for covering its energy needs.

And in addition to all the crude oil supply demand issues, a new factor came in to the equation to increase the overall uncertainty. That was the lack of spare refining capacity: After a prolonged period of limited investment in refining infrastructure, refineries were running at high utilization rates. In 2005 the ban of the use of MTBE as a high octane gasoline component cast doubts on whether there would be enough gasoline to cover the high season of demand in the USA, and the September 2005 supply disturbances by the US East Coast Hurricanes made things even worse.

Add to all these the geopolitical tension in Middle East – Iran, and here we are with a crude price of \$ 70 per barrel.

Again it is worth stressing that the insecurity is not based on any prospect of a coming physical shortage. There are at least 40 years of proven supplies of oil at today's rate of consumption and almost 70 years of natural gas supplies. The proven reserve numbers go up each year rather than down despite production. In addition there are huge volumes of both oil and gas yet to be found. Technology is improving recovery rates. And there are vast supplies of so called unconventional oil – in Canada and Venezuela for instance. So, there is no physical shortage.

So why then is energy security such a big issue?

There are quite a few reasons for this, and I will state a few key observations of the IEA outlook to 2030.

- Demand will continue to grow especially in Asia, although at more moderate rates than those experienced in recent years. That demand in the short term can only be supplied by oil and gas as nuclear and renewable sources of energy will grow at a low pace.
- Although there is a certainty that Earth's oil resources are adequate until 2030 and beyond, it is less certain whether sufficient investment will flow to the "right" locations and at the "right" time. Access into much of the worlds remaining oil reserves is restricted for IOCs.
- The NOCs which have access to these reserves have publicly expressed their concerns about the flip side of the security of energy supply, which is security of demand. Why should they invest to create production capacities that will be used only if required, and this use is not always guaranteed. (Note here that in 2005 total increase was only 1.5%).

- OPEC producers are quick to remind us of the painful experience of the eighties, when they had to cut their production to half of their capacity, in a failed attempt to keep prices from collapsing, due to weakened demand, while non-OPEC production continued to rise.

The OPEC President and Nigerian Oil Minister Endmunt Daukoru has recently stated that “The need of security of demand is a legitimate concern for producers. Security of supply and security of demand must go hand in hand”. And OPEC’s Secretary General, Nigeria’s Mohammed Barkindo has questioned the demand predictability saying that “there is a difference of more than 12 million b/d between the highest and lowest forecasts for global oil demand in 2020”.

So, although there are adequate reserves, these are limited to a few countries. By 2015 up to 80 per cent of supply will come from just three areas of the world. West Africa, Russia and overwhelmingly the Middle East and from the five states around the Gulf including Iran and Iraq. Few of those countries are democracies and few are open to international investment while channeling their excess earnings to the world’s banking system.

Another concern is that the oil trade is constantly increasing, since the major economies of the US, Europe, Japan and now China are all facing the need for increased imports over the next decade. The IEA projects that energy trade between regions will more than double by 2030. Most of which will be in the form of oil. Consequently “the risk of an oil-supply disruption will grow as trade and flows through key maritime and pipeline chokepoints expand”.

And the last factor is the environment. Almost ten years ago the Kyoto meeting set an objective of reducing emissions by just over 5 per cent from a 1990 baseline. In fact by the end of last year emissions are 25 per cent above the 1990 level across the world and rising by 1.5 to 2 per cent a year. Climate change has become an issue of popular public concern not just a topic debated at academic conferences. Few politicians can now afford to ignore the subject. So there may be different utilization levels for different type of crude oil plus the need for substantial new investment to permit the utilization of heavy crudes.

Those are some of the reasons – immediate and long term why energy security is on the agenda, and why so many people are focused on the question of energy policy.

All these support a market with high oil prices. And the question comes to “for how long and at what level”? I certainly join the vast majority that cannot tell – The market discounts a long term crude price at the level of 40-45 dollars per barrel, but I have also seen 30-35 ranges and quite a few at much higher levels. And all these are being used for asset acquisition, so they must be pretty serious.

So – the working hypotheses of the industry is that oil prices will remain higher than historical levels even if demand and supply will continue to grow in a manageable way, meaning that additions to crude capacity production will effectively cover the demand pattern.

We should remember however that while effects have been meaningful in years past, they are less likely to be as relevant in the future due to structural changes in the global

economy. At issue is that in the previous oil shocks of 1972-1973 and 1979-1980, the global economy utilized much more petroleum to produce a dollar of GDP than is the case today. Petroleum represented a more significant component of the global economy, and its price indices, (which are monitored), so that monetary policy may be appropriately formulated.

Another important issue in earlier periods is that wage contracts etc. were often linked to consumer prices with escalator clauses, and so, as petroleum prices rose, a classic wage-price spiral ensued.

However, markets have liberalized and labor union power has declined, and wage increases have increasingly become de-linked from consumer price indexes. The unfavourable economic multiplier effects related to inflation were reduced as well. The link between changes in petroleum prices and inflation is less obvious as a result, except in countries in which oil use intensity is very high.

Nevertheless, the direct and indirect economic effects of higher petroleum prices are likely to have significant implications for economic growth. The impact between countries and regions depend on 1) the degree of dependence on imported oil, 2) the share of the cost of oil in national income or GDP, and 3) the degree to which the rise in petroleum prices translate into rising prices for end-users.

Regarding direct economic impacts, while higher petroleum costs for consumers, businesses etc. corresponds to a similar rise in revenues for producers, refiners and marketers of petroleum, the net change to global GDP is unfavorable because the propensity to consume in the countries that lose from higher prices is greater than that in exporting countries.

The reason is that many exporting countries have substandard budgetary situations, low foreign currency reserves, higher individual savings rates etc., and may utilize funds for these purposes as financial windfalls materialize. Such an outcome could exacerbate the economic effect of higher petroleum prices.

Higher petroleum costs for consumers, businesses etc. will have an unfavorable net change to global GDP, but the effects now are much softer and take a longer time to appear than in previous oil crises, since our economies have established mechanisms for absorbing this type of shocks.

Still, we need a lot of work to re-establish energy security assuming of course that energy policies have again to be international and inclusive. Possibly if things got to be more critical some elements of international coordination may have to be necessary.

As to the general impact on the world Economy: it is an issue that has been discussed almost to death by practically everybody.

We all know now about "second round impact" anti - inflationary interest rate shocks, non - oil investment of excess profits, reduced oil - content in GDP increasing new consumption patterns on oil producers and consumers etc.etc.

The conclusions are relatively few and obvious. Oil induced price increases do not have the immediate effects observed in the previous oil crises.

Inbuilt shock absorbers smooth out violent developments, helped by the fact that now a longer time is needed for price “anomalies” to become critical.

Summarising my notes, I would like to draw your attention to the following.

- We have entered a new era of re investment economics, where significant additional investment is needed in the supply side to meet growing demand.
- Although there is no cause of despair, since there are quite a few options for the development of technology in ways which could produce viable at least partial alternatives, we will have to live with higher oil prices in the years to come.
- Higher petroleum costs for consumers, businesses etc. will have an unfavorable net change to global GDP, but the effects now are much softer than in previous oil crisis, since our economies have established mechanisms for absorbing this type of shocks.
- Still, we need a lot of work to re-establish energy security and energy policy has again to be international and inclusive.
- Oil prices will probably remain high at least in the near future, while oil trading will be subject to stock exchange rules (and not behave as a commodity )as more and more money enters the market.
- Take or pay conditions will tend to become more common as investment of windfall profits of NOC becomes more demanding.

Finally, strange as it may seem to be, high prices may end up to be considered as desirable in order to induce changes in oil products use patterns and advances in technology either in economies of utilization or development of new oil extraction techniques.

#### **Abbreviations:**

NOC = National Oil Companies

IEA = International Energy Agency

MTBE = Methyl Tertiary Butyl Ether