CHAPTER 1

WHY PRICE VOLATILITY?

"Oil prices – there is a common understanding that has nothing to do with supply and demand."

OPEC Secretary General al-Badri, April 20, 2008.

"Oil has become a hedge for investors, like gold against the falling value of currencies."

Saudi Oil Minister al-Naimi, April 20, 2008.

"There were no supply disruptions that could have justifed such a big increase (in oil prices). Did China and India suddenly have gigantic needs for new oil products in a single day? No. Everybody agrees supply-demand could not drive the price up $25, which was a record increase in the price of oil. The price of oil went from somewhere in the 60s to $147 in less than a year. And we were being told, on that run-up, 'It's supply-demand, supply-demand, supply-demand."

Michael Greenberger, former director of trading for the U.S. Commodity Futures Trading Commission, 11 January 2009.

IT IS NOT AN OIL SHOCK. IT IS A TRANSITION TOWARDS A NEW OIL ORDER.

Anne Gaudard (AG): First question, do you agree with the term "third oil shock"?

Paul Michael Wihbey (PMW): No. There is clearly a dramatic change in the oil market and "shock" implies that it is an aberration and that we will return to some sort of status quo as this shock eventually settles. It almost implies the notion of a bubble and that, at some point, that bubble will burst and the market will return to business as normal.

A shock implies either a sudden explosion of demand or a sudden shortage of supply. Nothing of the sort happened: since 2002 when the prices started to rise, demand increased by an average of 1.3 million barrels per day (mbpd), or less than 2 percent a year and supply followed.

The current environment of high price volatility transcends the terminology of shock, as a historic transition takes place from the OPEC-centric order of the oil market to a new order.

The old system had characteristics most people are familiar with:

– price stability,

– quotas,
– and significant spare capacity – the ability of the cartel to put supply into the market and absorb price shocks arising from supply disruptions or other shortages.

This order came to an end during the period of late 2001-2003. Since then, the world entered a state of transition in the oil market dominated by geopolitical and non-economic drivers.

This transition phase is characterized by:
– the dominance of geopolitics over market fundamentals,
– unprecedented price volatility (from $20 a barrel in 2000 to $145 in July 2008, a 600 percent increase against a demand increase of 13 to 14 percent, followed by dramatic decline),
– the rise of powerful players such as National Oil Corporations (NOCs) controlling 75 to 80 percent of the world's reserve base and the emergence of massive new unconventional resources like oil sands. In addition, in the face of spreading resource nationalism, International Oil Companies (IOCs) like ExxonMobil and Shell, are withdrawing from traditional areas of exploration and production to other jurisdictions, safe havens, like oil-rich Western Canada.
– the direct impact of political decisions in major oil producers like Russia, Venezuela and the Persian Gulf countries. State capitalism is dictating the strategic valuation of oil.

Oil is no longer just a market commodity, but rather a strategic asset for those who possess it. Its value is determined by political and strategic considerations rather than the free play of market forces. Oil serves as an instrument of statecraft. This means, that in terms of placing a value on the product, a great deal of uncertainty is attributed to the commodity because it is not known what decisions Moscow, Caracas, Tehran, Riyadh or even Washington will take in regards to the utilization of their petroleum assets.

ASIAN DEMAND IS NOT THE KEY DETERMINANT OF THE RISE OF OIL PRICES.

SR: One of the arguments we often hear to explain the increasing oil price is the demand from China. So what you are saying is that this is not true, that this factor is not sufficient to explain that phenomenon.

CHART 1A **WORLD PETROLEUM CONSUMPTION**

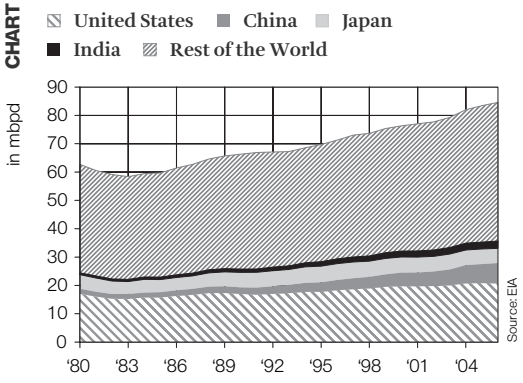


CHART 1B **TOP WORLD OIL CONSUMERS 2006**

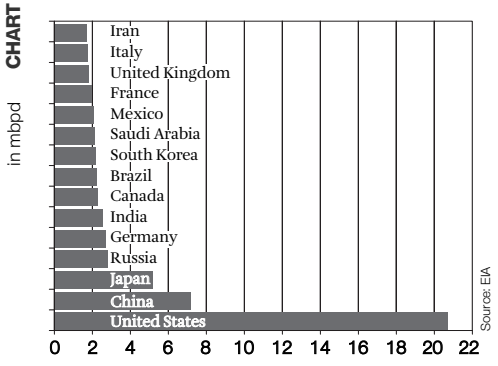


CHART 1C **OIL DEMAND GROWTH COMPARISON**

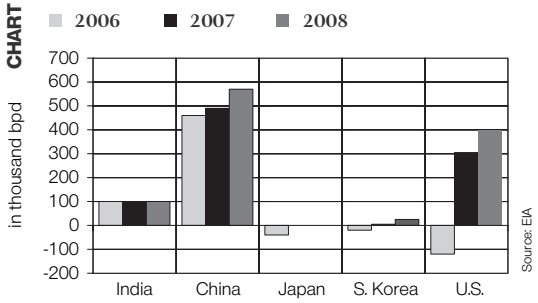


CHART 1D **CHINA OIL PRODUCTION & CONSUMPTION**

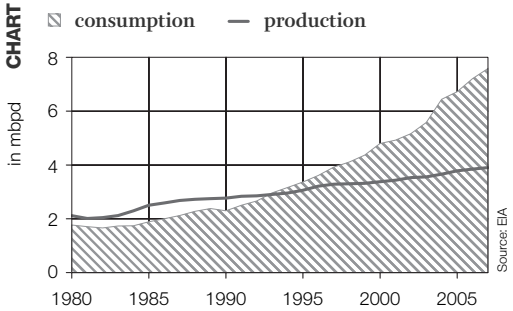


CHART 1E **INDIA OIL PRODUCTION & CONSUMPTION**

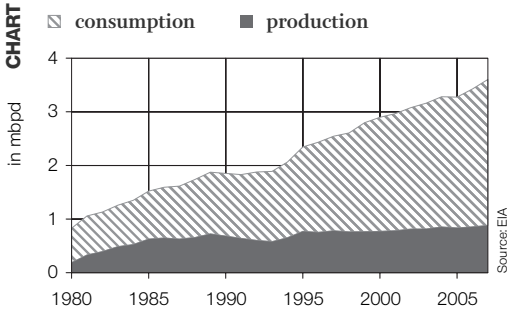
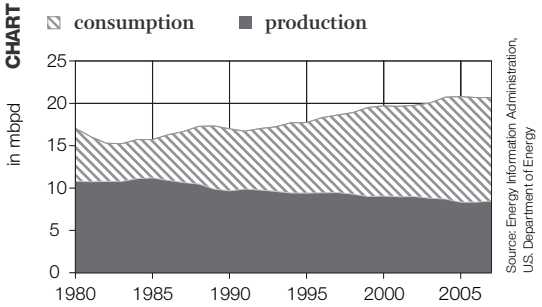


CHART 1F **U.S. OIL PRODUCTION & CONSUMPTION**



The Chinese demand is 9 percent of the total world consumption; the US accounts for 27 percent. Because of changes in subsidies in India and China, there has been a cushioning of demand in China. Chinese oil consumption is approximately 7.7 mbpd as compared to 21 mbpd in the United States.

André-Valéry Bordes (AVB): China consumes almost 8 mbpd, from which it produces 4 and import 4.

PMW: Yes, 1993 marked the year when China became a net importer. The ability of the Chinese to absorb greater import volumes amount is subject to their economy continuing to grow at 9 to 11 percent. I think you will see a cooling off.

Every increase of the price is said to be generated by the rise of China oil demand, but is this consistent with the figures? Absolutely not. The current global consumption of oil, that is global oil demand is 87 mbpd in 2008. In 2002 when the prices started to rise from the low level of $22 a barrel global demand was 78 mbpd. So demand increased by 9 percent and in the same time the price jumped to $100 a barrel in January 2008 to reach $147 in July 2008. This is a 600 percent rise. How can you explain the rise of 600 percent by a rise of demand of only 9 percent? Now let us look at the figures of China demand of oil. Until 1993, China consumed its own oil. After 1993, China started to import oil:

today China consumes 8 mbpd and therefore needs to import 4 mbpd as compared to 11 mbpd for the United States. The Chinese consumption is 9.5 percent of the total world amount; the US accounts for 27 percent. In 2002, China's demand was 5.5 mbpd, or 7 percent of global demand (78 mbpd); in 2008, it is 8 mbpd, or 10.8 percent of global demand (87 mbpd).

The increase of China demand between 2002 and 2008 is 3.5 mbpd, representing 38 percent of the increase of global oil demand in the same period. But during this time other countries also significantly increased their consumption as well: USA 1 mbpd, India 500,000 b/d, Russia 300,000 b/d. The US represents 11 percent of the demand during the period.

So yes, there is an Asian demand from China and India, but it's not of such a volume as to dictate the rise in oil prices. The precipitous three-day $16 fall from the July 15, 2008, high of $147/b and ensuing rapid price decline of 1/3 from mid-July to Oct 1st, 2008, is not attributable to a sudden corresponding decrease of Asian demand.

There are other factors at play.

AG: But in the beginning of the movement there was a fundamental change with the increase of the demand of Asia which pushed the price to 80 dollars a barrel. But then we have seen a new new price increase from $80 and $150 since January 2008. Do you think that this recent phase of the rise is the continuation of the previous rise or that the nature and the origin of the rise changed since the level of $80-$100? I think that the increasing demand of China was a shock when there was not the capacity to satisfy this demand, which has put another demand component to the market.

PMW: Yes, there is no doubt about that.

AG: So you do not criticize the idea of shock of demand at the beginning?

PMW: The conventional response is that we have an oil shock, but I think that it goes well beyond that to a dramatic change in the governing characteristics in the global oil market. Asian demand is one relatively modest component that legitimately allows for an increase in prices but certainly not to the extent of a seven-year increase from $20 in 2001 to $147 in 2008. Chinese and Indian demand represents only 16 to 17 percent of total global demand.

AVB: At the same time production of course has also increased by 10 percent and has been able to match this increase in Asian demand.

THE IMPACT OF GEOPOLITICAL-POLITICAL FACTORS

PMW: Production has increased to almost 87 mbpd compared to 77 mbpd in 2001. In fact, production has kept up with demand. That has never been a supply problem. Supply has always been available. So while Asian demand is an important factor, it is not a determinant of these higher prices.

The determinants, in my opinion, are mainly non-market forces as opposed to fundamentals – the objective supply/demand equation of the price calculus. Those non-market elements are primarily geopolitical and psychological, meaning that you cannot easily quantify them, but nevertheless they are very real, sometimes illogical or irrational components of the market and of the pricing equation. The geopolitical impact on high prices refer to issues such as Iran's confrontation with the United States[i], and other zones of conflict and political turmoil, as well as the geopolitical price premium arising from tensions generated.

If one takes traditionally large producers like Iran, Nigeria, Venezuela, Mexico and Iraq and calculates what those countries ought to produce under normal conditions – meaning political stability and industry standard operational efficiencies – the aggregate of their production

would add between 4 to 5 million barrels to global supply. For example, were it not for the disturbances in the Niger Delta, Nigerian crude production would easily increase by 500.000 to 1 million barrels.

SR: But you are talking of a perfect world.

PMW: Yes, an ideal world free of political and security issues that drive market calculations. What I am saying is that the geopolitical component is a real factor that at times can be quantified.

The geopolitical premium may be the most important pricing criteria in the post-OPEC era which has neither been fully appreciated nor understood. In other words, supply has been taken off the market – supply that exists – for reasons that are related to political or strategic decisions.

Mexico is in the midst of a fierce political debate over its Constitution, which currently prohibits direct foreign involvement, financial and technical, in its oil sector. Pemex, the national oil company, is facing a rapid production decline and needs rehabilitation. It can only secure that with external funds and external technical expertise. The decision as to whether Mexico will increase supply is not one of geology or technology, but one of politics.

SR: The problem is that Mexico does not have the top technology.

PMW: Yes, but Mexico has the oil supply in offshore Gulf of Mexico. Pemex's decline is artificial. Should the Mexican parliament vote to lift or alter the constitutional prohibition, Pemex could well become a robust producer doubling production from current 3 mbpd within a matter of several years.

Similarly with Venezuela, PDVSA, the national oil company, is implementing a developmental strategy based on its extra-heavy deposits that will raise production to 5.8 mbpd by 2012. However, prior to Hugo Chavez's ascendancy to power in 1999, the Venezuelan government had

an operational plan, based on maximizing production and ignoring OPEC quotas that would have boosted its production level from 3 to 6 mbpd by 2005. With the change in government and policy priorities, growth was restricted as a consequence of the 2003 oil strike, nationalization, and emphasis on maximizing revenues. What is important to note, is that both countries have significant available supplies that could have been put into the market, had domestic political priorities been different.

The same situation exists with Iraq. What would Iraqi production have been under normal circumstances without the war and subsequent issues of pipeline sabotage and political deadlock over hydrocarbons legislation? It is only in 2008 that Iraqi production has returned to its pre-war level of 2.5 mbpd.

POLITICAL MANIPULATION?

AG: Do think that there is a political agenda in the way of cutting off production off the market since 2001 until 2008?

PMW: You mean to artificially boost the price? This is a very good question. I have to answer that in two parts because that leads to the issue of market manipulation.

AG: I mean political manipulation.

PMW: Yes, political manipulation, which is a relatively easy thing to do. I refer specifically to Iran's desire for artificially higher oil prices to attain political and strategic goals against the United States. The objective being to undermine the U.S. economy to the extent that the U.S. would be deterred from undertaking military action against Iran. I believe this did in fact happen.[2]

Iranian President Ahmadinejad's numerous inflammatory remarks against Israel had as much to do with driving

prices up as affirming the Islamic Republic's hard-line stance against the Jewish state. When in mid-July, the US sent its third ranking State Department official to Geneva to engage in direct talks with Iranian officials over its uranium enrichment policy, the understandings reached as consequence of the meeting abruptly ended oil's extraordinary upward spiral at $147 the day of the actual meeting. Since then, price has tumbled by a remarkable one-third or $45-50 in the span of 75 days (July 17-Oct 1). Economic and strategic realities on both sides forced a diplomatic compromise, which immediately reduced the considerable geopolitical forces that had driven the market to record heights. It is interesting to note that just a week before the Geneva meeting, OPEC issued a warning that a US-Iranian conflict would see an unlimited increase in oil price as OPEC could not make up for the loss of Iranian exports.

I agree that there is potential by key players to manipulate the market for political, financial or strategic goals. Every time a Middle Eastern leader of some authority makes a provocative statement, as was the case with Israeli Transportation Minister, Shaul Mofaz, who said in early June that attacking Iran in order to stop its nuclear plans would be unavoidable. His statement was immediately followed by a record one-day $11 price jump, to a then record-high of $139. It may have been an impromptu statement or it may have been deliberate play on market fears allowing insiders to take advantage and profit from the futures. With increasing attention to speculation, everyone now understands that a public pronouncement by a credible government or financial authority can have an immediate and powerful impact on prices.

The other aspect of this issue of manipulation, and where I think we have a great deal of irrationality injected into market calculations is the whole theory of peak oil. This has been a major determinant in artificially increasing prices artificially well-beyond traditional market fundamentals of supply and demand.

PEAK OIL THEORY FUELS UNCERTAINTY AND IRRATIONALITY ON THE MARKET.

AVB: Would you say that peak oil theory is a manipulation?

PMW: I think it's difficult to make that charge without being able to substantiate it. This is an area that certainly requires further investigation. Recent U.S. legislation directs the US Commodity Futures Trading Commission (CFTC) to use its authority to curb speculation in the energy futures market. Whether the CFTC will assess how this speculative market has arisen, and whether criminality is involved remains to be seen. I think there are those who have looked at the issue of peak oil from a scientific and theoretical perspective – in a very genuine way – and based on their calculations are convinced that the world has arrived at the peak of oil production, and supplies are now in permanent decline. There are those who have used peak oil theory to scare the market and fuel the irrational rise of price. In my opinion, traders and others have utilized 'peak oil' to substantiate market fears and uncertainties to the point of generating a panic buying frenzy of a specific commodity perceived as no longer able to meet demand. Is this market manipulation? I believe so. According to Michael Mussa, a former chief economist at the International Monetary Fund, "Speculation is a great part of the determination of price."

AG: Could you precise who exactly "those" are? They are not the scientists at the origin of the peak oil theory, are they? Are they politicians? We hear much about peak oil theory, notably through Matthew Simmons' book "Twilight in the Desert" (2005) which questions Saudi Arabian reserve numbers.

PMW: The most vocal proponent of the demise of oil has been the energy investment banker from Texas, Matthew Simmons, whose book "Twilight in the Desert" has had

significant influence in making the market aware of peak oil. Simmons made a legitimate case in terms of evaluating Saudi Arabia's reserve numbers and the quality of its reservoirs. He concluded that the Saudi proven reserve numbers (262 billion barrels) were in all probability much less than claimed by Aramco, the Saudi national oil company. Simmons' methodology has been accepted by proponents of the peak theory and applied across the global oil market. Simmons has not addressed the issue of other sources of supply from other parts of the globe and has dismissed the Alberta's oil sands as untenable. In a 2005 interview, with Resource Investor, Simmons said of oil sands and shale, "They're real and the economics work, but these are high energy intensity projects that can never reach high volumes. They are not a substitute for high flow rate oil. They are not a real offset."

Simmons' great success stems from the fact that his calculations and conclusions have not been effectively refuted by the Saudis nor by OPEC. They failed to meet the challenge because they refused to open their oil accounts for independent audit. In other words, their figures are not transparent, allowing Simmons and peak oil proponents to validate their own theoretical judgments on the reserve numbers in question. As a consequence, these judgments have been extrapolated to apply to all reserve holdings and production estimates around the world thereby creating a perception that has come to dominate the oil market in recent years – that oil is scarce and diminishing in supply. In my opinion, extrapolations based on Simmons' analysis of Persian Gulf peak oil ought to be restricted to the Persian Gulf.

"AT $100 A BARREL, THERE IS PLENTY OF OIL"

AG: Is peak oil theory not valid also for the US?

PMW: No, only to the Persian Gulf because with America we know from data supplied by the U.S. Department of Energy there are significant supplies of conventional oil offshore as well as onshore unconventional (oil shale, oil sands) deposits[3]. This has nothing to do with the peak oil controversy over reserve estimates in the Persian Gulf. These are two separate categorizations. But the issue of looking at the Persian Gulf and then extrapolating from it and applying those conclusions to all other reserve basins in the world is reflective of an OPEC-centric view as to how to calculate reserves, volume production, and spare-capacity. Simmons and other peak oil advocates have allowed the general perception, based on the out-dated notion that oil market pivots on Persian Gulf reserve numbers, to shape how the market evaluates global supply and demand. What I am saying, is that the peak oil theorists are fundamentally wrong, that supply basins in places like the Gulf of Guinea, Siberia, Caribbean Basin, Western North America and South Atlantic contain immense and varied supplies of petroleum. This fundamental fact cannot be undermined by the peak oil theory. It's like Malthus and his theory on food supplies. Peak oil theory mirrors the fallacies of the Malthusian position on food production[4].

AVB: Peak oil theory has really been promoted between 2002 and 2004 but since then the oil price has quadrupled so we cannot think about reserves without taking into consideration the price. Philippe Chalmin, the French expert of commodities markets, recently said that at $100 a barrel there is plenty of oil. When the price is very high the amount of economic reserves that are recoverable at an acceptable economic cost increases also. For example a peak oil advocate like Kenneth Deffeyes published his book "The end of oil" in 2004 when the price was much lower than now.

PMW: When the oil price was at $30-35, yes. Like Malthus, in peak oil theory there is no incorporation of new technologies