SWP Comments

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The Surge in Oil Prices

Is a New Oil Crisis Looming?

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Oil prices have repeatedly hit new record highs in recent weeks. Since early October, oil has regularly traded for over $50 per barrel in New York. This trend, however, is no reason to conjure up fears of a new oil crisis comparable with those of the 1970s. Western industrialized countries have since changed fundamentally, and their economies are far less dependent on oil. Those to suffer most from the high price of oil will be developing countries that have little or no oil but instead have high foreign debts and severe trade deficits. The increasingly expressed view that the current price of oil marks the beginning of the end of oil does not stand up to scrutiny. In fact, it is doubtful that this surge in oil prices will last for long. It could well be that current oil prices are but another spike caused by oil-market volatility, which has risen sharply in recent years and discouraged investment in additional production capacity.

At almost regular intervals, oil and its price grab center stage, only to recede again into the background for several years. This rule has been valid for some time. Accordingly, the turbulent 1973–1985 period was followed by a phase of relatively low, stable oil prices lasting until 1998 (save for a temporary exception in 1990). It seems, however, as if the frequency with which oil makes the headlines has markedly increased in the last five to six years: There was the historic collapse in oil prices to $9.50 per barrel in 1998, the subsequent re-strengthening of the Organization of Petroleum Exporting Countries (OPEC), the tripling of oil prices by the end of 2000 and the gasoline-price protests in Europe that arose as a consequence, the focus on the Middle East and its oil as a result of the terrorist attacks on the United States on September 11, 2001, the surge in prices during the coup and strike in Venezuela, the effects of the invasion of Iraq, the unanticipated Chinese demand boom and the current record price of more than $50 per barrel. At the center of attention are usually the questions: How does the price of oil affect the economy? Is the high price of oil a sign of the beginning of the end of the resource or is it only temporary and a mere symptom of oil-market volatility seen in recent years?

Reduced vulnerability

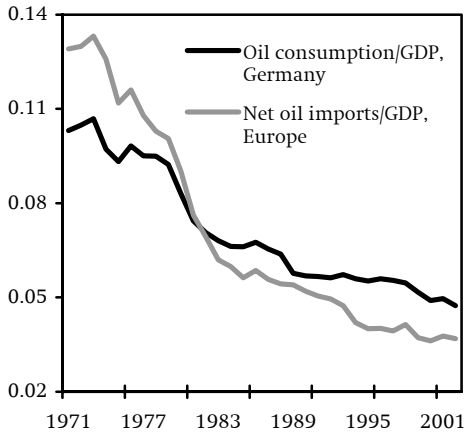
To estimate the economic impact of an increase in oil prices, the following rule of thumb can be applied: An increase in the price of oil by $10 lasting 12 months means a loss of 0.3–0.5 percentage points growth in gross domestic product for Western industrialized countries in the following year. Consequently, for the world as a whole, the International Monetary Fund's *World Economic Outlook* as released at end September 2004 predicted 3.8 percent world economic growth in 2005 instead of 4.3 percent.

Measured against Germany's low growth rates in recent years, a loss of 0.3–0.5 percentage points is, of course, not insignificant. From a historical point of view, however, losses under one half of a percentage point can be considered very small. The soaring prices seen during the 1970s oil crises caused a global recession and a loss of income of several percentage points. For example, as a consequence of the second oil shock in 1979, it was estimated that OECD countries lost 3 percent of GDP in 1980 and more than 4 percent in 1981.

Estimating the economic costs of current oil prices depends on how long they remain at present levels. The aforementioned rule of thumb is valid only for an increase in the price of oil sustained a full year. If the price increase lasts less than 12 months, considerably smaller losses in GDP can be expected. There are several reasons which caused Western industrialized countries to become less vulnerable to high oil prices.

For one, the trend of industrial development away from heavy industry to services has tended to reduce the need for oil. Furthermore, the 1970s oil crises led companies not only to substitute oil by other sources of energy, but also to introduce more energy efficient means of production. As a direct result, Germany's overall oil consumption fell by more than 20 percent between 1973 and 2003. Oil intensity—the amount of oil consumed per unit of GDP—has fallen even farther, around 55 percent in Germany over the same time period.

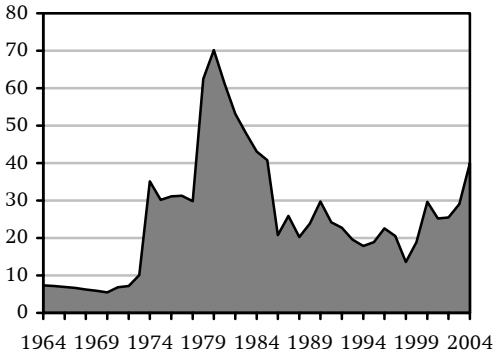
Image 1
Oil intensity, 1971–2001
(tons oil equivalent / 1995 U.S. dollar)



Source: International Energy Agency, *Energy Balances* (2003).

Moreover, while the current price of oil is relatively high, it is still far below the peak levels of the 1970s, when, adjusted for inflation, prices soared above $70/barrel. For the year 2004 it can be expected—based on prices from January until October and futures prices until year's end—that the annual average price of crude oil will be somewhere around $39 per barrel.

Image 2
Price of oil adjusted for inflation, Arab Light 1964–1985, Brent Crude spot price 1986–2004
(2004 U.S. dollar/barrel)



Sources: Platts, OECD, author's calculations.

Finally, it must be kept in mind that oil is invoiced in U.S. dollars, and that the price frequently quoted in the media is for oil traded on Wall Street, the West Texas

Intermediate crude grade. For Europe, however, the relevant crude oil is Brent, which is generally cheaper by $1.5–$3 than WTI, and, ultimately, the euro-zone countries pay in euros and benefit accordingly from the currency's present strength. Just how much a rise in oil prices denominated in U.S. dollars can impact the euro zone when the dollar is falling can be seen by comparing oil prices and exchange rates in 2000 and 2004. If a barrel of oil cost €38–€40 in the autumn of 2000, when the dollar price of oil was relatively moderate but the euro extremely weak, with the current price of oil at $50 per barrel and a strong euro, the same barrel of oil costs €39. This means that today's high prices actually fall within a familiar price range.

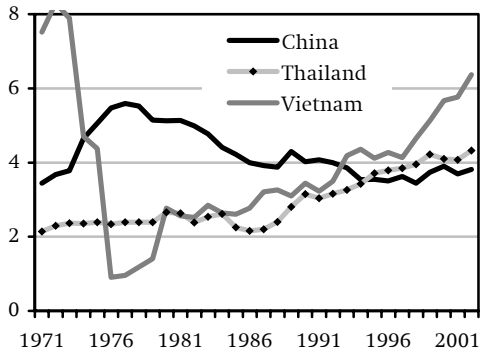
In exploring the reasons for the declining economic influence of oil prices in the West, it is worth nothing that more than half of all the oil consumed in Europe goes to the transportation sector, and the majority of that to private transportation. For one, the share of private household income that goes to fuel expenditures has fallen significantly in recent decades; thus a rise in fuel prices is less relevant. For another, due to volume-based taxes on fuel, a 50-percent increase in crude oil prices causes fuel prices to go up by merely 10–12 percent. However, the latter applies only to Europe, not to the United States, where, due to extremely low taxes on fuel, consumers experience a change in fuel prices almost proportionate to fluctuations of the crude oil price. Thus the issue preoccupies the U.S. public much more frequently.

Developing countries setback

While Western industrialized countries are relatively well protected from the recent surge in oil prices, this does not apply to the oil-intensive Emerging economies and even less to developing countries. The former are more directly affected than Western economies, because they have a high oil intensity that is still on the rise, a consequence of increasing Industrialization and relatively low levels of technical efficiency. The Asian economies of China, Vietnam, and Thailand, for example, consume four to six times more oil per unit of GDP than Germany. One of the reasons for this is the trend in Western industrialized countries to relocate heavy industry, and thus energy intensive production, to emerging markets. Accordingly, a higher price of oil will lead to a greater loss in GDP in such countries. In China, for example, an increase in the price of oil of $10 sustained for 12 months can lead to a decline of 0.8 percentage points in GDP. For this group of countries, losses in economic growth are roughly two to three times higher than in Western industrialized countries.

Even more seriously affected are developing countries. These do not only have relatively high oil intensities, they also have a number of problems that traditionally plague developing countries: frequently severe trade deficits, difficulties in earning hard currency, enormous foreign debts, lack of access to international capital markets, and low pro-capita income.

Image 3
Oil intensity of emerging markets countries 1971–2001
(multiples of German oil intensity)



Sources: International Energy Agency, *Energy Balances* (2003).

Rising oil prices make imports paid for in hard currency more expensive, which is where the greater part of a developing country's often limited export earnings go. As a result, oil imports decrease, foreign

debt increases, or both. The table below makes clear just how great the need is for hard currency (expressed as a share of the annual financing quota allotted by the IMF) when oil prices rise.

The increasing need for hard currency due to high oil prices can cancel out the development assistance provided by the West. Two countries may serve as an example, Kenya and Honduras, both within the category of Heavily Indebted Poor Countries (HIPC). Kenya, with an annual oil consumption of 20 million barrels, has to pay $400 million more for its oil when the price of crude rises from $30 to $50 per barrel. This sum corresponds almost exactly with the figure for total development assistance provided to Kenya by the West in normal years (in 2002, this sum was $393 million). To a somewhat lesser extent, this also applies to Honduras, for which the effect of rising oil prices, under the same set of circumstances as for Kenya, accounts for 60 percent of its development aid. Thus sharp increases in oil prices represent a serious setback to development policy.

Table
The effect of a U.S.$5 rise in the cost of oil on selected HIPC (in percent)

Country	*GDP*	*IMF Quota*
Laos	−2.2	−71.8
Guyana	−2.0	−15.7
Mauritania	−1.8	−21.4
Mali	−1.3	−27.2
Kenya	−0.9	−26.2
Ethiopia	−0.9	−31.0
Honduras	−0.8	−29.4
Madagascar	−0.8	−19.9
Rwanda	−0.5	−10.1
Uganda	−0.4	−11.2
Tanzania	−0.3	−8.9

Sources: IMF, *The Impact of Higher Prices on the Global Economy* (2003).

In the course of the first oil crisis in 1973, sky-rocketing oil prices and the subsequent need for enormous amounts of hard currency led developing countries to accumulate foreign debt—something that would later prove to be another step toward the Third World debt crisis of the late 1970s and 1980s.

Such a scenario is hardly to be expected this time around. This is due to the fact that the oil price increase from an average of $28 per barrel (2003) to $38–$40 per barrel (2004) is considerably less than in 1973–74 (prices shot up by 300 percent)—additionally, the current spike is mitigated by the dollar's devaluation. Furthermore, the practice of providing almost unlimited credit to developing countries in the 1970s (due to the availability of large amounts of OPEC petrodollars at initially very low interest rates) contributed considerably to the accumulation of excessive debt—a vicious circle that is unlikely to repeat itself today, especially given the lower price rise and the smaller share of petrodollars in today's financial markets.

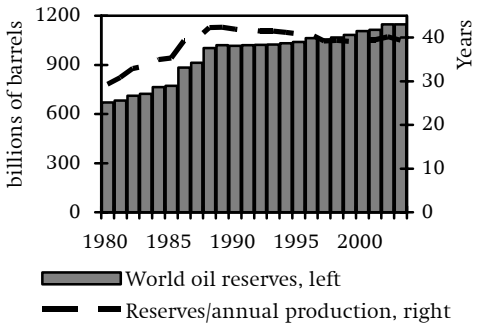
Nevertheless, even if a sharp increase in global indebtedness cannot be expected, there are still likely to be grave consequences for developing economies the longer the high price of oil is sustained. This goes above all for the category of heavily indebted countries, as 30 of the world's 40 HIPC's are oil importers.

The end of oil?

The global supply of oil is finite, a fact nobody disputes. However, experts disagree about how much oil is actually still available. This disagreement stems mostly from differing definitions of what counts as an oil reserve: To what extent are unconventional oil reserves to be included (especially tar sands, available in large amounts in Canada), and to what extent can one rely on technical progress in the exploration of not yet identified but likely discoveries of oil reserves in the future? Without retracing this discussion in full, only two facts will be noted here as indicators: First, although oil has been extracted from the earth for over 100 years, today's total amount of proven reserves has *grown*—due to new discoveries

and advances in exploration and development technology. Second, a majority of scientists believe that enough oil is still available for at least the next 30 years. Consequently, the end of the resource oil is not imminent and thus not responsible for current high prices.

Image 4
World oil reserves, (billions of barrels)



Sources: *BP Statistical Review* (2004).

For some time, another question has become the focus of attention: Is it possible that daily oil production has reached its production maximum, or is it about to do so in the near future? From this peak point onwards, the amount of oil that can be produced daily will decline inexorably, and in the face of rising demand, price increases will follow.

That such a production maximum exists not only for every individual oil field but also for the entire world is undisputed. The reasons for this are, inter alia, the technological capabilities for and economic feasibility of exploiting oil fields, the number of new reserves discovered and the quantity of oil they contain, the shrinking size of fields, etc. In the end, the exploitation of oil follows a bell curve that peak approximately when half of the recoverable reserves are extracted.

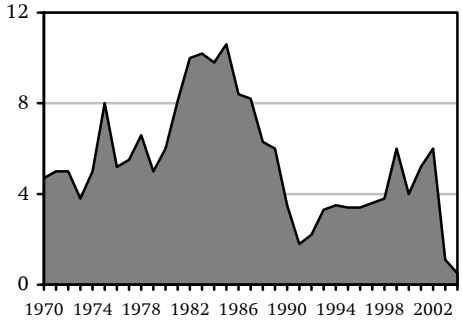
What is vigorously debated is merely the question when this peak moment will be reached. Some observers see current prices, and especially current capacity constraints, as an indication that this point has already been reached and with it the beginning of the end of inexpensive oil.

In fact, there are serious reasons for arguing against the idea that the production maximum will soon be reached, in particular, technological progress in exploration and exploitation as well as the existence of the aforementioned unconventional sources of oil (comparable in size to Saudi Arabia's conventional reserves), which have only recently allowed themselves to be drawn on at a reasonable cost. The peak is therefore not expected to be hit before 2015–2020, and if unconventional resources are included, only another 10–20 years later, depending on the study cited and the growth in demand presumed. Thus, it cannot be said that the end of oil is impending or has already begun.

Volatility the real matter

If the present high price of oil cannot be attributed to the imminent end of oil, why then is it so high? The key determinant has much more to do with recent bottlenecks in production capacity and the near total elimination of spare production capacity, now less than 1 percent of global production. As a result increases the scarcity of the resource, and, due to the missing buffer, the sensitivity of the market to the slightest drop in production.

Image 5
Spare oil production capacity 1970–2004



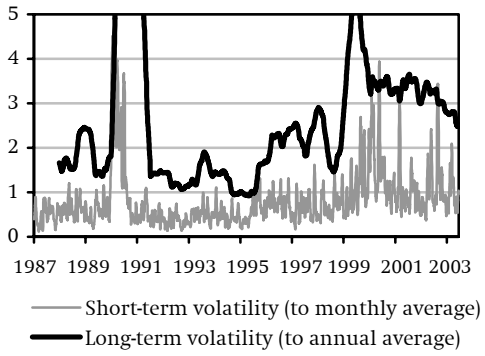
Sources: Energy Information Agency, author's calculations.

The previously known decades of high spare production capacity stemmed from OPEC supply policy after the two oil shocks of the 1970s and from the subsequent massive expansion of production in non-OPEC countries. The present situation, however, is at best a limited consequence of unexpectedly high Chinese demand, behind which production is lagging. Rather, the dramatic decline in spare capacity is to be traced back to an enormous increase in oil-price volatility, which led to considerable uncertainty regarding future prices and expected demand, and served to discourage investment in the expansion of production capacity. At the same time, the oil industry has been haunted by the experience of 1998, when the price of a barrel of Brent plunged to $9.50, provoking a recession in the oil industry and a series of global takeover battles.

Today, there is also good reason to doubt that the current high price of oil will last for long. On the supply side, a sharp expansion of production in non-OPEC countries is expected for the fourth quarter of 2004 and the first part of 2005. On the demand side, the second quarter of 2005 is around the corner, which usually brings with it a seasonal decline in demand, and, most importantly, a demand reaction to current prices can be expected. However, it would not be very positive if market participants assumed that current price levels are only a temporary phenomenon. First, there would be a lack of incentive to invest in long-term production capacity increase, and second, the expected impetus for developing more efficient technology and alternative energy sources would fail to materialize.

In any event, concerns about a collapse in prices are now heard everywhere. To forestall such a collapse, the OPEC Secretary General announced on October 6, when oil prices hit $51 per barrel, that OPEC would reduce its production quotas if OECD reserves continued to grow.

Image 6
Price volatility for Brent Crude, 1987–2003 (standard deviations)



Sources: Platts, author's calculations.

Reform logjam in the Middle East

For oil suppliers, the price surge is producing record revenues. After an already very good year in 2003, revenues for OPEC in 2004 are estimated at around $350–$400 billion. With OPEC countries generally basing their state budgets on an oil price at the lower end of the self-imposed price-band of $22–$28 per barrel, the annual average price of just under $40 per barrel now expected makes for a handsome sum of surplus capital.

This windfall-wonder is not without its perils, though. Indeed, the money creates some freedom to maneuver vis-à-vis the growing pressure generated by an increasingly young and better educated population, and a good part of it can be expected to be used for regime-stabilizing transfers to the local public in the Middle East. But at the same time, the unexpected wealth allows governments in this region to develop a false sense of security, leaning toward putting off necessary long-term reforms.

In the future, oil and gas markets will be confronted with an enormous need to expand production. Because of the reserves situation—two-thirds of the world's oil reserves and one-third of its gas reserves are located in the Middle East—OPEC countries will increase their influence in the coming years—and see demand for their oil double over the next two decades.

To satisfy this demand, hundreds of billions of dollars in long-term investments are needed. Given the extremely poor financial situation of most OPEC countries, many of the affected governments are coming to realize that the necessary sums of investment can only be procured by cooperating with Western companies and foreign lenders. Consequently, recent years have seen foreign firms gain limited access to natural resource sectors previously considered sacrosanct, an improvement, even if development has been slow and mostly restricted to natural gas.

Should this sudden, new-found wealth lead OPEC countries to forget their past financial problems and disregard the need for market-economy reforms, serious repercussions could be in store for commodities markets in the long term: suboptimal production capacity would lead to high oil prices even in the longer term.

In the end, the key question is whether OPEC countries can, or want to, satisfy the growing demand for their oil in the future. It is by all means possible that, in light of domestic difficulties, they prefer stabilization of their own regimes to an expansion of production capacity. The Middle Eastern sheikhdoms could well accept the point of view that, while it would be to their financial advantage to grant foreign firms greater participation in their natural resources sector, so as to build new production capacities and generate greater income, such a step could in turn lead to considerable resistance among the population and thus rather destabilize local power. In this respect, it would be appropriate to launch a dialog with at least the large OPEC countries, in order to determine a common estimate of production capacity needed in the future and, if possible, to establish a balance of interests.

In the medium and long term, Iraq is a strategically crucial variable for the development of both the oil market and the Middle East region as a whole. After all, the second largest conventional oil reserves in the world are located there. However, at this point in time, it is unclear whether an expansion of capacity beyond the maintenance of current production is possible, or when a stable state entity will emerge to allow investment.

Intensified dialog

As outlined above, the current high price of oil came about in particular due to the exhaustion of spare production capacity. Aside from the reservations regarding the Middle Eastern regimes' surplus capital and their willingness to carry out reforms, the supplier countries themselves do have a vital interest in expanding spare production capacity. For one, this guarantees OPEC's capacity for market control. For another, studies of income trends in OPEC nations show that a medium oil price range maximizes total income over the resource cycle (as high oil prices moderate demand and increase the search for new oil fields and for alternative sources of energy).

In the interest of a price-stabilizing usage of spare capacity, it seems necessary to intensify the dialog between consumer and producer countries. This dialog will need to focus on achieving a greater degree of market transparency, as a main cause of the current volatility is the lack of transparency in oil markets. Today, only some 40 percent of global oil is traded on spot markets, while the remaining 60 percent are sold via mostly non-transparent long-term contracts with obscure pricing formulae. In addition, up-to-date data from supplier countries (e.g. figures for production and exports) and from important non-OECD consumers such as China are unavailable in the market. More detailed knowledge about supply and demand would make it possible for both sides to predict the capacity needed in the short and medium term and so prevent greater price volatility.

In this context, it could also be explored whether consumer and producer countries can potentially find a common point of view about an acceptable oil price range.

Summary

The current high nominal price of oil carries some dangers. If it lasts for long, it could lead to significant economic declines in developing countries and negate the financial development assistance supplied by the West. Some concerns can also be raised about how the governments of oil exporting countries in the Middle East deal with the unexpected revenue boom and whether the reduced financial pressures will lead to regime-stabilizing short-term expenditures instead of necessary long-term reforms.

In the short term, however, a rather reassuring picture can be painted of the situation on the oil-market. The current oil price surge is not an indication of an imminent crisis or one that has already started. The end of oil has yet to begin, and production has yet to reach its peak—and neither is just around the corner.

Should the price of oil remain at current levels, losses in Western industrialized economies would not be insignificant. But because these economies are considerably less vulnerable today than in the past, such losses are more likely to be small in the historical perspective.

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