

## The Iraq War, Crude Oil and the Global Economic Outlook



**Anthony de Carvalho**  
Researcher  
ETLA



**Paavo Suni**  
Researcher  
ETLA

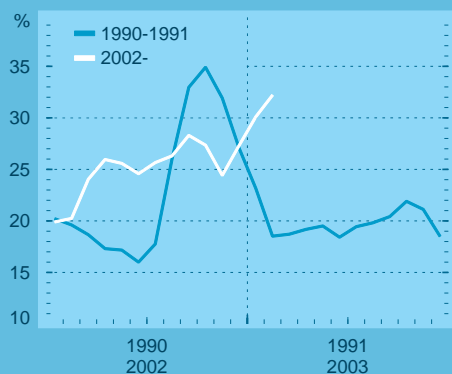
The budding world economic recovery moderated in the latter half of 2002. Much of this renewed slowdown can be explained by the accounting scandals in the U.S. and higher oil prices due to heightened expectations of an imminent crisis in Iraq. The price of crude oil rose to a range of 25-30 dollars per barrel during the latter half of 2002, after fluctuating between 20-25 dollars in the first part of the year.

The global outlook became increasingly gloomy during the course of 2003, overshadowed by rising prospects of a U.S.-led war in Iraq. Oil prices rose to a range of 30-40 dollars per bar-

rel, reflecting the fear of a major disruption to oil production. The strikes in Venezuela and low oil inventories also tightened the oil market considerably around the turn of the year. Higher oil prices have raised production costs and have dampened consumer spending power. Indeed, consumer and business confidence fell in many countries in the weeks leading up to the start of the war to historically low levels. The appreciation of the euro has, to some extent, dampened the effect on prices in Europe. Economic growth will undoubtedly remain sluggish in the first half of this year. However, growth is expected to pick up during the latter part of the year, assuming the war in Iraq ends soon. A longer war than currently expected would postpone the world economic recovery, and depending on the length and type of conflict, could even push some economies back into recession.

The war in Iraq started favourably from the point of view of the US-led coalition forces, which pushed oil prices down noticeably. Still, the situation is politically so complicated that post-war involvement and other future developments may not be quite so favourable. In any case, political risks in the region will persist for long to come. From the point of view of the rest of the world, the principal channel through which political disturbances will be felt is the price of crude oil. If the supply of oil is actually, or expected to be, disrupted, then oil prices will rise. This would have considerable adverse effects on future economic developments.

### The Price of Crude Oil (Brent) in Two Time Periods



Sources: HWWA, ETLA.

ETLAS03.1/1102

This article analyses the oil market under the current crisis and the effects of changes in the price of crude oil on Finland's international environment. We also summarise the factors that lie behind the instabilities of the crude oil market especially from the point of view of European energy policies.

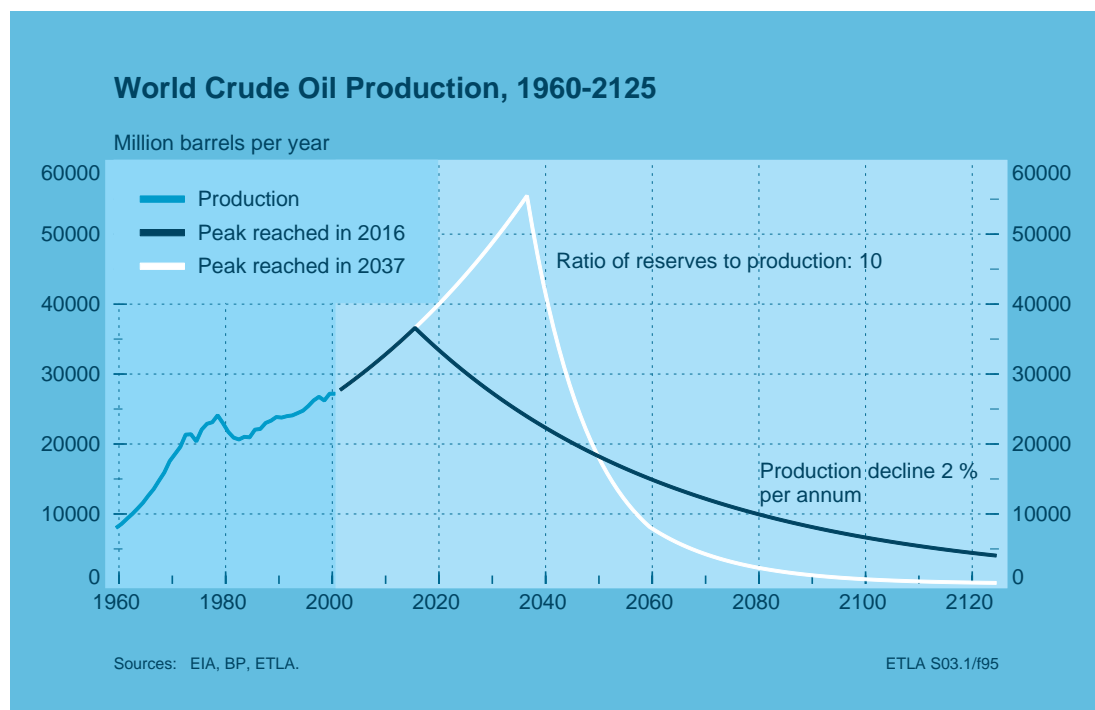
### *Crude Oil Remains an Important Commodity in the World Economy*

The relative importance of crude oil has declined since the oil crises of the 1970s. The ratio of physical consumption of crude oil to real GDP, known as "oil intensity," has almost halved from its level in the beginning of the 1970s. Regardless, absolute consumption of crude oil continues to increase. At the same time, the significance of the Middle East has grown, with about 65 per cent of proven global oil reserves situated there.

### *Crisis Scenarios*

The war in Iraq makes forecasting the world economy highly challenging. The timing of the

war, which started on March 20<sup>th</sup>, is not favourable from the point of view of the current oil market situation, even though seasonal demand for oil typically declines during the spring. The supply of oil is likely to be disrupted at least to some extent, particularly since oil inventories in the industrialised countries are at exceptionally low levels. Any speculation that the war may have an adverse effect on the supply of oil will have an immediate effect on its price. It is very difficult to project the course and length of the war. In order to evaluate the possible developments in Finland's international environment, we constructed a basic forecast scenario and analysed three different alternative scenarios around it. The oil price assumptions are based on the lessons of history, Perry's (2001) assumptions as employed by Nordhaus (Kaysen et al. 2002) adjusted for the current situation, and our own estimates. The price of crude oil is assumed to rise very fast at first before declining as war uncertainties begin to ease. The decline in oil price depends upon how rapidly uncertainty fades and the extent to which oil supply reacts to the shock.



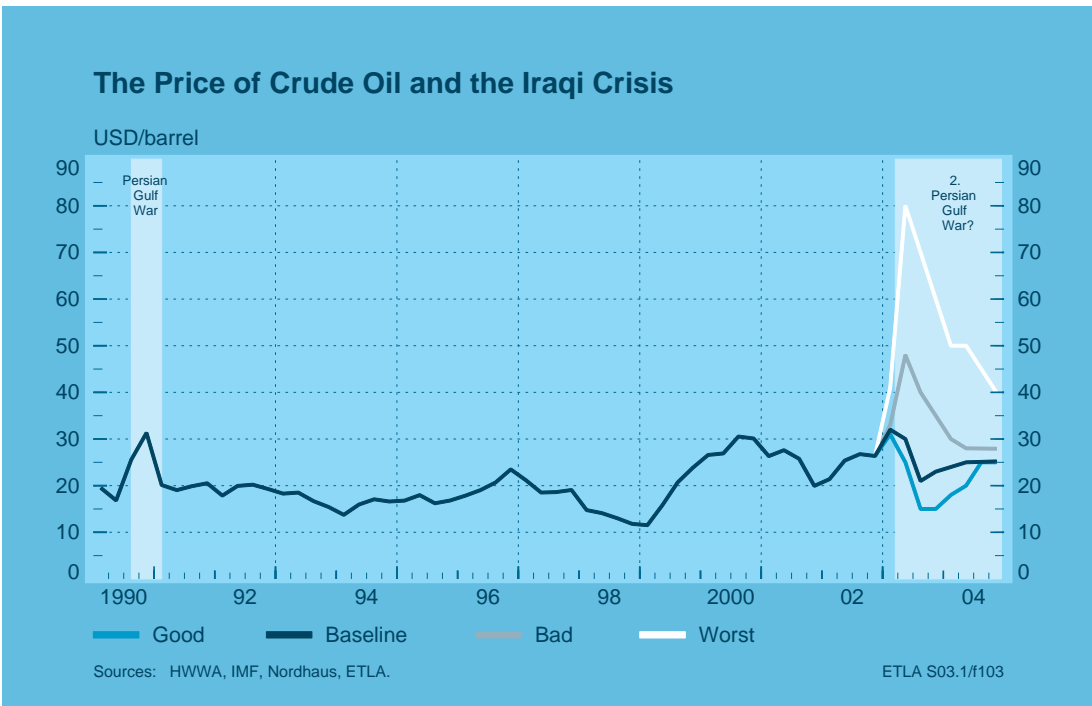
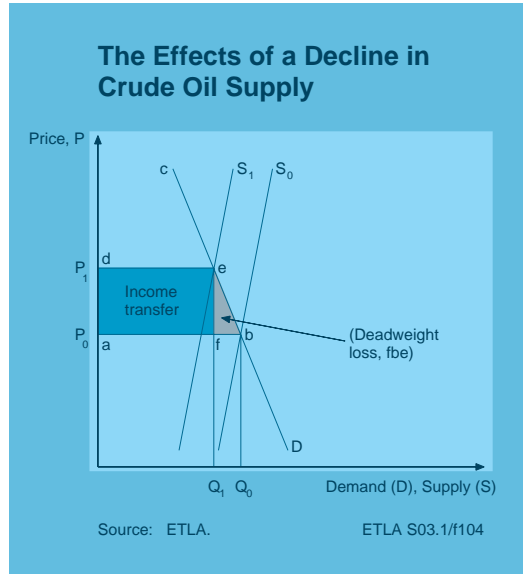
A. In the Baseline Forecast, we assume that the war will be short and the conflict is settled the way the U.S. intended it to be. The price of crude oil declines once the war ends, but OPEC prevents a collapse by adjusting supply. Oil prices thus settle in OPEC's USD 22-28 per barrel target range. The baseline scenario takes into account the increase already made in the US defence budget.

B. The Good Scenario: Saddam Hussein abdicates power relatively fast or for some other reason the war ends sooner than expected. OPEC loses some of its control over the oil market and the price of crude oil declines substantially.

C. In the Bad Scenario, the war lasts several months. At first, world oil supply declines by an amount equivalent to combined Iraqi and Kuwaiti oil production. OPEC and non-OPEC countries increase their production and strategic reserves are sized down. Still, the situation is not resolved fast.

D. In the Worst-Case Scenario, world oil supply falls by an amount equivalent to combined Venezuelan, Iraqi and Kuwaiti production.

OPEC manages to increase its output by less than in Scenario C because, due to the crisis, spare capacity is also smaller. Strategic reserves are tapped at a faster pace than in the previous scenario.



All the scenarios take into account the effects of the rise in the price of oil that took place between the summer of 2002 and the beginning of this year. In order to calculate the initial impact of the different scenarios, we have assumed that price elasticities increase as prices rise. According to Huntington (Greene 2000), the typical short-run price elasticity of the demand for oil is  $-0.06$ . We have not taken into account the demand effects of reconstruction in post-war Iraq and the associated humanitarian efforts that will be required because they are very difficult to estimate.

According to our simulations, the effects of the Iraqi war on the global economy would be very damaging if the price of crude oil were to rise sharply. The worse the outcome of the conflict, the lower the rate of world economic growth and the higher the rate of inflation.

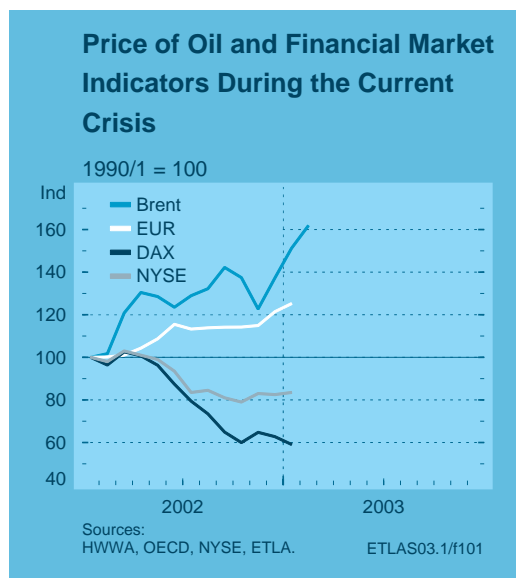
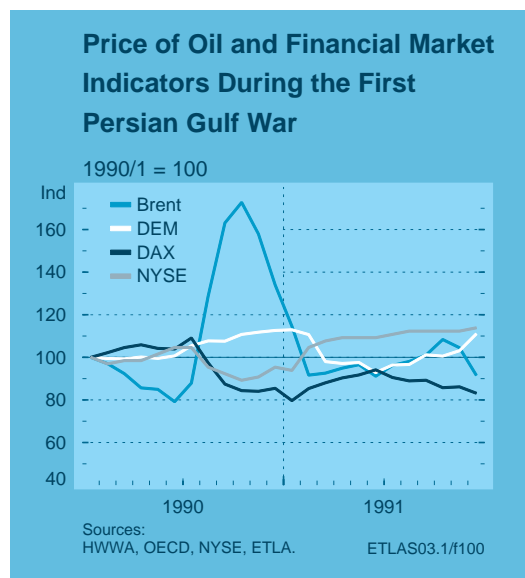
The regional effects of the war are not similar. According to our simulations, the Euro Area will suffer the most from the war. This result contrasts with certain simulations made by other organisations, which suggest that an oil-price shock would be more damaging to the U.S. than the Euro Area. The difference in results can be explained by the increase in U.S. domestic demand due to wartime spending, more expansionary economic policies in the U.S., and differences in the reaction of exchange

rates. Furthermore, since the U.S. is an oil producing country, domestic oil producers benefit from the rise in crude oil prices.

### Conclusions

The principal economic effects of the Iraqi war stem from the fact that the Middle East accounts for a large share of world oil reserves and from the possibly very adverse impact the war could have on the supply of crude oil.

The results of our simulations show that the Euro Area would suffer more than simulations conducted by, for example, the IMF suggest. The difference is likely to be due to different assumptions. In our simulations, the Euro Area's weaker outcome relative to the United States is due to the war-related increase in U.S. defence expenditure, more expansionary U.S. economic policies in general, and the smaller dependency of the U.S. economy on imported oil. Monetary policy is also tighter in the Euro Area than in the U.S. Consequently, production in the Euro Area declines more than in the U.S. in the two crisis scenarios. Similar to the Euro Area, Japan is also completely dependent on imports of crude oil. However, since the country is mired in deflation, the Japanese central bank does not raise interest rates so much in response to an oil-price shock, and thus does not dampen out-



put growth as much as is the case in the Euro Area.

It is likely that the effects of major increases in the price of crude oil would eventually be partly offset by increases in oil production and a decline in strategic oil reserves. Risks neverthe-

less abound, and the Worst-Case scenario here represents a third oil crisis. The baseline fore-

### Impact of Certain Shocks on the World Economy

% deviation from baseline level

	1 <sup>st</sup> year		2 <sup>nd</sup> year	
	GDP	Inflation	GDP	Inflation

United States				
Good	0.1	-0.1	0.5	-0.3
Bad	-0.2	0.2	-0.8	0.5
Worst	-0.6	0.6	-2.3	1.6
Euro Area				
Good	0.1	-0.2	0.7	-0.5
Bad	-0.2	0.4	-1.3	0.9
Worst	-0.7	1.2	-3.7	2.8
Japan				
Good	0.1	0.0	0.2	-0.1
Bad	-0.2	0.0	-0.4	0.1
Worst	-0.6	0.1	-1.6	0.4

### Simulation Comparison: Impact on GDP<sup>1)</sup>

% deviation from baseline level

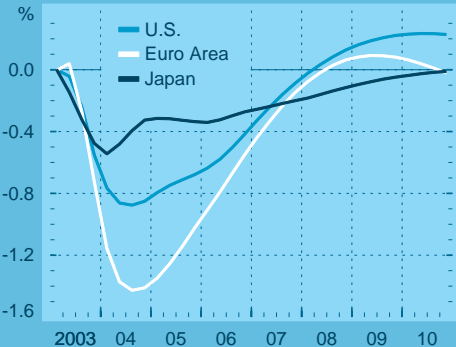
	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year
--	----------------------	----------------------	----------------------

United States			
IMF, Multimod	-0.3	-0.4	-0.4
OECD, Interlink	-0.1	-0.1	..
ETLA/Nigem	-0.2	-0.8	-0.7
Euro Area			
IMF, Multimod	-0.2	-0.4	-0.4
OECD, Interlink	-0.2	-0.1	..
ETLA/Nigem	-0.2	-1.3	-1.2
Japan			
IMF, Multimod	-0.1	-0.2	-0.3
OECD, Interlink	-0.2	-0.1	..
ETLA/Nigem	-0.2	-0.4	-0.3

<sup>1)</sup> Oil price shock. Assumed annual increases in oil price are as follows:  
 IMF 2000: +5\$ ( 20%),  
 OECD 2000: +13%,  
 ETLA 2003: +10\$ (38%).

### Bad Case Scenario: Impact on Real GDP

Percent difference from baseline level

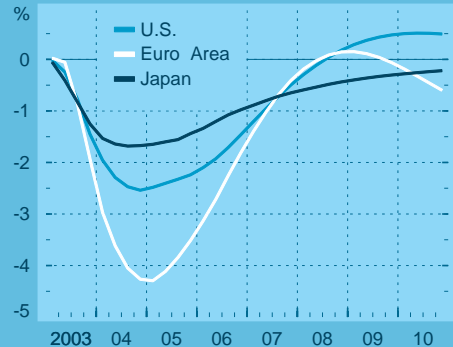


Source: ETLA.

ETLA S03.1/98

### Worst Case Scenario: Impact on Real GDP

Percent difference from baseline level



Source: ETLA.

ETLA S03.1/99

cast, namely the most likely outcome, is relatively comforting showing an improvement in the economic outlook later this year. There is still a high risk of a less favourable outcome, however, particularly since the course and length of the war are unknown.

The risks surrounding future oil price developments will increase as existing reserves decline and production becomes increasingly concentrated in the politically unstable Middle East. As a result, industrialised countries need to reduce their dependency on oil. This calls for greater emphasis to be placed on alternative energy sources and technical innovations. Industries focusing on alternative energy production will probably be the growth leaders of the next few decades. Maintaining high energy taxes is one effective way to reduce dependency on crude oil. Doing so will contain the consumption of energy and reduce the revenues of oil producers. From Finland's point of view, the war will have an adverse economic effect as it does in the Euro Area in general. However, Finland will suffer less due to the self-sufficiency of its forest industry, among other things. Moreover, a wider availability of crude oil is made possible by the diversification of oil import sources to include Russia and the North Sea.

### Sources:

De Carvalho A., Suni P.: Sota, raakaöljyn hinta ja maailman talouskehitys. *Suhdanne* 4/ 2002.

De Carvalho A., Suni P.: Irakin kriisi jarru maailman talouskehitykselle. *Economic Trends* 1/2003. Tilastokeskus.

EIA: Long-Term World Oil Supply: A Resource Base/Production Path Analysis. August 2000. ([http://www.eia.doe.gov/pub/oil\\_gas/petroleum/presentations/2000/long\\_term\\_supply/index.htm](http://www.eia.doe.gov/pub/oil_gas/petroleum/presentations/2000/long_term_supply/index.htm))  
EIA: OPEC Fact Sheet

Greene D., Tishchishyna, N.: Costs of Oil Dependence: A 2000 Update, Oak Ridge National Laboratory, December 2000.  
Hamilton J., What is an Oil Shock? NBER Working Paper 7755 June 2000.

IEA: Fact Sheet, IEA Stocks and Emergency Response

IEA: Oil Supply Security The Emergency Response Potential of IEA Countries in 2000, Paris 2001

IMF: The Impact of Higher Oil Prices on the Global Economy, December 2000.

Kaysen C., Miller S., Malin M., Nordhaus W., and Steinbruner J.: War with Iraq: Costs, Consequences, and Alternatives. *American Academy of Arts and Sciences* December 2002.  
9b

Perry G.: The War on Terrorism, the World Oil Market and the U.S. Economy. *Analysis Paper #7*, October 24, 2001. The Brookings Institution.

Suni P.: Raakaöljyyn liittyvät riskit eivät väisty. *Talous ja Yhteiskunta* 1/ 2002.