



**Analysis of the Impact of High Oil Prices on the
Global Economy**

**International Energy Agency
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SUMMARY

Oil prices still matter to the health of the world economy. Higher oil prices since 1999 – partly the result of OPEC supply-management policies – contributed to the global economic downturn in 2000-2001 and are dampening the current cyclical upturn: world GDP growth may have been at least half a percentage point higher in the last two or three years had prices remained at mid-2001 levels. Fears of OPEC supply cuts, political tensions in Venezuela and tight stocks have driven up international crude oil and product prices even further in recent weeks. By March 2004, crude prices were well over \$10 per barrel higher than three years before. Current market conditions are more unstable than normal, in part because of geopolitical uncertainties and because tight product markets – notably for gasoline in the United States – are reinforcing upward pressures on crude prices. Higher prices are contributing to stubbornly high levels of unemployment and exacerbating budget-deficit problems in many OECD and other oil-importing countries.

The vulnerability of oil-importing countries to higher oil prices varies markedly depending on the degree to which they are net importers and the oil intensity of their economies. According to the results of a quantitative exercise carried out by the IEA in collaboration with the OECD Economics Department and with the assistance of the International Monetary Fund Research Department, a sustained \$10 per barrel increase in oil prices from \$25 to \$35 would result in the OECD as a whole losing 0.4% of GDP in the first and second years of higher prices. Inflation would rise by half a percentage point and unemployment would also increase. The OECD imported more than half its oil needs in 2003 at a cost of over \$260 billion – 20% more than in 2001. Euro-zone countries, which are highly dependent on oil imports, would suffer most in the short term, their GDP dropping by 0.5% and inflation rising by 0.5% in 2004. The United States would suffer the least, with GDP falling by 0.3%, largely because indigenous production meets a bigger share of its oil needs. Japan's GDP would fall 0.4%, with its relatively low oil intensity compensating to some extent for its almost total dependence on imported oil. In all OECD regions, these losses start to diminish in the following three years as global trade in non-oil goods and services recovers. This analysis assumes constant exchange rates.

The adverse economic impact of higher oil prices on oil-importing developing countries is generally even more severe than for OECD countries. This is because their economies are more dependent on imported oil and more energy-intensive, and because energy is used less efficiently. On average, oil-importing developing countries use more than twice as much oil to produce a unit of economic output as do OECD countries. Developing countries are also less able to weather the financial turmoil wrought by higher oil-import costs. India spent \$15 billion, equivalent to 3% of its GDP, on oil imports in 2003. This is 16% higher than its 2001 oil-import bill. It is estimated that the loss of GDP averages 0.8% in Asia and 1.6% in very poor highly indebted countries in the year following a \$10 oil-price increase. The loss of GDP in the Sub-Saharan African countries would be more than 3%.

World GDP would be at least half of one percent lower – equivalent to \$255 billion – in the year following a \$10 oil price increase. This is because the economic stimulus provided by higher oil-export earnings in OPEC and other exporting countries would be more than outweighed by the depressive effect of higher prices on economic activity in the importing countries. The transfer of income from oil importers to oil exporters in the year following the price increase would alone amount to roughly \$150 billion. A loss of business and consumer confidence, inappropriate policy responses and higher gas prices would amplify these economic effects in the medium term. For as long as oil prices remain high and unstable, the economic prosperity of oil-importing countries – especially the poorest developing countries – will remain at risk.

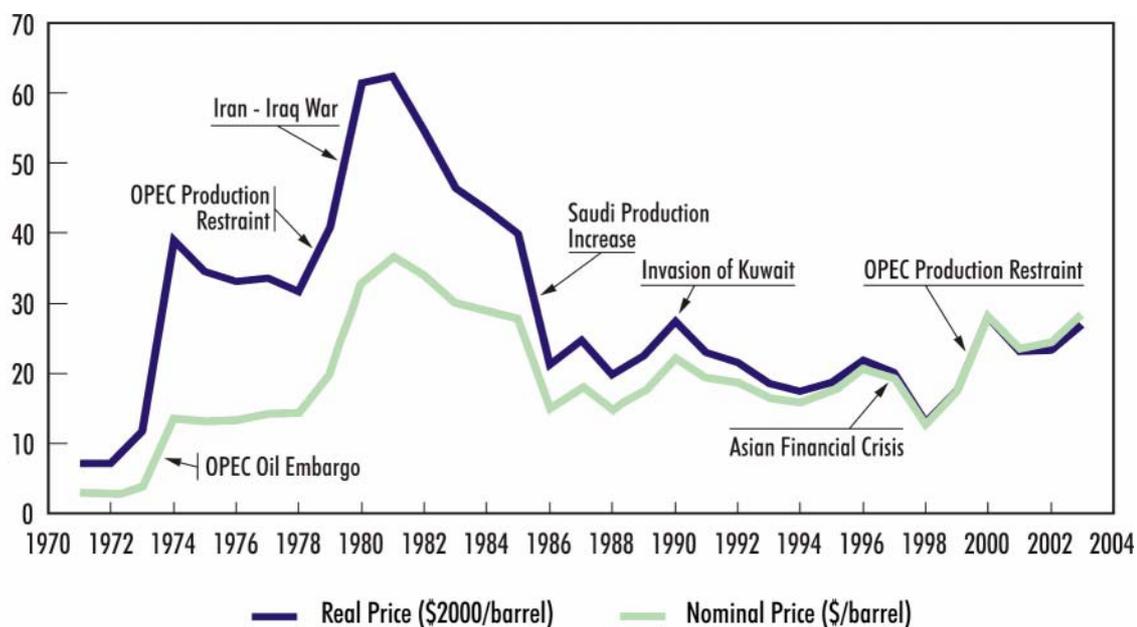
The impact of higher oil prices on economic growth in OPEC countries would depend on a variety of factors, particularly how the windfall revenues are spent. In the long term, however, OPEC oil revenues and GDP are likely to be lower, as higher prices would not compensate fully for lower production. In the IEA's recent *World Energy Investment Outlook*, cumulative OPEC revenues are \$400 billion lower over the period 2001-2030 under a Restricted Middle East Investment Scenario, in which policies to limit the growth in production in that region lead to on average 20% higher prices, compared to the Reference Scenario.

INTRODUCTION

This paper reviews how oil prices affect the macro-economy and assesses quantitatively the extent to which the economies of OECD and developing countries remain vulnerable to a sustained period of higher oil prices. It summarises the findings of a quantitative exercise carried out by the IEA in collaboration with the OECD Economics Department and with the assistance of the International Monetary Fund (IMF) Research Department. That work, which made use of the large-scale economic models of all three organisations,¹ constitutes the most up-to-date analysis of the impact of higher oil prices on the global economy.

Oil prices have been creeping higher in recent months: the prices of Brent and WTI – the leading benchmark physical crude oils – once again breached the \$30 per barrel threshold in early 2004. In fact, oil prices have been trending higher since 2001. By March 2004, they were well over \$10 per barrel higher than three years before and, in real terms, were well above the averages we have seen since the price collapse of 1986, though they are still lower than they were in the 13 years following the first oil crisis in 1973 (Figure 1). These price increases and the possibility of further increases in the future have drawn attention yet again to the threat they pose to the global economy.

Figure 1: Average IEA Crude Oil Import Price



The next section describes the general mechanism by which higher oil prices affect the global economy. This is followed by a quantitative assessment of the impact of a

¹ The OECD's Interlink model, used to produce the projections contained in the *OECD Economic Outlook*, the IMF's Multimod model used to produce the *World Economic Outlook* and the IEA's World Energy Model, used to produce the projections in the *World Energy Outlook*.

sustained \$10 per barrel rise in the oil price on, first, the OECD countries and then on the developing countries and transition economies. The net effect on the global economy is then summarised.

HOW HIGHER OIL PRICES AFFECT THE GLOBAL ECONOMY

Oil prices remain an important determinant of global economic performance. Overall, an oil-price increase leads to a transfer of income from importing to exporting countries through a shift in the terms of trade. The magnitude of the direct effect of a given price increase depends on the share of the cost of oil in national income, the degree of dependence on imported oil and the ability of end-users to reduce their consumption and switch away from oil. It also depends on the extent to which gas prices rise in response to an oil-price increase, the gas-intensity of the economy and the impact of higher prices on other forms of energy that compete with or, in the case of electricity, are generated from oil and gas. Naturally, the bigger the oil-price increase and the longer higher prices are sustained, the bigger the macroeconomic impact. For net oil-exporting countries, a price increase directly increases real national income through higher export earnings, though part of this gain would be later offset by losses from lower demand for exports generally due to the economic recession suffered by trading partners.

Adjustment effects, which result from real wage, price and structural rigidities in the economy, add to the direct income effect. Higher oil prices lead to inflation, increased input costs, reduced non-oil demand and lower investment in net oil-importing countries. Tax revenues fall and the budget deficit increases, due to rigidities in government expenditure, which drives interest rates up. Because of resistance to real declines in wages, an oil price increase typically leads to upward pressure on nominal wage levels. Wage pressures together with reduced demand tend to lead to higher unemployment, at least in the short term. These effects are greater the more sudden and the more pronounced the price increase and are magnified by the impact of higher prices on consumer and business confidence.

An oil-price increase also changes the balance of trade between countries and exchange rates. Net oil-importing countries normally experience a deterioration in their balance of payments, putting downward pressure on exchange rates. As a result, imports become more expensive and exports less valuable, leading to a drop in real national income. Without a change in central bank and government monetary policies, the dollar may tend to rise as oil-producing countries' demand for dollar-denominated international reserve assets grow.

The economic and energy-policy response to a combination of higher inflation, higher unemployment, lower exchange rates and lower real output also affects the overall impact on the economy over the longer term. Government policy cannot eliminate the adverse impacts described above but it can minimise them. Similarly, inappropriate

policies can worsen them. Overly contractionary monetary and fiscal policies to contain inflationary pressures could exacerbate the recessionary income and unemployment effects. On the other hand, expansionary monetary and fiscal policies may simply delay the fall in real income necessitated by the increase in oil prices, stoke up inflationary pressures and worsen the impact of higher prices in the long run.

While the general mechanism by which oil prices affect economic performance is generally well understood, the precise dynamics and magnitude of these effects – especially the adjustments to the shift in the terms of trade – are uncertain. Quantitative estimates of the overall macroeconomic damage caused by past oil-price shocks and the gains from the 1986 price collapse to the economies of oil-importing countries vary substantially. This is partly due to differences in the models used to examine the issue. Nonetheless, the effects were certainly significant: economic growth fell sharply in most oil-importing countries in the two years following the price hikes of 1973/1974 and 1979/1980. Indeed, most of the major economic downturns in the United States, Europe and the Pacific since the 1970s have been preceded by sudden increases in the price of crude oil, although other factors were more important in some cases.

Similarly, the boost to economic growth in oil-exporting countries provided by higher oil prices in the past has always been less than the loss of economic growth in importing countries, such that the net effect has always been negative. The growth of the world economy has always fallen sharply in the wake of each major run-up in oil prices, including that of 1999-2000. This is mainly because the propensity to consume of net importing countries that lose from higher prices is generally higher than that of the exporting countries. Demand in the latter countries tends to rise only gradually in response to higher prices and export earnings, so that net global demand tends to fall in the short term.

QUANTIFYING THE IMPACT ON OECD COUNTRIES

OECD countries remain vulnerable to oil-price increases, despite a drop in the region's net oil imports and an even more marked decline in oil intensity since the first oil shock. Net imports fell by 14% while the amount of oil the OECD uses to produce one dollar of real GDP halved between 1973 and 2002. Nonetheless, the region remains heavily dependent on imports to meet its oil needs, amounting to 56% in 2002. Only Canada, Denmark, Mexico, Norway and the United Kingdom are currently net exporting countries. Oil imports are estimated to have cost the region as a whole over \$260 billion in 2003 – equivalent to around 1% of GDP. The annual import bill has increased by about 20 % since 2001.

In order to test the vulnerability of the OECD economy to higher oil prices in the medium term, we carried out a simulation using Interlink,² the OECD's in-house

² Interlink covers the world economy. Each OECD country is modelled separately, while non-OECD countries are modelled mainly by region according to trade links with the OECD.

macro-economic model. In the OECD base case, oil prices³ are assumed to remain constant at \$25 per barrel over the five-year projection period from 2004 to 2008. In a sustained higher oil price case, prices are assumed to be \$10 higher at \$35 per barrel – the level actually reached in early April 2004 – for the whole of the projection period. Crucially, nominal dollar exchange rates are held constant at late-2003 levels in both cases.⁴ In practice, any change in the value of the dollar would significantly affect the impact of higher nominal oil prices on the global economy. The fall in the value of the dollar against the currencies of most other OECD countries in the last two years has dampened the impact of recent oil-price increases in those countries.

Higher oil prices have a significant adverse impact on OECD economic performance in the short term in this case, though their impact in the longer term is more limited (Table 1). The impact on the rate of GDP growth is felt mostly in the first two years as the deterioration in the terms of trade drives down income, which immediately undermines domestic consumption and investment. OECD GDP is 0.4% lower in 2004 and 2005 compared to the base case. In all OECD regions, these losses start to diminish in the following years as global trade in non-oil goods and services recovers. Throughout the whole five-year projection period, GDP is 0.3% lower on average than in the base case.⁵

Table 1: OECD Macro-economic Indicators in Sustained Higher Oil Price Case
(Deviation from base case, in percentage points unless otherwise stated)

	2004	2005
GDP	-0.4	-0.4
Consumer price index	0.5	0.6
Unemployment rate	0.1	0.1
Current account (\$billion)	-32	-42

Note: Oil prices are assumed to be \$10/barrel higher than in base case.

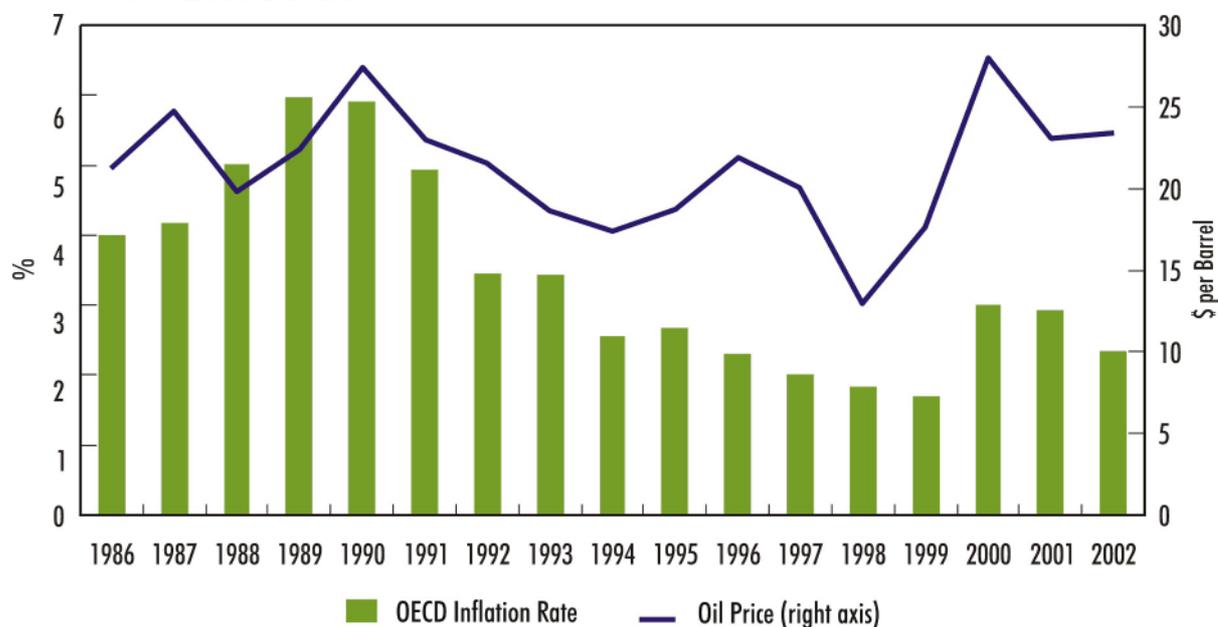
The impact of higher oil prices on the rate of inflation is more marked. The consumer price index is on average 0.5% higher than in the base case over the five-year projection period. The impact on the rate of inflation is felt mostly in 2005 – the second year of higher prices. Recent trends show a clear correlation between oil-price movements and short-term changes in the inflation rate (Figure 2).

³ Refers to the average IEA crude oil import price which is a proxy for international oil prices in the *OECD Economic Outlook*.

⁴ For example, the euro is assumed to be worth 1.14 dollars from 2004 onwards.

⁵ Some other analyses of the effect of higher oil prices in individual countries using different models and assumptions have yielded slightly different results, though the negative impact is in all cases significant.

Figure 2: OECD Inflation Rate and Average IEA Crude Oil Import Price in 2000 Dollars



In the sustained higher oil price case, the average rate of unemployment in the OECD is one tenth of a percentage point higher than in the base case during the first four years of the projection period. This is equivalent to the loss of more than 400,000 jobs across all Member countries. The rate approaches that of the base as real wages have fully adjusted downwards due to the deterioration in the terms of trade and incomes. If rigidities in the labour market were to prevent this adjustment in real wages, the adverse impact on unemployment and on the general inflation rate would be significantly greater.

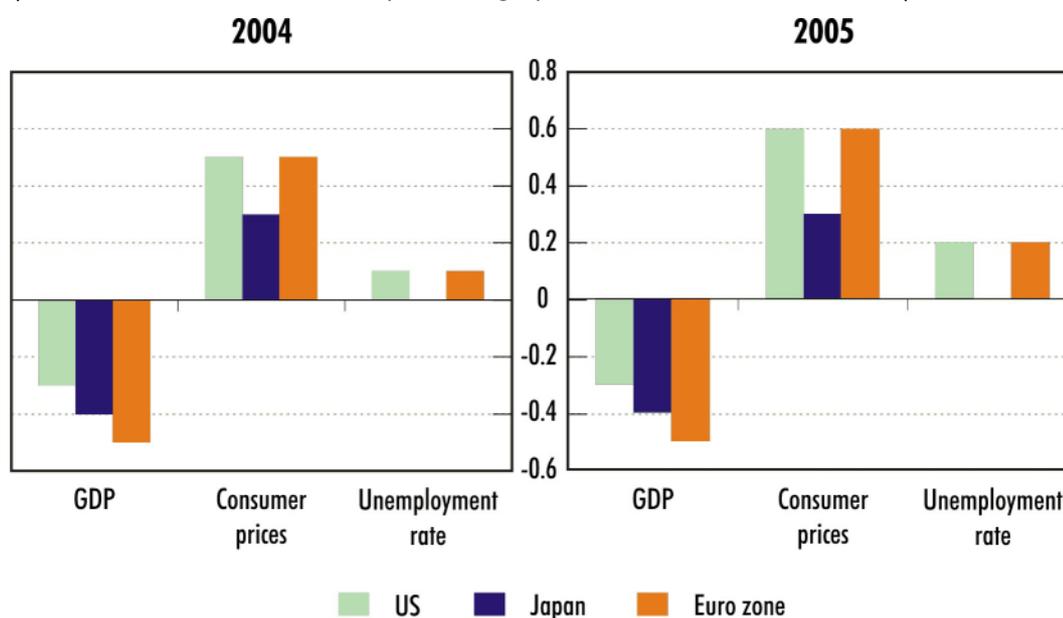
The OECD's trade balance naturally worsens in the short term as higher oil prices drive up the cost of imported oil and inflation generally. The deterioration in the current account peaks in 2006 at just over \$50 billion.

The economic impact of higher oil prices varies considerably across OECD countries, largely according to the degree to which they are net importers of oil. Euro-zone countries, which are highly dependent on oil imports, suffer most in the short term (Figure 3). Job losses would be particularly large, aggravating current high unemployment levels across the region. Japan's relatively low oil intensity compensates to some extent for its almost total dependence on imported oil. GDP losses in both Europe and Japan would also exacerbate budget deficits, which are already large (close to 3% on average in the euro-zone and 7% in Japan). The United States suffers the least, largely because indigenous production still meets over 40% of its oil needs. Unemployment, a major current policy concern, would nonetheless worsen significantly in the short term. Those countries that are neither

significant importers or exporters also incur some GDP losses in the short term, as it takes time for the higher earnings of domestic oil companies to be spent or distributed to shareholders while consumers feel the impact of higher oil prices immediately. For the oil-exporting OECD countries, the impact on GDP is positive in the first year of the projection period, but in most cases, GDP growth declines relative to the base case after two to three years due to a decline in exports of non-oil related good and services to oil-importing countries.

Figure 3: *OECD Macro-economic Indicators in Sustained Higher Oil Price Case by Region/Country*

(Deviation from base case, in percentage points unless otherwise stated)



Note: Oil prices are assumed to be \$10/barrel higher than in base case.

Source: IEA/OECD analysis.

This simulation demonstrates the extent of the economic damage caused by higher oil prices. Lower prices than in the base case would bring economic benefits. The results of a second simulation, which assumes a \$7 per barrel fall in oil prices compared to the base case over the full projection period, suggests that the economic benefit of lower prices is as pronounced as the harm caused by higher prices. After the first two years of the sustained lower price case, GDP is 0.3% higher whilst inflation and the rate of unemployment are 0.4% and 0.2% lower respectively.

QUANTIFYING THE IMPACT ON DEVELOPING COUNTRIES AND TRANSITION ECONOMIES

The adverse economic impact of higher oil prices on oil-importing developing countries is generally more pronounced than for OECD countries. The economic impact on the poorest and most indebted countries is most severe. On the basis

of IMF estimates, the reduction in GDP in the sustained \$10 oil-price increase case would amount to more than 1.5% after one year in those countries (Table 2). The Sub-Saharan African countries within this grouping, with more oil-intensive and fragile economies, would suffer an even bigger loss of GDP, of more than 3%. As with OECD countries, dollar exchange rates are assumed to be the same as in the base case.

Asia as a whole, which imports the bulk of its oil, would experience a 0.8% fall in economic output and a one percentage point deterioration in its current account balance (expressed as a share of GDP) one year after the price increase. Some countries would suffer much more: the Philippines would lose 1.6% of its GDP in the year following the price increase, and India 1%. China's GDP would drop 0.8% and its current account surplus, which amounted to around \$35 billion in 2002, would decline by \$6 billion in the first year.⁶ Other Asian countries would see a deterioration in their aggregate current account balance of more than \$8 billion. Asia would also experience the largest increase in inflation in the first year, on the assumption that the increase in international oil price would be quickly passed through into domestic prices. The inflation rate in China and Thailand would increase by almost one percentage point in 2004.

Table 2: Oil-Importing Developing Country Macro-economic Indicators in Sustained Higher Oil Price Case after One Year by Region/Country

(Deviation from base case, in percentage points unless otherwise stated)

	Real GDP	Inflation	Trade Balance (% of GDP)
Asia	-0.8	1.4	-1.0
China	-0.8	0.8	-0.6
India	-1.0	2.6	-1.2
Malaysia	-0.4	2.0	0.0
Philippines	-1.6	1.6	-2.0
Thailand	-1.8	0.8	-3.0
Latin America*	-0.2	1.2	0.0
Argentina	-0.4	0.2	0.2
Brazil	-0.4	2.0	-0.4
Chile	-0.4	2.0	-1.4
Highly indebted poor developing countries ⁷	-1.6	n.a.	n.a.

* Includes Mexico.

Source: IEA based on IMF analysis.

⁶ Based on the results of the sustained oil price increase case from the OECD's Interlink model.

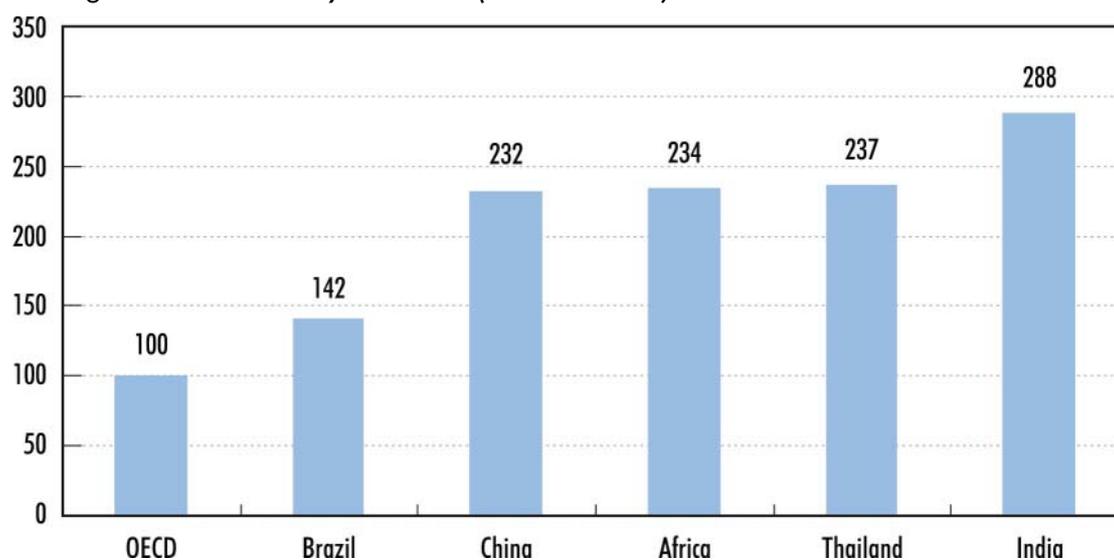
⁷ This country grouping corresponds to the Highly Indebted Poor Countries category used by the World Bank and IMF. Most of these countries are in Sub-Saharan Africa.

Latin America in general would suffer less from the increase in oil prices than Asia because net oil imports into the region are much smaller. Economic growth in Latin America would be reduced by only 0.2 percentage points. The GDP of transition economies and Africa in aggregate would increase by 0.2 percentage points, as they are net oil-exporting countries.

The economies of oil-importing developing countries in Asia and Africa would suffer most from higher oil prices because their economies are more dependent on imported oil. In addition, energy-intensive manufacturing generally accounts for a larger share of their GDP and energy is used less efficiently. On average, oil-importing developing countries use more than twice as much oil to produce one unit of economic output as do developed countries.

Figure 4 shows oil intensity, defined as primary oil consumed per unit of GDP, in selected developing countries relative to that of the OECD. India, for example, uses more than two and half times as much oil as developed countries per unit of GDP, while the economies of China, Thailand and African countries are also very oil intensive. It is estimated that oil imports cost India \$15 billion or 3% of its GDP in 2003. The oil-import bill increased by 16% between 2001 and 2003. And oil intensity is still increasing in many developing countries as modern commercial fuels replace traditional fuels in the household sector and industrialisation and motorisation continue apace. Rising oil intensity is reflected in the share of oil imports in total imports, which is increasing in many developing countries – notably in China and India. By contrast, in OECD countries, the share of oil in total commodity imports by value fell from 13% in the late 1970s to only 4% in the late 1990s, but has since rebounded with higher oil prices.

Figure 4: *Oil Intensity* in 2002 (OECD = 100)*



* Primary oil consumption per unit of GDP.

Source: IEA.

The cost of fuel imports relative to GDP is particularly high in Africa. In 2000, Sub-Saharan African countries spent 14% of their GDP on fuel imports. As a consequence, sharp fluctuations in oil prices can lead to big shifts in their current account balance – often amounting to more than 1% of GDP.⁸ This generally leads to a rapid economic adjustment involving a sharp contraction in domestic consumption, because these countries have very limited access to international capital market to finance a temporary increase in the current account deficit.

The vulnerability of oil-importing developing countries to higher oil prices is also exacerbated by their limited ability to switch quickly to alternative fuels, the prices of which may increase more slowly than those of oil products. And an increase in the oil-import bill also tends to destabilise the trade balance and drive up inflation more in developing countries, where institutions responsible for economic management and investor confidence are more fragile. The deterioration in developing countries' terms of trade is often magnified by sharp currency depreciations, as capital inflows slump. Higher oil prices and the subsequent depreciation of their currencies against US dollar also raise the cost of servicing external debt. This problem is most pronounced in the poorest developing countries, especially those already running large current account deficits.

The impact on the group of developing countries and transition economies as a whole is lower than for the OECD, because that grouping includes several oil exporters. Based on recent estimates by the IMF, a sustained \$10 per barrel increase in the oil price would yield a 0.4% fall in the real GDP of non-OECD countries as a whole (including oil-exporting countries) after one year.⁹ In contrast, the aggregate current account balance of developing countries as a share of GDP would actually improve, by 0.4% in the first year, as the improved trade balance of oil producers in the Middle East, Central Asia (including Russia), Africa and Latin America outweighs the deterioration in oil-importing countries.

The IMF estimates suggest that, in the sustained oil-price increase case, the net trade balance of OPEC countries would improve initially by about \$120 billion or around 13% of GDP, taking account of lower global economic growth. Venezuela would gain the least and Iraq and Nigeria the most, reflecting the relative importance of oil in the economy. The impact of higher oil prices on economic growth in OPEC countries would depend on a variety of factors, particularly how the windfall revenues are spent. In the long term, however, OPEC oil revenues and GDP are likely to be lower, as higher prices would not compensate fully for lower production. Higher oil prices in the last four years are in part the result of OPEC's success in implementing its policy of collectively constraining production. This policy has led to

⁸ IMF, *World Economic Outlook* (October 2000).

⁹ IMF, *World Economic Outlook* (April 2002 and April 2003). Recent IMF studies, including those referred to in this paper, assume a base-line oil price between \$23 and \$27 per barrel. This is very similar to the IEA/OECD base case assumption of \$25 for the period 2004-2008. The IMF's estimates were based on a \$5 price increase. The results were extrapolated linearly so as to correspond to a \$10 increase.

a decline in OPEC's share of world oil production from 40% in 1999 to 38% in 2003. There is a risk that this policy may be continued in the future, which would limit the extent to which OPEC producers, notably those in the Middle East, contribute to meeting rising world oil demand. According to the IEA's latest World Energy Outlook, OPEC's market share is projected to rebound to 40% in 2010 and 54% in 2030. In the IEA's recent World Energy Investment Outlook, cumulative OPEC revenues are \$400 billion lower over the period 2001-2030 under a Restricted Middle East Investment Scenario, in which policies to limit the growth in production in that region lead to on average 20% higher prices, compared to the Reference Scenario.

NET IMPACT ON THE GLOBAL ECONOMY

The results of the sustained higher oil price simulation for both the OECD and non-OECD countries suggest that, as has always been the case in the past, the net effect on the global economy would be negative. That is, the economic stimulus provided by higher oil (and gas) export earnings in OPEC and other exporting countries would be outweighed by the depressive effect of higher prices on economic activity in the importing countries, at least in the first year or two following the price rise. Combining the results of all world regions yields a net fall of around 0.5% in global GDP – equivalent to \$ 255 billion - in the first year of higher prices. The loss of GDP would diminish somewhat by 2008 as increased demand from oil-exporting countries boosts the exports and GDP of oil-importing countries. The transfer of income from oil importers to oil exporters in the year following the \$10 price increase would amount to roughly \$150 billion.

The main determinant of the size of the initial net loss of global GDP is how OPEC and other oil-exporting countries spend their windfall oil revenues. The greater the marginal propensity of oil-producing countries to save those revenues, the greater the initial loss of GDP. Both the IMF and OECD simulations assume that oil exporters would spend around 75% of their additional revenues on imported goods and services within three years, which is in line with historical averages. However, this assumption may be too high, given the current state of fiscal balances and external reserves in many oil-exporting countries. In practice, those countries might take advantage of a sharp price increase now to rebuild reserves and reduce foreign and domestic debt. In this case, the adverse impact of higher prices on global economic growth would be more severe.

Higher oil prices, by affecting economic activity, corporate earnings and inflation, would also have major implications for financial markets – notably equity values, exchange rates and government financing – even, as assumed here, if there are no changes in monetary policies:

- International capital market valuations of equity and debt in oil-importing countries would be revised downwards and those in oil-exporting countries

upwards. To the extent that the creditworthiness of some importing countries that are already running large current account deficits is called into question, there would be upward pressure on interest rates. Tighter monetary policies to contain inflation would add to this pressure.

- Currencies would adjust to changes in trade balances. Higher oil prices would lead to a rise in the value of the US dollar, to the extent that oil exporters invest part of their windfall earnings in US dollar dominated assets and that transactions demand for dollars, in which oil is priced, increases. A stronger dollar would raise the cost of servicing the external debt of oil-importing developing countries, as that debt is usually denominated in dollars, exacerbating the economic damage caused by higher oil prices. It would also amplify the impact of higher oil prices in pushing up the oil-import bill at least in the short-term, given the relatively low price-elasticity of oil demand. Past oil shocks provoked debt-management crisis in many developing countries.
- Fiscal imbalances in oil-importing countries caused by lower income would be exacerbated in those developing countries, like India and Indonesia that continue to provide direct subsidies on oil products to protect poor households and domestic industry. The burden of subsidies tends to grow as international prices rise, adding to the pressure on government budgets and increasing political and social tensions.

It is important to bear in mind the limitations of the simulations reported on above. In particular, the results do not take into account the secondary effects of higher oil prices on consumer and business confidence or possible changes in fiscal and monetary policies. The loss of business and consumer confidence resulting from an oil shock could lead to significant shifts in levels and patterns of investment, savings and spending. A loss of confidence and inappropriate policy responses, especially in the oil-importing countries, could amplify the economic effects in the medium term. In addition, neither the OECD's estimates for member countries nor the IMF's estimates for the developing countries and transition economies take explicit account of the direct impact of higher oil prices on natural gas prices and the secondary impact on electricity prices, other than through the general rate of inflation. Higher oil prices would undoubtedly drive up the prices of other fuels, magnifying the overall macroeconomic impact. Rising gas use worldwide will increase this impact. Nor does this analysis take into account the macroeconomic damage caused by more volatile oil prices. Short-term price volatility, which has worsened in recent years, complicates economic management and reduces the efficiency of capital allocation.¹⁰ Despite these factors, the results of the analysis presented here give an order-of-magnitude indication of the likely minimum economic repercussions of a sustained period of higher oil prices.

¹⁰ See IEA EAD Working Paper (2001), Oil Price Volatility: Trends and Consequences.

CONCLUSIONS

Oil prices remain an important macroeconomic variable: higher prices can still inflict substantial damage on the economies of oil-importing countries and on the global economy as a whole. The surge in prices in 1999-2000 contributed to the slowdown in global economic activity, international trade and investment in 2000-2001.¹¹ The disappointing pace of recovery since then is at least partly due to rising oil prices: according to the modelling results, global GDP growth may have been at least half a percentage point higher in the last two or three years had prices remained at mid-2001 levels. The results of the simulations presented in this paper suggest that further increases in oil prices sustained over the medium term would undermine significantly the prospects for continued global economic recovery. Oil-importing developing countries would generally suffer the most as their economies are more oil-intensive and less able to weather the financial turmoil wrought by higher oil-import costs.

The general economic background to the current run-up in prices is significantly different to previous oil-price shocks, all of which coincided with an economic boom when economies were already overheating. Prices are now rising in a situation of tentative economic revival, excess capacity and low inflation. Firms are less able to pass through higher energy-input costs in higher prices of goods and services because of strong competition in wholesale and retail markets. As a result, higher oil prices have so far eroded profits more than they have pushed up inflation. The consumer price index growth has fallen in almost every OECD country in the past year, from 2.3% to 2.0% in the Euro zone and 2.4% to 1.9% in the United States in the 12 months to December 2003. Deflation in Japan has worsened from -0.3% to -0.4% over the same period. A weaker dollar since 2002 has also offset partly the impact of higher oil prices in many countries, especially in the euro-zone and Japan. The squeeze on profits delayed the recovery in business investment and employment, which began in earnest in 2003 in many parts of the world. In contrast to previous oil shocks, the financial authorities in many countries have so far been able to hold down interest rates without risking an inflationary spiral.

Yet the economic threat posed by higher oil prices remains real. Fears of OPEC supply cuts, political tensions in Venezuela and tight stocks have recently driven up international crude oil and product prices even further. Current market conditions are more unstable than normal, in part because of geopolitical uncertainties and because tight product markets – notably for gasoline in the United States – are reinforcing upward pressures on crude prices. The hike of futures prices during the past several months implies that recent oil price rises could be sustained. If that is the case, the macroeconomic consequences for importing countries could be painful, especially in view of the severe budget-deficit problems being experienced in all OECD regions and stubbornly high levels of unemployment in many countries. Fiscal imbalances would worsen, pressure to raise interest rates would grow and the current revival in business and consumer confidence would be cut short, threatening the durability of the current cyclical economic upturn.

¹¹ Other factors played an important role, such as the bursting of the tech-bubble and the ensuing decline in business investment in the United States.