

The Impact of International Crude Oil Prices on Cambodia

The recent fluctuation in crude oil price has undoubtedly some implication on economies world wide - and Cambodia is no exception. A more interest question is to what extent is the impact on the Cambodian economy, and what can be done to cushion it, especially among the poor and the not-so-competitive private sector.

Episodic sudden increases in the price of oil, aka "oil shocks", are proven detriments to economic growth and by extension world welfare. A study by the International Energy Agency (May 2004) suggests that higher oil prices cause larger reductions in the income of oil-importing countries than gains in the income of exporting counties. Additionally, hikes in oil prices adversely affect overall industrial output through higher production costs that erode the competitive edge of oil-dependent countries.

Higher production costs generally push consumer prices up, further amplified by the surge in prices of imported goods. The loss of income combined with higher inflation freezes demands for goods and services and leads to lower investment, production and higher unemployment. Ultimately, the whole economy is affected and poverty worsens. The current jump in oil prices poses such concerns about the recent rebound of the world economy.

In the case of Cambodia, the impact of higher oil prices is even more dramatic because of its total dependence on oil imports, heavy consumption of imported goods, and energy dependent manufacturing sector, including the garment industry. We can measure the magnitude of the impact on the economy by examining how an increase in oil prices is propagated into slumps in production and decreased consumption by end-users.

The options available to the Cambodian government to formulate policy responses to mitigate the impact of rising oil prices have already been explored in a previous Economic Review issue. This article aims to review to what extent international crude oil prices affect Cambodian gasoline and diesel pricing

and consumption, and how the country's overall economy is affected.

The International Oil Prices

The latest data on oil demand and supply from the U.S. Energy Information Administration (IEA) and the International Monetary Fund, International Financial Statistics (IFS) suggest that tight supply conditions for oil are continuing due to higher-than-expected growth in global demand in the last half decade. Fast-growing energy demands from Asia, especially China, were factors behind the higher prices of international crude oils. While world demand for crude oil per day increased by 1.5 percent in recent years, the annual growth in demand from China grew by more than 6 percent from 1999 - 2003. The average annual increase in supply was a mere 1 percent during the same period.

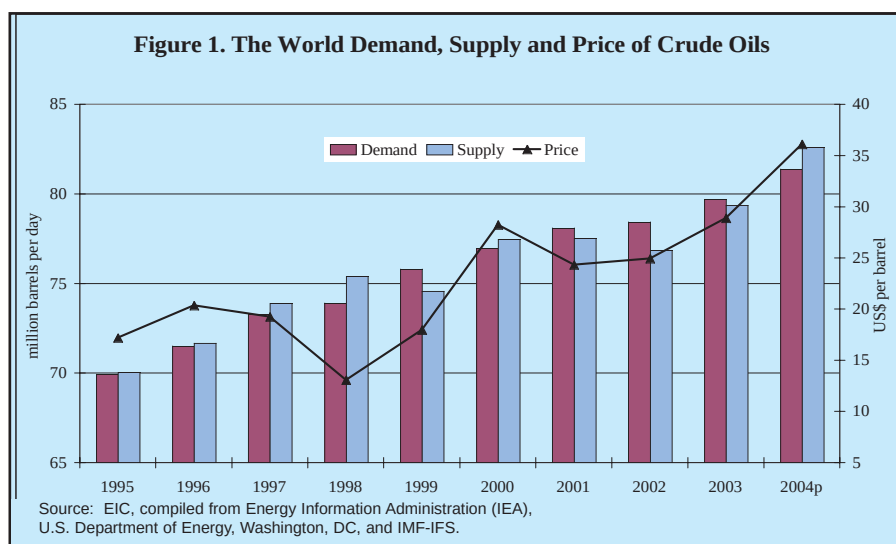
The price of crude oils increased sharply in the 1999-2000 period, and more recently there has been a further rise due to numerous factors, including worries over the effect of a prolonged war in Middle East and reduced supply capacity in producing countries. Outright spec-

ulation has clearly played a role in the last spike in prices.

The world daily demand for oil in 1999 was about 2 percent in excess of supply. 1999 also saw a surge in demand by Canada, America, Japan, South Korea, and China. Demand from these countries grew by 5 percent on average in 1999 compared with 1998. At the same time, the world supply of crude decreased by more than 1 percent, with the supply from OPEC in particular down by about 4 percent. These factors led to the rise of the average price of crude oil to levels about 38 percent higher in 1999 than in 1998. Price shocks continued in 2000, when the world price ballooned further upward another 57 percent, in spite of a significant increase in the supply of oil.

The price sagged in 2001, but persistent strong world demand, especially from China and North America during 2001 - 2003, combined with tight supply, led oil prices upward. The average price in 2002 was 3 percent higher than that of 2001, and 16 percent higher in 2003 than in 2002.

Even though oil supply in the first 9 months of 2004 grew by 4 percent, due largely to a 6 percent



expansion in production in OPEC countries, there was still upward pressure on the average price. In fact, the average prices of oil in the first 9 months of 2004 increased by 25 percent compared with the average price in 2003. The reasons behind this hike were uncertainties about the war in Iraq and continued strong growth of energy demands from China and other Asian countries. There is no sign that the demand for energy from Asia will slacken soon. In 2004, demand from China is expected to increase by 14 percent and from other Asian countries by about 6 percent.

How Responsive are Cambodian Fuel Prices to the World Market?

While it is generally accepted that fluctuations in the world price of oil in part lead to higher fuel costs in Cambodia, the precise nature of the linkage needs closer scrutiny. For example, price increases caused by the government's high taxes on imported oil products encourages large scale smuggling and therefore exaggerates the boomerang effect of distorted tax revenues, as EIC has previously examined. This view is widely shared by economic observers, including the IMF in its recent "Cambodia: Selected Issues" from October 2004.

According to data compiled by EIC that covers 1995 to September 2004, the annual movement of oil prices in Cambodia was consistent with world market prices but primarily in the realm of increases. Average prices of both gasoline and diesel trended upward during this period, despite fluctuations up and down of the world price of oil. For example, while the average world price decreased in 1997, and outright plummeted in 1998, the price of gasoline and diesel in Cambodia increased sharply in 1997 owing largely to political upheaval, and went only slightly down in 1998. Prices in Cambodia have tracked world price increases but have proven less responsive to price reductions. This suggests that oil distributors in Cambodia have

adjusted prices upwards with little regard for price trends on the world market.

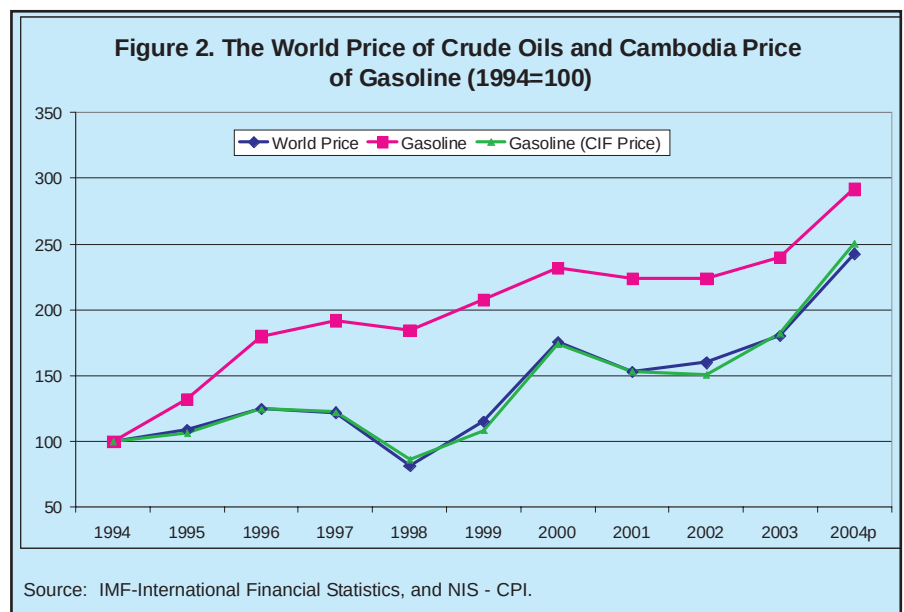
Monthly data from January 1995 to September 2004 show that out of 116 fluctuations in the world price of crude oil, the domestic price of gasoline in Cambodia (sold in US dollars) consistently tracked changes in the world prices. During 68 instances of world price increases, domestic prices of gasoline responded 66 times either with increases or stayed constant, and domestic prices of diesel responded similarly 57 times. In response to 48 decreases in world prices, domestic prices of gasoline went down 50 times, and diesel prices went down 59 times. The change in prices in Cambodia lagged behind changes in world prices by about one month.

The difference in the world and Cambodian prices is clearer when we consider the sale of fuel denominated in riel. The price of gasoline sold in Cambodian riel adjusted 38 times and diesel 40 times consistent with changes in world prices during the same period. Domestic prices for gasoline and diesel sold in Cambodian riel have, interestingly, all too quickly bumped up in response to world price increases. In fact, although world prices increased 68 times in the observed period, the prices for gasoline sold in Cambodian riel increased or stayed constant 94 times, and the prices of diesel

increased or stayed constant 88 times. Although world prices decreased 48 times, prices in Cambodian riel prices declined only 22 times for gasoline and 28 times for diesel. Domestic prices in riel also are very responsive to exchange rate depreciation. These statistics confirm that Cambodian oil distributors tend to keep their profit margin in both periods of higher world prices and riel depreciation. All cost burdens are swiftly passed through to both oil-dependent producers and end-users, particularly to those consumers who earn income in riel and pay for fuel in riel.

Though these simple quantitative illustrations may posit some justification for a "laissez-faire" attitude of no policy response from the government, it can also be argued that the nature of oil prices in Cambodia is irregular and thus adversely impacts efforts to create favorable conditions for private-sector development and thus poverty reduction. A combination of better governance and efficient law enforcement, in particular in the area of an alignment of government tax policy on imported oils, as argued in the first issue of EIC Economic Review, would lead to price structures conducive to business cost competitiveness as well as attenuating the burden on end-users.

To provide further grounds for rethinking the policy on fuel prices in Cambodia, the next section will look in-depth into the negative



implications of oil price hikes on the country's economy.

Implications of Higher Oil Prices for Cambodia's Economy

Cambodia is completely dependent on oil imports. Increases in oil prices directly result in higher prices for goods and services and threaten an economic slowdown. Like other oil-dependent countries, most immediately affected are transportation, power and energy, manufacturing and the agricultural sector. From a production point of view, higher fuel prices result in a reduction in the value-added due to an increase in costs.

From the expenditure side, it means a reduction of spending on other goods. Available data from 1995 to 2003 tend to confirm this claim, showing for example that annual GDP growth of Cambodia moved in opposition to changes in gasoline and diesel prices. In other words, lower prices for gasoline and diesel are consistent with higher GDP growth, and higher fuel prices directly cause lower growth of GDP in Cambodia.

Direct Effects on Users, GDP and Employment

Oil price changes undoubtedly impact the economy. Table 1 shows how a 27 percent oil price increase in the 12 month period to August 2004 impact various sectors in the economy. The percentages of oil expense in the production cost structure by sector shown in the table are based on various official surveys and EIC estimates. The estimated fuel costs for producers in 2003 amounted US\$589 million. For end users, the direct consumption of fuels represented 2.5 percent of total private consumption, according to official statistics. With total private consumption estimated at US\$3,400 million, the costs of fuel paid by end consumers (households) was US\$85 million, bringing the total estimated costs of fuel paid by both end consumers and producers to US\$674 million, or 17 percent of GDP in 2003.

Without accurate price elasticity, it is assumed that the impact on production costs is primarily borne by producers, although the impact on households is also consid-

erable. For example, of the total higher cost of agricultural products, 75 percent is borne by producers and 25 percent by consumers, given that farmers are not generally able suddenly to boost their prices substantially. In manufacturing (and in Cambodia that means primarily the garment industry), producers have to cover 90 percent of the burden and can pass on only 10 percent to consumers (in this case the international buyers consuming Cambodia's textile exports).

In the competitive world textile market, an increase in production cost of some industries including garment may not be so easily passed on to buyers/consumers. Likewise, electricity and water producers have to bear a higher portion, about 90 percent, of the cost increases due to price rigidity in the utility sector. However, higher costs of fuel used in construction, hotels, restaurants and other trade are shared relatively evenly between producers and households. At the other end of the spectrum, the transportation section can pass on most of its increased fuel costs, up to 70 percent, to household end-users.

Table 1. Estimation of the Impact of a 27 percent Increase in Oil Prices on Producers (PCs), Households (HHs), GDP, and Employment

	Total Production Cost (mil.US\$)	Share of Oil in Production Costs	Oil Costs in Production (mil.US\$)	Increase in Production Cost (mil.US\$)	Share of Impact on Users			
					PCs	Mil. US\$	HHs	Mil. US\$
Agriculture	195	13%	25	7	75%	5	25%	2
Manufacturing	1,360	5%	68	18	90%	17	10%	2
Electricity & Water	264	38%	100	27	90%	24	10%	3
Construction	225	4%	9	2	60%	1	40%	1
Hotels & Restaurants	203	30%	61	16	50%	8	50%	8
Transportation	377	65%	245	66	30%	20	70%	46
Trade	450	8%	36	10	50%	5	50%	5
Other Sectors	650	7%	45	12	50%	6	50%	6
Sub Total			589	159	54%	86	46%	73
Direct Impact on Households(*)			85	23				23
Grand Total			674	182	86		96	
Direct Impact on GDP growth					- 2%		-	
Impact on Potential Employment Creation(**)					- 108,000		-	

Source: NIS-CPI and EIC Estimates based on production costs in 2003.

(*) The fuel costs of households represent 2.5% of total household consumption that amounted US\$ 3,4 billion in 2003.

(**) Stock of capital per worker was estimated at about US\$800 in 2003.

In the example above, the estimated effect on producers leads to an overall total reduction in Cambodia's economy by US\$86 million, equivalent to a 2 percent reduction in Cambodia's GDP. Table 2 indicates that the adverse impact on Cambodian economy is much greater than the world's average, and that on Asia. Additionally, these figures point to a potential loss (or non-creation) of 108,000 jobs. These direct impacts are significant, and yet are only rough estimates. They do not take into account potential multiplier effects which could deepen the loss of GDP and jobs. Other consequences include, but are not limited to, a decline in investment opportunities, a worsening of the country's balance of payments through a reduction of foreign reserves, as well as the likely loss of competitiveness of Cambodian producers in the world market.

In our analysis, the total impact on households is estimated to be US\$96 million, which includes a direct increase of US\$23 million in the cost burden on end-users. On top of that, consumers have to share another US\$73 million of higher cost passed on by producers as a consequence of higher oil prices.

The Policy Response - A Must

The above analysis provides some insight into the impact of oil prices on the Cambodian economy. Pro-active policy responses to lower the prices of fuel costs in Cambodia would have far-reaching positive impacts on both economic growth, employment and the standard of living. Therefore, the government must implement decisive measures to reduce the prices of energy to levels conducive to growth and in line with neighboring countries.

It is widely accepted that having import tariffs and taxes on gas and diesel higher than those in Thailand and Vietnam is the main incentive for smuggling. Therefore, a tax alignment with the neighboring countries would not only bring domestic sale prices down but smuggling will naturally diminish. It is an

easy way to help the economy and simultaneously striking against corruption and smuggling. Oil imports would be more likely to go through formal routes that are officially taxed at the new lower and more reasonable rate. The presumed loss from lower tax rates would be more than compensated by extra revenue that comes with a much higher volume of official oil imports.

This government has already implemented this approach in other areas to a great success, showing that stopping smuggling is by no means impossible and fiscally advantageous. For example, after the government reduced the import tax on luxury vehicles from 230 percent to 50 percent as of January 1, 2004, the tax revenue was doubled in the first nine months; the legal importation of cars in the period increased by 100 percent. The authority has proved that the state revenue can increase with a lower tax rate.

Oil pricing should not be looked at in isolation, however. Complementary policies aimed at strengthening fiscal policy, especially in revenue collection tied to reducing corruption and smuggling, would provide the fiscal room for a tax reduction on imported oils. Lower prices for gas and diesel would then be possible while likely boosting government revenue. Such a move would be the strongest action yet by the new government to combat abject poverty and to improve the climate for private sector development.

Concluding Remarks

For Cambodia, there is strong evidence that consistently rising domestic fuel prices are disastrous for both producers and households. Furthermore, the impact on GDP and employment is devastating. Appropriate government policies on oil prices, along with fair and free markets, would foster the economic well-being of Cambodians. The new government should take this opportunity to respond to public demand, be a champion of economic development and job creation and reach its own stated goal - poverty reduction.

Moreover, membership in the WTO requires of Cambodia a competent and efficient private sector if the country has any hope of competing in world markets. A recent report by the World Bank shows that 44 and 63 percent of small and large firms respectively use their own generators rather than pulling power from the national electricity grid. Fully 54 percent of exporters also run their own generators. The 65 percent share that fuel prices eat up in transportation costs is an additional drain on competitiveness. Lower fuel prices mean lower costs to run businesses, enhancing competitiveness and attracting more domestic and foreign direct investment.

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**Table 2. The Impact of a US\$ 10 Oil Prices Increase on Global Economy
(Change from Base Year)**

	Real GDP (%)	Inflation (%)	Trade Balance (% of GDP)
World	-0.4	0.5	-0.1
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

Source: Analysis of the Impact of High Oil Prices on the Global Economy,
http://library.iea.org/dbtw-wpd/textbase/papers/2004/high_oil_prices.pdf