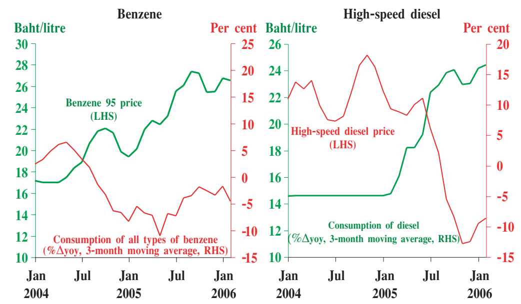
High and volatile global oil prices: implications on the Thai economy and economic projections

Rising global oil prices, their pass-through to domestic retail prices, and behavioural adjustments by domestic consumers and businesses over the past few years have been among key economic issues with important implications on growth and inflation projections. The Monetary Policy Committee (MPC) is aware of the impacts of rising oil prices on the Thai economy and its macroeconomic stability, and uses various methods as explained in the April 2005 *Report* to forecast global oil prices, which is subsequently used as an assumption in the economic projections. The MPC also monitors how the Thai economy responds to changes in oil prices closely.

Chart 1 Retail oil prices and domestic oil consumption



Source: PTT Public Company Limited, Energy Policy and Planning Office, Bank of Thailand

Table 1 Percentage change of domestic petroleum products consumption

Type	Weight in 2005 (%)	2004	2005			2006
			H1	H2	Total	Jan - Feb
Benzene	17.3	0.3	-7.0	-3.6	-5.4	-6.3
Benzene 91	10.4	1.8	-5.1	-7.8	-6.4	-8.9
Benzene 95	5.4	-3.6	-18.3	-32.0	-24.6	-41.5
Gasohol	1.6	2,214.3	537.5	1,377.6	1,032.0	840.9
Diesel	47.0	11.9	9.8	-9.3	0.0	-8.4
Kerosene	0.1	-35.0	-6.5	-10.7	-8.6	-12.6
J.P.	10.3	12.8	-0.1	2.5	1.2	9.4
Aviation Fuel	0.01	-18.4	-9.1	-0.7	-5.2	199.4
Fuel oil	14.9	21.5	-1.6	6.6	2.3	24.9
LPG	10.4	-14.7	7.1	9.4	8.3	9.9
Total	**100.0**	7.7	**3.6**	**-3.0**	**0.3**	**-0.1**

Source: Energy Policy and Planning Office

Table 2 Thailand's oil imports

Value (million US dollars) (%Δyoy)	2004	2005			2006
		H1	H2	Total	Jan - Feb
Oil and fuel products	13,149.9	10,420.6	10,407.7	20,828.3	3,582.7
(%Δyoy)		**(73.3)**	**(45.9)**	**(58.4)**	**(41.8)**
Crude oil: Volume (million barrels)	274.8	174.9	144.8	319.7	46.6
(%Δyoy)		**(28.3)**	**(4.5)**	**(16.3)**	**(-0.6)**
Price (US dollars)	152.6	47.7	58.5	53.1	122.6
(%Δyoy)		**(37.2)**	**(40.9)**	**(39.2)**	**(44.5)**
Value (million US dollars)	10,504.7	8,406.3	8,470.1	16,876.4	2,853.3
(%Δyoy)		**(77.0)**	**(47.2)**	**(60.7)**	**(43.4)**
Fuel products	2,645.3	2,014.3	1,937.5	3,951.9	729.4
(%Δyoy)		**(59.3)**	**(40.3)**	**(49.4)**	**(36.0)**
Non-oil imports	81,215.1	49,418.3	48,813.0	98,231.3	15,211.7
(%Δyoy)		**(25.3)**	**(16.9)**	**(21.0)**	**(1.8)**

Source: Customs Department

Adjustments of the Thai economy to rising domestic retail oil prices

Oil Fund subsidies that began in January 2004 caused domestic retail oil prices to be lower than the level consistent with world oil prices (for further details see Box in Chapter 1). As a result, overall domestic oil consumption rose continuously throughout the subsidy period - up to the first half of 2005. The rise in diesel oil consumption in particular was partly attributable to changes in consumer behaviour, as they switched from automobiles with benzene oil engines to diesel oil engines to take advantage of diesel oil subsidies. In fact, the rise in the value of oil imports was the main factor which caused the current account balance to revert sharply from a surplus of 6.9 billion US dollars in 2004 to a deficit of 3.7 US billion dollars in 2005.

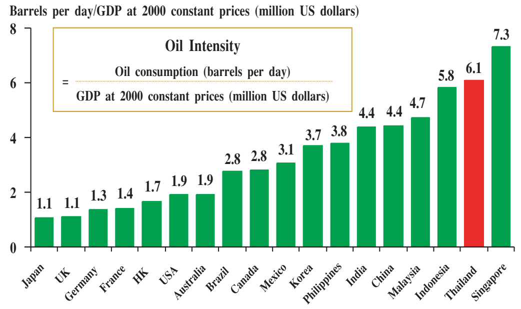
Given the government's decision to lift the subsidies on benzene oil in October 2004 and diesel oil in July 2005, both household and business sectors adjusted to the higher retail oil prices[1] by using oil more economically, as reflected in a fall in consumption of petroleum products during the second half of 2005. In addition, gasohol consumption rose markedly, as gasohol was 1.50 baht per litre cheaper than gasoline. Such a decline in overall oil consumption brought down imports of crude oil and oil products, and as a result the value of oil imports moderated despite rising oil prices. Consequently, the current account balance recorded surpluses during the second half of 2005 and the first 2 months of 2006.

Nevertheless, with the government's initiative to alleviate households' burden from higher cooking gas prices,

[1] Higher retail oil prices partly reflected the increase in fee collection by the Oil Fund to pay off the 92,070 million baht debt accumulated under the subsidy program. As of 17 April 2005, the Oil Fund collected 2.50 baht per litre from benzene 95 sales and 1.95 baht per litre from diesel sales, compared with 0.50 baht per litre before the subsidies were initiated.

retail prices of liquid petroleum gas (LPG) have been subsidized by around 2-3 baht per kilogram. As a result, LPG consumption has grown steadily over the past year. This is attributable to the substitution of LPG as automobile fuel for benzene and diesel oil. In 2005, consumption of LPG as an alternative fuel rose 35.7 per cent over the year. However, with the increase in LPG subsidies, the Oil Fund will need to collect more from consumers of other types of petroleum products to cover those subsidies.

Chart 2 Oil intensity for selected countries

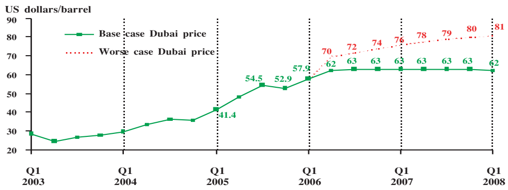


Remark: Singapore's high oil intensity is potentially due to the presence of the refinery industry which accounts for a relatively large share of GDP. Data for oil consumption used in the calculation above also include oil used as an input in production.

Sources: British Petroleum, World Bank, calculation by Bank of Thailand

Chart 3 Dubai price assumptions for base case and worse case scenarios

US dollars/barrel	2005				2006		
	Q1	Q2	Q3	Q4	Q1	1-10 Apr	11-18 Apr
Dubai	41.4	48.0	54.5	52.9	57.9	61.4	64.1
WTI	50.0	53.0	63.2	60.0	63.2	67.2	69.7
WTI-Dubai	8.6	5.0	8.6	7.1	5.3	5.8	5.6



Sources: PTT Public Company Limited, projection by Bank of Thailand

Although external stability has improved following changes in the oil consumption pattern, elevated oil prices remain a key risk to the economy in the long run. Compared with other countries, Thailand's oil intensity is relatively high reflecting an inefficient oil usage. It is thus crucial that both the public and private sectors work together to improve efficiency in the use of oil, especially in the transportation sector, and to emphatically promote the use of alternative energy.

Implications on economic growth and inflation projections

The need for the Thai economy to improve its efficiency on energy usage, particularly oil, has become increasingly pressing, given that global oil prices are likely to remain volatile and sensitive to possible supply disruptions in major oil producing countries. In the forecast prepared for the 10 April 2006 meeting, based on the data up to the meeting, the MPC viewed oil prices to still reflect increasing market concerns over both existing and potential supply disruptions, including the reduction of oil output from Nigeria and tensions over Iran's nuclear issue. As a result, the Dubai crude oil price projection, which was used as an assumption in the baseline forecast, was revised upwards from the previous *Report*. In addition, with volatile oil prices that could rise further, the MPC made use of information on implied volatility obtained from option contracts on West Texas Intermediate (WTI) oil futures to reflect uncertainty in the forecast of oil prices in the worse case scenario.

During the period between the latest MPC meeting and the release of the present *Report,* crude oil prices continued to rise. As of 18 April 2006, prices of the WTI and Dubai crude oil stood at 71.25 and 66.93 US dollars per barrel, respectively. The rapid increase in oil prices over such a short period was due to factors which were difficult to predict and underscored the uncertain nature of oil prices. Nevertheless, the oil price assumption in the worse case scenario already took into account substantial increases in oil prices.

In summary, the volatility of global oil prices together with adjustments both in terms of retail pricing policy and domestic oil consumption have important implications on economic growth and inflation projections. Such volatility is embedded in the assessment of risks that economic growth and inflation projections could deviate from the baseline forecast as reflected in the probability distribution of the forecast.