Update on the Oil Industry in Key Asian Countries: Implications of the East-Asian Economic Crisis and Lower Oil Prices in the International Market

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The Current Characteristics of the Asian Oil Market

While the economic/financial crisis in some Asian countries has had a serious impact on the region's energy market, the Asia-Pacific oil market needs to be assessed within the context of lower oil prices in the international market and continued deregulation policies in some key countries.

We believe that lower oil prices are likely to prevail for quite some time. Political events can push up the price temporarily, but the current potential oversupply will bring the price down to the level where the price of Brent will fluctuate within a band of US$12.00-15.00 per barrel for at least the next five years. Our base-case projection indicates that the yearly average of oil prices in real terms until 2010 will not exceed the 1996/97 levels.

While the weak Asian oil demand adds downward pressure on oil prices, the role of lower Asian demand growth is actually very small compared with the potential global oversupply. Lower oil prices also mean lower import bills for many Asian countries; this has particularly helped the balance of payments of the countries hampered by the economic/financial crisis, with the exception of the net oil exporting countries: Indonesia and Malaysia. The lower oil prices dampen the impact of the currency depreciation in the crisis countries on their domestic retail prices. However, cutting the value of a currency in half, for example, does not double the consumer price; it merely doubles the "landed" (or CIF) prices. Since supplying the domestic market also entails other costs and taxes in local terms, in most cases domestic prices change by less than the CIF change. These phenomena are exemplified in Table 1, which shows retail gasoline prices in key Asian countries, especially the ones that are affected by the crisis.

Table 1 shows changes in average gasoline prices between June 1997 and June 1998, providing a comparison of the situations both during and prior to the crisis. Table 1 also provides October 1998 prices for further comparison. International market prices in the Asia-Pacific region are represented by the Singapore spot (FOB) prices, which had declined earlier by 27% between June 1997 and June 1998. Despite lower prices in the international market–hence CIF prices (in US dollars) in all countries over the same period–domestic prices (in local currencies) in countries experiencing currency depreciation had increased, with the exception of Japan. This means that in most countries, currency depreciation effects are more than offset by the decline in oil prices in the international market. However, it is clear that had the international market prices not declined, domestic oil prices in those countries would have been much higher, resulting in a more negative impact on their respective economies.

Table 1
Comparison of Gasoline Prices: Domestic Retail and International Market

		Jun-97	Jun-98	Change Jun-98/ Jun-97	Oct-98
Bangkok, Thailand	Baht/liter	9.59	12.37	29%	11.09
	Baht/US$	24	40	68%	38.37
	US$/gallon	1.51	1.16	-23%	1.09
Beijing, China	Yuan/ton	3000	3000	0%	2.883
	Yuan/US$	8.30	8.30	0%	8.28
	US$/gallon	1.01	1.01	0%	0.98
Jakarta, Indonesia	Rupiah/liter	700	1000	43%	1.000
	Rupiah/US$	2450	14500	492%	7600
	US$/gallon	1.08	0.26	-76%	0.50
Kulala Lampur, Malaysia	Ringgit/liter	1.10	1.10	0%	1.10
	Ringgit/US$	2.52	4.12	63%	3.80
	US$/gallon	1.65	1.01	-39%	1.10
Manila, The Philippines	Peso/liter	10.94	11.69	7%	11.76
	Peso/US$	26	42	62%	40
	US$/gallon	1.59	1.05	-34%	1.11
Seoul, Korea	Won/liter	824	1088	32%	1215
	Won/US$	885	1380	56%	1328
	US$/gallon	3.52	2.98	-15%	3.46
Tokyo, Japan	Yen/liter	100	86	-14%	92
	Yen/US$	115	138	20%	116
	US$/gallon	3.29	2.36	-28%	3.00
Singapore, FOB	US$/barrel	23.70	17.20	-27%	15.27
	US$/gallon	0.56	0.41	-27%	0.36

The current changes in domestic product prices–hence changes in each country's oil demand and supply–may stem from the currency depreciation and lower oil prices. But in some key countries, this phenomenon is inextricably entangled with regulation/deregulation policies. Regulation (or deregulation) has a profound impact on domestic product prices, hence its impact on the country's oil demand and product balances, and on petroleum trades. In Japan, for example, retail prices for gasoline have been depressed, as shown in Table 1, because of the liberalization of product import policies, despite the country's currency depreciation against the US dollar. On the other hand, where prices are regulated, such as in Indonesia and China, price changes (by government fiat) are not necessarily related to international market prices.

Implications for Key Countries

Owing to the severity of the economic/financial crisis, we classify the affected countries into:

- Serious crisis countries: Indonesia, Thailand, and South Korea
- Cross-fire countries: Malaysia, the Philippines, and to a lesser extent Singapore.

Japan has its own prolonged economic crisis, and its recovery is crucial, in order to support the economic rebound of other countries in crisis. Other key countries in Asia may not be directly in economic crisis but have certainly gotten the

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spillover in the form of lower-than-expected economic growth. The latter include China, India, and Taiwan.

The following paragraphs discuss the current situation of all the countries mentioned above, especially in terms of the implications for their respective oil industries.

INDONESIA

Among all these countries, Indonesia has been hit hardest by the economic crisis. The country has to overcome its political instability first; economic recovery can be expected only after the political problems are resolved. For 1998, the overall GDP in Indonesia is expected to shrink significantly—by as much as 15%. New elections are planned for May 1999, but it remains to be seen whether the country can elect a legitimate leader and hence stable government.

Until recently, Indonesia's currency had lost as much as 80% of its value since July 1997, which was shortly before the crisis began. Although it has strengthened lately, Indonesia's currency still fluctuates widely, mirroring the development of domestic political events. Inflation in the first half of 1998 reached 60% causing interest rates to soar. Prices of basic goods have at least doubled, compared with the pre-crisis period.

In many industries, production has come to a halt, causing massive lay-offs of workers. Dissatisfied Indonesians have taken their frustrations to the streets and caused riots in several cities.

Impact on the Indonesia Oil Sector

- Less-than-expected petroleum export revenues in this particularly difficult time hamper the government budget. This proves to be a very significant factor, since it limits the government's ability to "fund" policies that can buffer the economic woes.
- In May 1998, domestic petroleum product prices were raised by an average of 38% in the local currency, but in US dollar terms the prices were still much lower than international market prices. This has resulted in massive government subsidies.
- Demand for oil will decline by about 6-8% in 1998, which will cut product imports (largely middle distillates) in half, compared with the 1997 level.
- Economically sound policies dictate that reforms must continue in order to attract much-needed foreign investment. This will include continued deregulation of the petroleum industry, especially the downstream oil sector. The government announced that it recently submitted a draft of a new law concerning the opening of downstream operations to increase competition in the provision of petroleum products, including retailing for new refiners.
- Under the new arrangements, each of Pertamina's refineries would be a separate profit center, thus making it possible to form a joint venture for each refinery. It is quite clear that Pertamina will not be able to undertake any expansion programs without infusion of foreign capital from potential partners.
- One obstacle to opening the domestic market is price regulation. The government has announced its intention to remove the subsidy, but it will face fierce opposition from a more powerful parliament and other pressure (special-interest) groups. Indeed, in the longer term, Indonesia needs to move to market prices; but it is hard to see how this can be accomplished with the currency's value so depressed.
- Pertamina is striving to become more independent and professional, but the changing rules and regulations will be a challenge in this regard. Cash-strapped Pertamina may not be able to maintain enough momentum to prove that it is able to compete in the upstream sector. (Pertamina's E&P accounts for a mere 5 percent of Indonesia's total crude oil production.) Nevertheless, Pertamina may become more aggressive in wishing to take over expired contracts.

THAILAND AND SOUTH KOREA

Thailand and South Korea shared the symptoms of the crisis: What began as a speculative attack on the local currency revealed the weak fundamentals in the economy, i.e., the financial sector, which resulted from imprudent rapid expansion of debt financing. Both countries are now paying the price with economic contraction in 1998.

In overcoming the crisis, Thailand and Korea are on the right track, but the role of the IMF and other international financial institutions is crucial to their recovery. These countries need to solve their debt problems and restore confidence in their financial markets. Economic recovery for Korea and Thailand is expected around 2000.

Impact on the Thai and Korean Oil Sector:

- Thailand's oil sector was completely deregulated in 1994, whereas Korea was in a state of transition when the crisis hit. Deregulation in Korea is now officially complete, and "new entry" has been allowed since 1 October 1998.
- As shown in Table 1, lower oil prices in the international market helped dampen the effect of currency depreciation in both countries. Lower crude oil prices have also helped improve the countries' balance of payments.
- The refining facilities that came on stream in Thailand during 1995-1997 slashed diesel imports and provided a sizable surplus of exportable naphtha and gasoline. By the middle of 1997, the refining system was running at high throughput rates. The tumbling demand in late 1997, with sluggish demand persisting up to the present, has made Thailand a net diesel exporter and a net exporter of products overall.
- Overall Thai oil demand in 1997 was 5.8% below the level of the previous year. The current estimate for 1998 is another demand reduction of as much as 8%. Even after the economy rebounds, we foresee that Thai oil demand will not regain its 1997 level until after 2000.
- South Korea has a massive amount of two-way trade of petroleum products. This is partly because many of the planned secondary facilities were not built in pace with the CDU expansion; much product output from the refineries does not meet current Korean specs. Oil demand in 1997 overall was still up by almost 100 kb/d (or 4.3%) over the year before, but it is estimated that demand could tumble by almost 20% this year.
- Most South Korean refiners have continued to run at fairly high throughput rates (Hanwha, which will be acquired by Hyundai, being the exception), but we have recently seen lower runs in Korean refineries. However, refinery runs

(continued on page 6)

have not dropped as much as demand, and exports for the year appear to be up significantly. Preliminary data shows that exports for the first 7 months in 1998 are averaging around 840 kb/d, which is 40% higher than the same period in 1997.

- The situation in Korean refining is volatile; more cutbacks in throughput may be coming, especially since weak refining margins in the international market provide little incentive to export. Given this situation, we may expect refinery utilization to be driven by domestic demand. Apparently, the relatively high domestic product prices have made domestic operations profitable. However, once margins improve in the international market, Korean refiners may run flat-out again and flood the export market, which in turn will cause another deterioration in margins.
- Infusion of foreign capital is perceived as one of the solutions to the economic crisis. In the oil sector, this means increased foreign ownership. Both the South Korean and the Thai governments have been trying to encourage and facilitate—through further deregulation measures—foreign capital infusion, including relaxing ownership requirements.
- In Thailand, the government—through both the national oil company (PTT) and the Ministry of Finance—has expressed its intention to sell some of its refinery-ownership shares. PTT is subject to so-called "fast-track" privatization and is required to sell some of its shares in all of its subsidiaries, including some in the joint ventures. However, it is quite clear that the holding company will remain fully under government ownership.
- Indeed, the current economic turmoil has brought about interesting proposals that will likely change refinery ownership in Thailand. The government's shares in Bangchak are for sale, up to a certain level; at least PTT's portion will be divested. There are proposals to swap Shell's and Caltex's shares in Thai Oil with some reductions of PTT's shares (of equal values) in the Rayong Refinery Company (RRC) and Star Petroleum (SPRC), respectively. Thereafter, the plan is to have Thai Oil listed on the stock exchange of Thailand (SET), with up to 15% of its shares available to the public. Unfortunately, heavily indebted Thai Oil and the two refineries (RRC and SPRC) are losing money, making share valuations difficult.
- Further, Exxon has proposed to buy back the 12.5% stake held by the Ministry of Finance to gain complete ownership of the Esso Thai refinery. In the meantime, joint operations and sharing of facilities have taken place among neighboring refineries to reduce operational costs amid mounting losses. RRC and SPRC have decided to integrate the operations of the two refineries. Esso and Thai Oil have engaged in similar arrangements.
- While the current size of Korean refineries would likely have prevented new entrants from penetrating the domestic market, the financial crisis may provide the impetus for the expansion of foreign participation in the oil industry. So far, however, this has not happened. Hanwha, which was up for sale for quite some time and reportedly attracted the attention of some foreign companies, will likely end up being taken by Hyundai—although the deal was still not final as of the writing of this report. Nonetheless, foreign investors may enter the Korean retail market. If they do, they could drastically reduce marketing margins.
- As for refinery investments, many proposals remain on the books for refinery construction or expansion in Thailand, and some of the sponsors claim that their plans for grassroots facilities are still firm, despite the present financial crisis. Admittedly, in the next decade there will be room for further capacity, but because of the present situation, we are skeptical of all plans for new capacity in Thailand.
- In the great haste to build CDU capacity in Korea in the 1990s, some of the downstream units that would have accompanied them were deferred; it now looks as though it may be some time before these additional units are built (if ever). Although Korean refining now has major cracking and treating facilities, desulfurization capacities still lag behind CDU capacity by a significant margin. This means that not all of Korean refiners' output can meet Korean specs—at least, not without a very judicious and expensive selection and blending of crudes and condensates.

MALAYSIA AND THE PHILIPPINES

Although Malaysia and the Philippines have experienced currency depreciations, their economies are not suffering as badly as Thailand's and South Korea's. However, while the Philippines has maintained more of a business-as-usual attitude, Malaysia has pushed for a fixed-exchange-rate regime to counter speculation. The latter means market intervention that might extensively draw down the country's foreign reserves. Also, it remains to be seen what the impact on potential foreign capital investment into Malaysia might be. Nonetheless, as their currencies stabilize, both countries can start recovering economically. This is likely to happen before the turn of the century.

Impact on the Malaysian and Philippine Oil Sector:

- As a net oil exporting country, lower oil prices contributed negatively to Malaysia's trade balance and to the government's tax receipts. Lower oil prices also mean that revenues from LNG exports decrease, since the LNG price is tied to oil. By contrast, lower oil prices should improve the Philippine trade balance.
- In Malaysia, the combination of currency depreciation and oil-price decrease has left domestic oil prices the same as before under the automatic pricing mechanism, which is monitored by the Ministry of Domestic Trade and Consumer Affairs (MDTCA).
- As for the Philippines, the financial crisis could not have come at a worse time for its oil industry. The loss in purchasing power of the peso put Philippine refiners in the unenviable position of having to raise domestic fuel prices to offset rising crude costs (in local currency), in the face of public protest. Fortunately, sagging oil prices in the international market somewhat dampened the effect of the currency depreciation (see Table 1).
- Amid pressure from public unrest, in November 1997 the Philippine Supreme Court nullified the deregulation law, under which full decontrol had just been implemented in February 1997. After much political posturing and bickering, a new deregulation law—not fundamentally different from the original—was passed by the Philippine congress

and signed by President Ramos in February 1998.

- Malaysian oil demand was set to slow down, even in the absence of an interruption in economic growth, since per capita oil demand was already relatively high. Based on developments to date, oil demand is likely to be "flattish" through 2000, before it recovers, although at a lower rate than that of the early 1990s.
- Philippine oil demand growth was reasonably vigorous but unstable even before the currency crisis. While, the economic slowdown will undoubtedly have a negative effect on oil demand growth in the short run, a massive expansion in natural gas use in the power sector will actually cut oil demand (mostly fuel oil, and to a much lesser extent gasoil) in the near future. Although 1997 demand was up by a healthy 8.7%, the economic slowdown will eventually result in a reduction in demand growth. It is estimated that oil demand will decrease by 6% in 1998.
- Malaysia is very active in product trading; in fact, the openness of the market makes the situation somewhat confusing, and no two companies agree on the product balance for a given year. In the past, the total product trade has usually been about balanced, with Malaysia usually long on naphtha and LSWR, but short in gasoline, diesel, and HSFO. Recently, imports have overtaken exports, and this situation has persisted in the first half of 1998. With the startup of Melaka II, slated to be on stream soon, this situation will certainly change.
- Refinery expansions in the Philippines in the early to mid-1990s have been sufficient to keep supply generally in line with demand. The Philippines is in a surprisingly good state of balance at present, although there is a strong underlying tendency, common to many neighboring countries, for diesel to move into deficit.
- Although both countries have had some plans for new capacity additions, given the current situation these may likely be postponed or even canceled. These in particular include the grass-roots refineries proposed by new players outside the existing refiners in Malaysia, as well as some expansions by the existing refiners in both countries. An exception to this is the Petronas 50 kb/d condensate splitter in Kerteh, which will be going ahead as planned.
- Competition in the domestic downstream oil markets of both countries is similar: entrenched majors and one state oil company in each. Neither state oil company–Malaysia's Petronas and the Philippines's PNOC, through its subsidiary Petron–necessarily receives special treatment from the government. In fact, Petronas has become a major player internationally, because it has gained experience from fierce competition at home.

SINGAPORE AND TAIWAN

Economic performance has been much better in Singapore and Taiwan than in most other countries in the region during the crisis. Although currency depreciation and stock market fluctuations have occurred in both countries, they are pale in comparison with the plunges in exchange rates and stock markets experienced by their East and Southeast Asian neighbors. Economic efficiency and financial discipline are good explanations for the better performance in Singapore and Taiwan.

Indeed, while many now point to the failures of "the Asian way," Singapore and Taiwan exemplify that prudence is inherently required in governance and business dealings, especially in avoiding potential collusive practices.

Impact on the Singapore and Taiwan Oil Sector:

- Singapore's oil market, where majors have been entrenched for decades, is more characterized by its role in catering to the import requirements of other Asian countries. While Taiwan's oil industry is in the beginning of gradually eliminating a monopoly (held by the state oil company, CPC), Singapore has always been an "open" market.
- Singapore is naturally a major exporter, whereas Taiwan has been a net importer (albeit relatively small) of products. While significant expansion in Singapore is unlikely because of the limited availability of sites, Taiwan's domestic oil market will soon have a new player–Formosa Plastics Corporation, which will bring a significant capacity addition. As a result Taiwan, will soon become an important net exporter. More importantly, owing to its demand slate, Taiwan will have a significant exportable surplus of middle distillates for many years to come.
- The slowing economic growth in both countries will bring about a stagnation of oil demand; Singapore's is likely to be flattish until the year 2000, whereas Taiwan's will actually decline in 1998 (by about 15-20 kb/d) before rebounding somewhat in 2000.
- Although Singapore's refiners respond rapidly to take advantage of whatever opportunities arise, in recent years Singapore has become an overall constant factor in the market. The only new feature in the last few years has been a shrinkage in net naphtha exports, as a result of Singapore's increasing petrochemical naphtha demand (and increased blending of gasoline). Nonetheless, Singapore is capable of consistently exporting important products–most notably middle distillates (in the range of 450-500 kb/d).
- Singapore exported as much as 1.1 million b/d of products in 1997. Currently, product exports are down to about 850 kb/d because of a reduction in refinery runs–as low as 60% in August 1998–due to weak refining margins. Singapore is capable of maintaining exports of some 1 million b/d until 2005, although weak margins may cause less refinery runs, hence lower product exports.

JAPAN

The world's second largest economy is struggling with severe problems. Indeed, Japan does not really belong on the list of "crisis countries" except for the fact that its problems are tied to the others and are due to mutual banking difficulties. Japan has experienced not an economic "plunge" but a long period of relative economic stagnation, which is not a strange thing in a mature economy.

Also, the Japanese currency has not collapsed; it has sagged quite a bit–the currency is worth less than the unrealistic levels seen in 1994/95 but still almost twice as much as in 1985. Although Japan will not deepen the Asian economic crisis, it certainly cannot help much at this moment.

Impact on the Japanese Oil Sector:

- While low oil prices help lower Japan's oil (and LNG)

(continued on page 8)

Update on Asian Oil *(continued from page 7)*

import bills, it is the deregulation process that has plagued the Japanese oil industry.

- Japan's long-protected oil refining and distribution industry has been in sad financial shape for many years; deregulation and the consequent drop in gasoline prices put many refiners into the red. The general financial crisis is likely to result in a number of refinery bankruptcies and mergers.
- Japan is by far the largest refiner in the region, with a capacity of nearly 5 million b/d. Japan is also one of the highest-cost refiners in the world, and one of the largest product importers. Japan's imports are, however, dominated by LPG and naphtha rather than traditional "spec" products.
- As a mature economy, radical change in energy demand should not be expected. Fluctuation of oil demand from year to year is caused more by the severity of the climate, such as winter heating needs and summer hydro availability. The most likely outlook as a result of economic stagnation is some minor contractions in gasoil and a dip in naphtha use. Demand in 1998 is expected to decline by some 125 kb/d but will slightly rebound in 2000.
- Full deregulation of the Japanese oil market has caused a severe depression in the refining industry (which already faced high debt and low profitability). This situation particularly hampers the many relatively smaller refineries. We are expecting refinery closures totaling some 350 kb/d net.
- So far in 1998, Japanese refineries have kept their throughput surprisingly high; but many existing refiners are beginning to look toward rationalization and increased imports of products.
- The full deregulation of the Japanese oil market may actually give incentives to new (foreign) players to enter the retail market, since imports by non-refiners may have a competitive advantage (compared with having a refinery to worry about).

CHINA AND INDIA

Financially, India and China can be described as "partially open" countries at best. Because their currencies are not internationally convertible, India and China are less affected by the currency crisis. These two countries have their own problems to worry about, and their economic growth may be lower than expected. But neither is likely to experience an economic collapse over the next three to five years.

The regional financial crisis, however, could cause the trade balances to deteriorate in these two countries–China's in particular. Despite some economic pressure to devalue, China has maintained the value of its currency, and therefore will be less competitive in exporting manufactured goods.

Although India is not in a financial crisis, it still faces its ongoing capital constraints. Obviously, the recent nuclear incidents diminished the chances of attracting more foreign capital. While sanctions resulting from the nuclear tests may make little difference, the incidents have made investors more wary of putting their money into the economy.

Impact on the Chinese and Indian Oil Sector:

- While both countries still employ price regulations, domestic oil prices in India are very different from those in China. Indian prices have always been characterized by heavy subsidies. By contrast, China was setting its domestic oil prices much higher than the international market level, until recently, but has now brought its prices into line with the international market.
- China's oil demand grew rapidly in both 1996 and 1997, with respective increases of 7.2% and 9.2%. However, we estimate that demand growth in 1998 will slow down to about 4%, partly owing to the spillover effects of the Asian crisis.
- India's oil demand remains strong. Demand in 1996 was up almost 9% from the previous year, but 1997 growth was up "only" 5% over 1996. This is, however, likely to be more a result of the price reform process that was initiated in 1997 than a consequence of Asia's economic woes. In any case, to date, 1998 appears to be showing a significant rebound: the year as a whole is currently projected to register 7-8% growth over 1997 levels of demand.
- China and India are the two major importers that are coming to dominate the Asia-Pacific market, though in terms of sheer volume, Japan is larger than either. China remains heavily deficit in all products other than gasoline. Even this is deceptive; there is every reason to believe that most of China's net gasoline exports could easily be absorbed domestically, if the product were made available in the centers of demand. Indeed, geography plays a major role in the trade patterns of the country, as does the desire to capture foreign exchange. Moreover, despite rapid demand growth rates in the recent past, brought about by brisk economic performance, China's oil demand per capita is still relatively very low.
- Although China's demand will remain vigorous, and imports will still be subject to various interventions, the reforms to follow international market prices should help China move in sync with the region. Nonetheless, despite a major refinery-building campaign, imports will continue to rise steadily.
- India's imports are more slanted toward middle distillates, which usually account for 80-85% of India's product imports, as opposed to 30-40% of China's. Despite slowing demand growth in India, imports will continue to mount, owing to the lagging refinery capacity expansion.
- Refinery construction plans in India have always been over-ambitious and continue to lag behind their announced schedules. However, recent developments indicate that a massive addition of refining capacity will actually materialize within a few years. It is expected that, by 2000, India will add as much as 720 kb/d of refining capacity to the current level. Reliance, an Indian private company, will have the largest (360 kb/d) new capacity, whereas the rest are expansions and new plants owned (wholly, partly, or in joint ventures) by the state oil companies.
- There are other projects still on the books for India, mostly involving potential foreign partners. It remains to be seen whether lower oil prices will hurt India's chances for refinery joint ventures involving potential Middle Eastern countries such as Kuwait, Oman, and Saudi Arabia. These

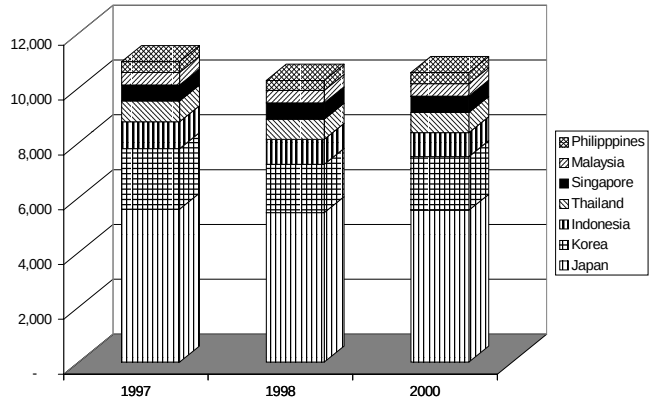
countries are feeling less wealthy at low oil prices and may be indirectly deterred by the U.S. sanctions.

- The moves by the majors and other foreign independent oil companies to China and India so far are primarily directed toward "smaller" but more feasible investments such as LPG terminals and lube blending, rather than taking part in the construction of grass-roots refineries. (Total is an exception, with its involvement in the Dalian refinery in China.) These investments will, to a certain extent, secure some exposure and presence in the market.

Regional Picture

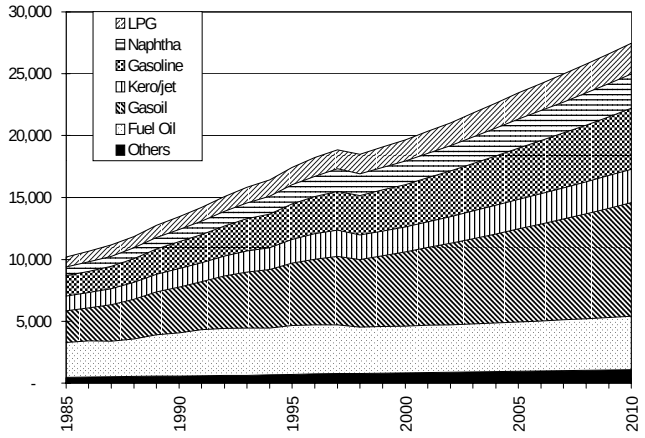
- The Asian financial crisis has deepened beyond the initial predictions of most economists. It does have a negative impact on oil demand, especially 1998 demand, which is predicted to be 300-350 kb/d less than the previous year. However, the regional oil demand would have been even lower, had oil prices not declined.
- It is apparent that lower oil demand will materialize in the countries experiencing economic crisis (see Figure 1). In 1998, the six crisis-affected countries–Indonesia, Thailand, South Korea, Malaysia, the Philippines, and Singapore–plus Japan will collectively contribute as much as 680 kb/d to the drop in regional oil demand. As Figure 1 shows, some of the lost oil demand growth will be recaptured by 2000.

Figure 1. Oil Demand in Crisis-Affected Countries (kb/d)



- Although some of the crisis countries will see further reductions in oil demand next year, the region as a whole is likely to resume positive growth in 1999, and by 2000 there will be a new peak. Even with the 1998-1999 slump, growth should average nearly 2% annually over the period 1996-2000. With the recoveries of the crisis countries, demand growth should again increase in the first half of the next decade, and our best-case projection points to 3.5% per annum. Figure 2 shows Asia-Pacific region oil demand by product, representing our best-case forecast for the future. As the figure shows, there will be an interruption in the region's demand growth for 1.5 to 2 years before growth resumes.
- The drop in oil demand in the Asia-Pacific region will profoundly affect the product market, especially since capacity expansions in recent years were carried out under the assumption of steady demand growth.
- The net product deficit in Asia will be smaller than anticipated, thus lessening product imports from the Middle East. Exportable volumes from the Middle East are higher than ever, but Asian imports have sunk to a low level not seen for many years. Consequently, plenty of Mid-East products will be flowing to the Mediterranean and the Atlantic Basin.

Figure 2. Asia-Pacific Oil Demand by Product, 1985-2010 (kb/d)



- In the end, refining margins will dictate product supplies and allocations. When margins turn sour, refiners will slash crude runs. This is especially true for countries with product surpluses.
- Although the Asia-Pacific region has several important oil producers, the region's oil demand dwarfs its oil output. Today, demand is around 19 million b/d, but production is only about 7.5 million b/d. We believe there will be no drastic change in regional crude production; it may go up for a while and then either reach a plateau or decline.

Table 2
Asia-Pacific Oil Import Dependence
(million barrels per day)

	1996	1997	1998	2000	2002	2005
Oil Demand[1]	18.6	19.3	18.7	19.8	21.2	23.6
Oil Production[2]	7.4	7.6	7.8	8.3	8.3	8.0
Net Imports	11.2	11.7	11.0	11.5	12.9	15.6
Oil Depencence	60%	61%	58%	58%	61%	66%

[1] Crude runs plus direct crude use plus net product imports.
[2] Crude (including condensate) output plus nonrefinery LPG.

- The combined effect of the slump in demand plus continued increases in Asia-Pacific crude, condensate, and gas-based LPG production is quite remarkable. Lower demand plus higher output plus spare refining capacity will push the region's oil import dependence down (see Table 2).
- As shown in Table 2, the region's oil import dependence was as high as 61% in 1997, but given the current situation, dependence is expected to fall to 58% in the years between 1998 and 2000. However, the projected rebound in oil demand growth after 2000 will, unfortunately, reverse this temporary trend.