# Higher Global Oil Prices: Implications for Developing Asia in 2005

## Introduction

The *Asian Development Outlook 2004* released in May this year projected global oil prices to stay within the $28–30 a barrel (/bbl) range in 2004, or higher than the historic average, and easing to $24–26/bbl in 2005. However, oil prices in 2004 have already breached these levels and prices are likely to stay relatively high for some time. Brent crude oil prices have risen to a record high, approaching the $45/bbl mark in August 2004, while West Texas Intermediate crude oil prices have surged close to the $50/bbl mark. Oil prices at these levels could threaten the present global economic recovery. Developing Asia's economies (also "the region" or "Asia") are particularly vulnerable to an oil shock as most of them are highly dependent on oil imports, and are more energy intensive and less energy efficient than most industrial countries. In addition, Asia is growing much faster than other regions, and although it now produces 11% of world crude oil supply it consumes about 21% of it. As a result, Asia now imports more than 44% of the oil it consumes, up from 7% during the 1970s and 1980s and 32% in the 1990s. Overall, the region's oil dependency ratios leave much to be desired. Oil consumption in Asia is equivalent to 4.5% of its GDP. This is much higher than in industrial countries, which averaged 1.6% of GDP in 2003.

## Why are Global Oil Prices High?

The recent run-up in oil prices is the result of the interplay among demand, supply, and speculative factors, which can be analyzed under four main headings. First, over the past 2 years, global demand grew more than expected, due to a strengthening economic recovery in the US, as well as fast-growing demand in developing Asia, especially the PRC. The global recovery led to a rise in oil demand in 2003 of 1.48 million barrels a day (mb/d), from 76.6 mb/d in 2002, and more than double the average increase in annual demand between 2000 and 2002. In 2003, the PRC and the US were responsible for demand increases of 0.60 mb/d and 0.31 mb/d, respectively. That year, the PRC's net oil imports surged to an average of 2.6 mb/d, compared with 12.6 mb/d in the US. In 2004, the PRC Government expects crude oil imports to climb by about another 40%.

Another factor that contributed to stronger demand is the low level of stocks in industrial countries and their rebuilding in a period of greater supply uncertainty. Also, some developing countries, notably the PRC and India, have indicated that they intend to start building their own strategic reserves over the next 3 years. Some countries in Southeast Asia will likely do the same—indeed, it seems that the process has already started. All of these factors have contributed to upward demand pressure.

Second, a long period of stable and low prices has led oil producers to maintain current supply conditions, with low inventory levels and stagnating production and refining capacity. While additional supply from new oil fields is expected to come on stream by end-2004, this extra capacity was meant to replace reduced supply from planned shutdowns of aging oil fields. Additional supply amounting to 0.65 mb/d from two new oil fields in Saudi Arabia, for instance, was planned before the recent surge in prices and was intended to offset declines in field output. World oil supply in the first half of 2004 reached 82.2 mb/d, 3.5 mb/d higher than during the same

**Table 3.7 OPEC Production and Quota vs Production Capacity (million barrels a day)**

| | July 2004 Production | August 2004 Quota | Sustainable Production Capacity[a] |
|---|---|---|---|
| Algeria | 1.25 | 0.83 | 1.25 |
| Indonesia | 0.96 | 1.35 | 1.00 |
| Iran | 3.95 | 3.82 | 4.00 |
| Kuwait | 2.38 | 2.09 | 2.35 |
| Libya | 1.56 | 1.39 | 1.58 |
| Nigeria | 2.40 | 2.14 | 2.50 |
| Qatar | 0.80 | 0.67 | 0.80 |
| Saudi Arabia | 9.32 | 8.45 | 9.50 |
| United Arab Emirates | 2.42 | 2.27 | 2.55 |
| Venezuela | 2.56 | 2.99 | 2.25 |
| OPEC (excluding Iraq) | 27.60 | 26.00 | 27.78 |
| Iraq | 1.96 | [b] | 2.50 |
| **OPEC** | **29.56** | **26.00** | **30.28** |

[a] Capacity levels can be reached in 30 days and sustained for 90 days.

[b] Due to political instability, Iraq is not included in the OPEC quota allocations.

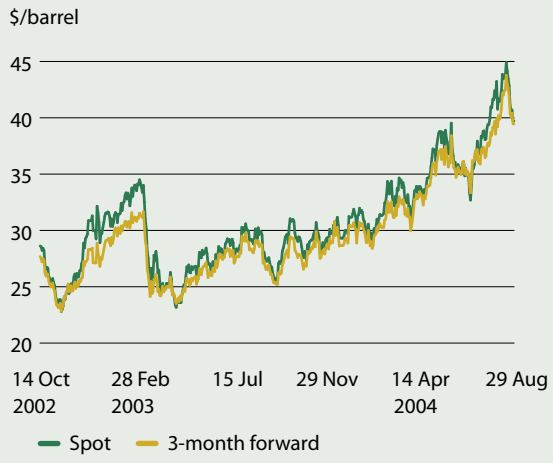
*Sources:* OPEC Market Indicators, July 2004, available: http://www.opec.org/NewsInfo/mi/pdf/MI072004.pdf; International Energy Agency Monthly Oil Market Report, August 2004, available: http://omrpublic.iea.org/omrarchive/11Aug04full.pdf.

period in 2003. In July, production was 83.5 mb/d, up 0.6 mb/d from the previous month's level. Most of this increase came from the 11 members of the Organization of the Petroleum Exporting Countries (OPEC), including Iraq. OPEC production reached 29.6 mb/d, which is just about 0.7 mb/d below estimated total OPEC crude oil production capacity (Table 3.7). The increase in July followed OPEC's decision to raise production by 0.5 mb/d. OPEC committed to further increases of 0.5 mb/d and 1.0 mb/d in August and November 2004, respectively. But beyond this, most OPEC oil producers (except probably for Saudi Arabia, Kuwait, and United Arab Emirates), have limited ability for further production growth as they are close to full capacity. By the fourth quarter of 2004, OPEC spare capacity is expected to rise by 370,000 barrels a day as new capacity is brought on stream and the scheduled shutdown of some oil fields is delayed in an effort to meet demand and pull prices lower. Non-OPEC supply, at about 50 mb/d, accounts for 60% of total world supply. While there is some potential for higher non-OPEC production, it is limited over the short term. Possible increases in non-OPEC production are projected mostly from the countries of the former Soviet Union, with likely small output gains from Latin America and Africa. Hence, present world oil surplus production capacity is at a low point, providing little cushion in the event of unexpected oil market disruptions. New exploration and refining investments have only recently been initiated in response to higher oil "floor" prices, i.e., the base prices considered by oil producers to be the minimum.

Third, the present risk premium on oil is high and persisting, as supply by some main producers is regarded as potentially unstable. Iraq has some spare production capacity, but its current exports are small and volatile due to the uncertain political situation. Similarly, uncertainty surrounding the future of Yukos Oil Corporation in the Russian Federation, recent political turmoil in Venezuela, as well as the potential for a worsening of the political situation in the Middle East have contributed to the high risk premium. The threat of supply problems in the Russian Federation and Venezuela had receded by end-August, while exports from Iraq continued, though they remained very erratic.

Fourth, geopolitical uncertainties and tight market conditions have encouraged speculative funds to enter the market and further push up prices in the short term. Hedge funds have driven up forward and futures prices, such that spot and forward prices now move very closely together (Figure 3.3).

**Figure 3.3 Spot and 3-Month Forward Oil Prices, Brent Crude, October 2002–August 2004**



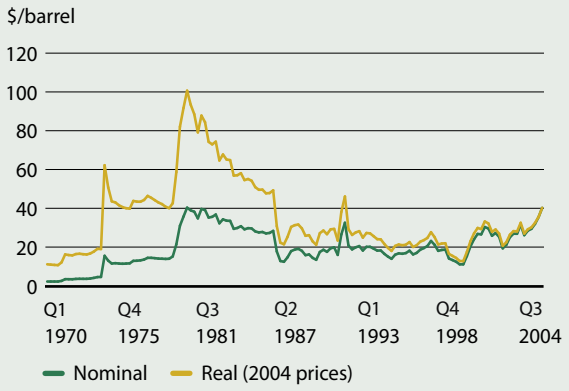

*Source:* Datastream, 15 September 2004.

## Rising Oil Prices in the Current Global and Regional Economic Context

The impact of an oil shock generally depends on the size and duration of the shock, as well as on an economy's dependence on oil (and on energy more generally). In analyzing the size of the shock, it is necessary to consider oil prices in real terms and the extent of the price increases. With Brent averaging about $40/bbl in the third quarter, the oil price now is high. While it has not gone past the average real levels reached during the previous oil shocks (of 1973, 1979, and 1990), it is dangerously close to the level reached during the third oil shock of 1990 (Figure 3.4). On the other hand, the price of oil now is still well below the peak seen in the fourth quarter of 1979, when in real terms it breached the $100/bbl mark. Oil prices are therefore now about 40% of 1979's all-time high in real terms. In nominal terms, oil prices have risen by more than 108% since the fourth quarter of 2001, slightly more than the rate of increase seen during the 1990 oil shock, which was brief and had a substantially slower rate of increase than the first and second oil shocks.

Against this backdrop, the risk of higher oil prices arises mainly from a possible aggravation of existing imbalances in the global economy. Since the 2001 economic slowdown, most industrial countries, but notably the US, have pursued highly expansionary macroeconomic policies. As a result, world interest rates are close to historical lows and many countries have high public sector deficits. Low interest rates have fueled housing and asset price rises, at the same time as supporting consumption and leading to a sharp deterioration in the current account in the US. As world GDP accelerated over the past year, inflationary pressure started to mount, albeit remaining very mild. However, higher oil prices, if sustained over a long period of time, will feed inflationary pressures, possibly forcing interest rates to rise faster than expected. This could trigger a sudden reversal in consumption and savings behavior, leading to a substantial slowdown in world economic growth and affecting, in particular, non-oil exports from Asian economies. Thus higher oil prices, if sustained for long enough, would slow economic activity in Asia.

**Figure 3.4 Nominal and Real Prices, Brent Crude, Q1 1970–Q3 2004**




*Source:* IMF, IFS Online, August 2004, available: http://ifs.apdi.net/imf/ifsbrowser.aspx?branch=ROOT.

Expansionary macroeconomic policies, in particular monetary policies, have provided much support to consumption growth in most Asian economies over the past few years. Consequently, consumer credit expansion has been strong, leading to higher household indebtedness. Lower real incomes due to higher oil prices and higher interest rates would significantly raise the debt-servicing burden of households, possibly leading to a substantial rise in default rates in some countries. At the same time, business investment in some Asian economies, which is only starting to firm up after the Asian financial crisis of 1997–98, could also suffer a new setback. Falling profitability could lead firms to curtail business investment and employment plans, affecting growth potential. Finally, higher world interest rates could also affect the emerging financial markets of Asia, reducing their attractiveness to investors.

Developing Asia is vulnerable to high oil prices, but its current economic fundamentals significantly mitigate the risks associated with high oil prices, for four main reasons. First, the region now has a high level of international reserves, which could provide a cushion against an anticipated short-term deterioration in balance-of-payments positions (Figure 3.5). In 1979, Asia's foreign exchange reserves ranged from less than 1% of GDP in the PRC to over 61% in Singapore. Recent data suggest, however, that many regional economies now hold foreign exchange reserves equivalent to well over 25%

**Figure 3.5 Foreign Exchange Reserves, 1979 and 2004**


*Sources:* IMF, IFS Online, August 2004, available: http://ifs.apdi.net/imf/ifsbrowser.aspx?branch=ROOT; *World Economic Outlook*, April 2004.

of their GDP—indeed, for Singapore the figure is more than 100% of GDP, and close to 75% for Hong Kong, China and for Taipei,China. For many economies, these reserves could help reduce the impact of an external shock resulting from sustained high oil prices.

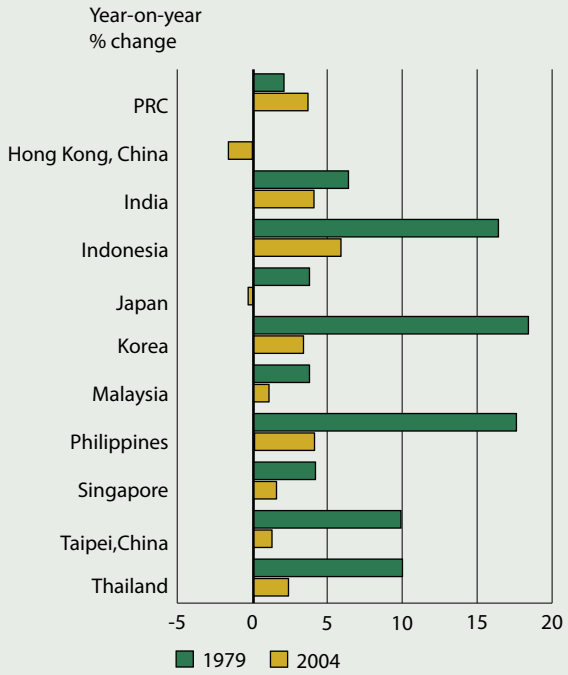
Second, in spite of strong growth in 2003 and the first half of 2004, inflation has stayed quiescent in many Asian economies (Figure 3.6). This provides ample room for necessary policy support, if growth were to falter in a significant way. During the second oil shock of 1979, several Asian economies experienced high inflation rates, with some economies, notably Indonesia, Korea, and Philippines, in double digits. In the current period, inflation has moderated in many Asian economies.

Third, though still high, Asia's dependence on oil has fallen over time. The region's oil consumption as a share of GDP has dropped by about half in the last 20 years. When the second oil shock hit Asia, it was more dependent on oil than it is today in terms of consumption. In 1979, the region spent $0.073 on oil per dollar of output; by 2003, it was spending only $0.045. The economies of Hong Kong, China; Korea; Philippines; Singapore; and Taipei,China all successfully made significant improvements in this regard in the last two decades, reducing their oil dependency ratios by at least half. PRC, Malaysia, and Thailand also achieved some improvement, though more gradually than the first group. Despite such progress though, energy efficiency can still be further improved.

Fourth, the increasing importance of intraregional trade has to some extent reduced the region's susceptibility to slowdowns in the global, particularly the US, economy. While the current share of Asian exports to the US has remained at the same rate as in 1980, intraregional Asian trade has risen substantially (Figure 3.7). Intraregional trade in Asia in 2003 was almost 75% higher than in 1980. In addition, while intraregional trade accounted for just a quarter of total Asian exports in 1980, it was close to 45% in 2003.

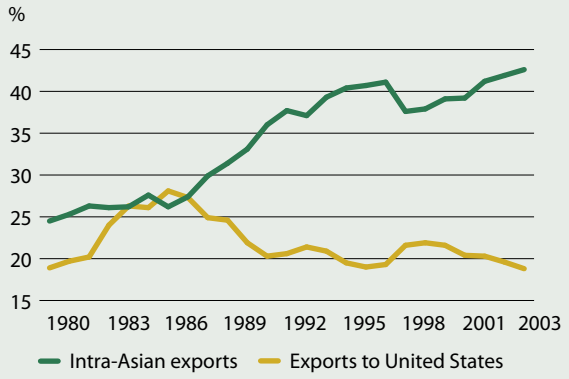
Thus, despite much concern, the current oil

**Figure 3.6 Inflation Rates, 1979 and 2004**




*Sources:* IMF, IFS Online, August 2004, available: http://ifs.apdi.net/imf/ifsbrowser.aspx?branch=ROOT; Institute of International Finance database, available: http://www.iif.com.

**Figure 3.7 Asian Exports, 1980–2003**




*Source:* IMF, *Direction of Trade Statistics*, July 2004.

price rally is unlikely to impact on developing Asia as severely as earlier shocks, and the region is in a better position to weather the recent run-up in crude oil prices than it was during those shocks. However, in spite of its strengths, the region would still be hurt by a sustained high oil price.

## Oil Price Scenarios and their Impact on Asian Economies

To assess the potential impact of higher oil price scenarios, a set of simulations was made with the Oxford Economic Forecasting World Macroeconomic Model. Two oil price scenarios are presented to shed light on the impact and policy implications of oil price rises on developing Asia's economies. No policy responses—such as tightening macroeconomic policies or changes in exchange rate policies—have been assumed. Only oil price shocks were introduced in the model.

As mentioned earlier, an oil price rise may affect Asia's macroeconomic performance through various channels. First, higher oil prices transfer income from oil-importing to oil-exporting countries through a shift in the terms of trade. In this process, net oil-importing countries suffer a loss of real national income. Second, a rise in oil prices reduces industry output through higher costs of production. This supply-side impact exerts inflationary pressure on the economy. Third, the impact of an oil price rise can be amplified by a secondary price effect. Although higher oil prices directly raise consumer prices via higher prices of imported goods and petroleum products, higher input costs on the supply side also translate into inflation. The higher price levels, together with lower real incomes, further depress domestic demand, leading to rising unemployment. Moreover, consumers who sustain a loss in real income may consider seeking wage increases, which further feeds into higher production costs, which are then passed on to consumers. In the first two oil shocks, this upward spiral of inflation and wages proved devastating in the absence of appropriate policy responses.

Two alternative price scenarios for Brent crude are examined: Scenario 1—an increase in prices of $10/bbl; and Scenario 2—an increase in prices of $20/bbl. In both scenarios, temporary and sustained increases are considered. In the temporary increase analysis, high oil prices are assumed beginning in the second quarter of 2004, and remain only until the first quarter of 2005; for the sustained increase analysis, oil prices are assumed to remain high for the whole of 2005.

As the impact on Asian economies is somewhat muted in 2004, the focus of Tables 3.8 and 3.9 is on the impact of the rise in oil prices in 2005. Obviously, the impact on growth is proportionately larger in Scenario 2. In the temporary increase analysis, trade balances are barely affected as oil exporters expand imports of non-oil products from Asia and the impact of higher prices dissipates in 2005. Inflation picks up significantly in Scenario 2. This has a stronger impact on domestic demand and economic growth. Essentially, the secondary impact effects are much more pronounced than in Scenario 1. Sustained high oil prices significantly affect growth in industrial countries, damping export growth from Asian countries. This would amplify the direct inflationary and balance-of-payment effects of the high oil prices on Asian economies. The situation in the third quarter of 2004 makes the scenario of a sustained price rise of about $10/bbl quite possible. A crucial point is that a $10/bbl price rise sustained over 7 quarters is much more damaging to Asian trade balances than a $20/bbl oil price increase lasting 4 quarters. Thus, the duration of the shock is more an issue for Asian trade balances than the extent of the price increase.

The worst-hit Asian economies are Philippines, Singapore, and Thailand. The impact differs substantially across the countries in the table,

**Table 3.8 The Impact of a Temporary Oil Price Increase: Scenario 1 vs Scenario 2, 2005**

| | Scenario 1 ($10/bbl increase) | | | Scenario 2 ($20/bbl increase) | | |
|---|---|---|---|---|---|---|
| | GDP (percentage points) | Trade Balance (% of GDP) | Consumer Prices | GDP (percentage points) | Trade Balance (% of GDP) | Consumer Prices |
| **Asia excluding Japan** | -0.6 | 0.1 | 0.5 | -1.2 | 0.1 | 1.1 |
| **Asia including Japan** | -0.5 | 0.0 | 0.5 | -0.9 | 0.0 | 1.0 |
| PRC | -0.6 | 0.2 | 0.3 | -1.2 | 0.3 | 0.6 |
| Hong Kong, China | -0.5 | -0.5 | 0.2 | -0.9 | -0.9 | 0.3 |
| India | -0.6 | -0.1 | 0.9 | -1.1 | -0.1 | 1.8 |
| Indonesia | 0.0 | 0.1 | 0.6 | 0.0 | 0.1 | 1.2 |
| Japan | -0.4 | -0.1 | 0.3 | -0.7 | -0.1 | 0.5 |
| Korea | -0.5 | 0.0 | 0.4 | -0.8 | -0.2 | 0.8 |
| Malaysia | -0.7 | 0.8 | 0.7 | -1.8 | 1.7 | 1.4 |
| Philippines | -1.5 | -0.4 | 0.7 | -3.0 | 0.1 | 1.4 |
| Singapore | -1.2 | -0.2 | 0.6 | -2.4 | -0.3 | 1.2 |
| Taipei,China | -0.3 | 0.0 | 0.2 | -0.5 | 0.0 | 0.3 |
| Thailand | -1.7 | -0.1 | 0.8 | -3.3 | -0.2 | 1.5 |

PRC = People's Republic of China.
*Source:* Staff estimates based on Oxford Economic Forecasting World Macroeconomic Model.

and can be direct or indirect. The direct effect of higher oil prices on the domestic economy depends on oil import dependency, efficiency in use, and the structure of GDP in each economy. For instance, although oil consumption to GDP as a ratio in both the PRC and India is about 2.5 times higher than the Organisation for Economic Co-operation and Development average, India's oil imports account for about 25% of its total import bill but less than 5% in the PRC. Thus, the direct effect on India is larger than in the PRC. The indirect effect of an oil price shock is seen in the impact on exports to the rest of the world and, again, depends on the composition of exports and export demand elasticities. In this instance, the PRC would be more affected than India. All of these factors explain the different orders of magnitude of the impact of oil price rises in Tables 3.8 and 3.9.

## Policy Responses

Policy responses to higher oil prices obviously will not be identical across countries. The type and depth of the responses will have to depend on the initial conditions prevailing in the economy. Responses also have to be tailored to the duration and extent of the oil price increase, and the scenarios above are revealing in this respect.

Inflation will obviously be the first economic indicator affected by higher oil prices. If the high oil prices transmit rapidly to domestic prices and wages, stabilizing policy responses will be needed, possibly through some tightening of monetary policy. Also, as mentioned earlier, many Asian economies are running current account surpluses and have accumulated substantial foreign exchange reserves. This would permit some of them to adopt a more flexible exchange rate policy, allowing the currency to appreciate moderately, and help cushion the impact of higher oil prices.

Other selective measures to bring down oil consumption in the short run will also be required. The dilemma facing governments will therefore be to attempt to avoid an excessive negative impact on growth. Again, this will depend on particular circumstances and the strength and structure of each economy. Another indicator to monitor would be the government budgetary situation. Slower growth will reduce revenues. In addition, in countries where fuel subsidies are high, the budgetary impact of higher oil prices could be sizable, requiring some policy adjustments in the short term.

The above possible policy responses would definitely help in the short run, but a higher oil price environment calls for an in-depth review of some policies. An implication of the current

**Table 3.9 The Impact of a Sustained Oil Price Increase: Scenario 1 vs Scenario 2, 2005**

| | Scenario 1 ($10/bbl increase) | | | Scenario 2 ($20/bbl increase) | | |
|---|---|---|---|---|---|---|
| | GDP (percentage points) | Trade Balance (% of GDP) | Consumer Prices | GDP (percentage points) | Trade Balance (% of GDP) | Consumer Prices |
| **Asia excluding Japan** | -0.8 | -0.4 | 1.1 | -1.5 | -0.8 | 2.0 |
| **Asia including Japan** | -0.6 | -0.3 | 1.0 | -1.2 | -0.7 | 1.9 |
| PRC | -0.8 | -0.1 | 0.5 | -1.5 | -0.3 | 0.9 |
| Hong Kong, China | -0.6 | -0.8 | 0.3 | -1.1 | -1.6 | 0.5 |
| India | -0.8 | -0.7 | 1.7 | -1.5 | -1.4 | 3.3 |
| Indonesia | 0.1 | 0.9 | 1.3 | 0.1 | 1.9 | 2.1 |
| Japan | -0.5 | -0.3 | 0.7 | -1.0 | -0.6 | 1.3 |
| Korea | -0.6 | -0.8 | 0.8 | -1.2 | -1.7 | 1.4 |
| Malaysia | -0.9 | 0.3 | 1.4 | -2.4 | 1.1 | 2.7 |
| Philippines | -1.9 | -0.9 | 1.4 | -3.6 | -1.9 | 2.8 |
| Singapore | -1.7 | -1.3 | 1.3 | -3.4 | -2.5 | 2.5 |
| Taipei,China | -0.4 | -0.6 | 0.3 | -0.7 | -1.2 | 0.6 |
| Thailand | -2.2 | -1.2 | 1.5 | -4.1 | -2.5 | 2.9 |

PRC = People's Republic of China.

*Source:* Staff estimates based on Oxford Economic Forecasting World Macroeconomic Model.

experience is that the floor price of oil is likely to rise from $22–28/bbl to $31–36/bbl. Medium- to long-term structural adjustments need to be made in the face of this. For example, developing Asia's economies have much scope for improving energy efficiency use, and governments need to focus on this. Among other things, they should consider phasing out fuel subsidies and adopting measures to encourage the efficient use of oil and discourage wasteful consumption as well as other schemes—including tax incentives—to develop and use alternative renewable energy resources.

In many of these policy areas, it would seem that developing Asia is in a position to make rapid progress over the next few years.

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