



ASIAN DEVELOPMENT

Outlook 2008

UPDATE

Asian Development Bank

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Printed in the Philippines.

ISSN: 1655-4809

Publication Stock No. 081808

Cataloging-in-Publication Data

1. Asian Development Bank. 2. Economics, Finance. I. Asian Development Bank.

The annual *Asian Development Outlook* provides a comprehensive economic analysis of 44 economies in developing Asia and the Pacific.

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Foreword

Faced with a decelerating global economy, turbulent financial markets, and elevated commodity prices, the region of developing Asia is expected to experience a slowdown in growth in 2008 and 2009. This *Update* to *Asian Development Outlook 2008* (ADO 2008), published in April this year, marginally revises down the forecast for the region's growth for 2008 to 7.5% from the earlier 7.6%.

In most economies in the region, growth has slowed. In the People's Republic of China, expansion moderated to 10.4% in the first 6 months of 2008 from the robust 11.9% seen in the same period of 2007. This stems from the softening of external demand and the cumulative impact of monetary tightening in recent years. India, in the first quarter of FY2008 (April–June), saw its slowest growth since 2004 as inflation and higher borrowing costs damped consumer spending and investment.

Regional growth in 2009 is expected to further decelerate to 7.2%, lower than the previous projection of 7.8%. This assessment, however, is less certain, primarily because the outcome depends both on the duration and extent of the current global downturn and the runup in commodity prices, as well as on how Asian economies respond to domestic and external shocks.

Inflation forecasts are revised significantly upward as rising global prices of food and fuel have added to inflation pressures across developing Asia. Price increases started to accelerate in the second half of last year. The increases have not been limited to food and fuel prices, as rising raw materials costs pushed up manufactured goods prices as well. Wage pressures are also building up in many Asian economies. It is now anticipated that the region will register an average inflation of 7.8% in 2008 and 6.0% in 2009.

The *Update* presents four thematic essays discussing the recent global commodity price rises and their impacts on developing Asia. They suggest that high international commodity prices are here to stay. Prices are also expected to remain volatile, a combination affecting the region's growth prospects. One important finding is that in many countries, demand-pull rather than cost-push factors are causing high prices. The role of monetary policy is thus still relevant in containing price pressures, and monetary authorities should impose requisite tightening measures to prevent inflation from becoming entrenched.

However, monetary tightening is not without risks. Since the slowdown in the leading industrial economies will hit developing Asia's export and growth performance, tightened monetary policy could reinforce a contraction in the region even after demand has already begun to slacken. Still, these risks should not be overstated. The more urgent priority for monetary authorities is to contain inflation expectations.

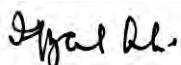
The region's growth prospects remain fundamentally sound, even after the G3 slowdown is factored in. Therefore, these risks do not diminish the broad policy message—that there has to be a reshifting of the basic monetary stance toward tightening throughout developing Asia.

The *Update* was prepared by the staff of the Asian Development Bank from the following departments: Central and West Asia, East Asia, South Asia, Southeast Asia, Pacific, and Economics and Research, as well as the resident missions of the Asian Development Bank. The economists who contributed the sections are bylined in each chapter. The subregional coordinators were Padmini Desikachar for Central and West Asia; V.B. Tulasidhar for East Asia; Tadateru Hayashi for South Asia; Sharad Bhandari for Southeast Asia; and Craig Sugden for the Pacific.

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Richard Niebuhr and Anthony Patrick as the economic editors made substantive contributions to the country chapters, subregional summaries, and other parts of the publication. Jonathan Aspin did the style and copy editing. Elizabeth E. Leuterio was responsible for typesetting and data linking, as well as graphics generation, assisted by Maria Susan Torres. The cover was designed by Joe Mark Ganaban. Zenaida Acacio and Lagrimas Cuevas provided administrative and secretarial support. The publication would not have been possible without the cooperation of the Printing Unit under the supervision of Raveendranath Rajan.

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Definitions

The economies discussed in *Asian Development Outlook 2008 Update* are classified by major analytic or geographic groupings. For purposes of the *Update*, the following apply:

- **Association of Southeast Asian Nations (ASEAN)** comprises Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.
- **Developing Asia** refers to 44 developing member countries of the Asian Development Bank.
- **Central Asia** comprises Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan.
- **East Asia** comprises People's Republic of China; Hong Kong, China; Republic of Korea; Mongolia; and Taipei, China.
- **South Asia** comprises Islamic Republic of Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka.
- **Southeast Asia** comprises Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.
- **The Pacific** comprises Cook Islands, Fiji Islands, Kiribati, Republic of the Marshall Islands, Federated States of Micronesia, Nauru, Papua New Guinea, Republic of Palau, Samoa, Solomon Islands, Democratic Republic of Timor-Leste, Tonga, Tuvalu, and Vanuatu.

Unless otherwise specified, the symbol “\$” and the word “dollar” refer to United States dollars.
The *Update* is based largely on data available up to 1 September 2008.

Acronyms and abbreviations

| | |
|-------|--|
| ADB | Asian Development Bank |
| ASEAN | Association of Southeast Asian Nations |
| BPO | business process outsourcing |
| CPI | consumer price index |
| EU | European Union |
| FDI | foreign direct investment |
| FY | fiscal year |
| GDP | gross domestic product |
| IMF | International Monetary Fund |
| IOC | international oil company |
| MAE | mean absolute error |
| NOC | national oil company |
| OECD | Organisation for Economic Co-operation and Development |
| OPEC | Organization of the Petroleum Exporting Countries |
| OTEXA | Office of Textiles and Apparel |
| PRC | People's Republic of China |
| q-o-q | quarter-on-quarter |
| RMSE | root-mean-square error |
| saar | seasonally adjusted annualized rate |
| SAARC | South Asian Association for Regional Cooperation |
| US | United States |
| VAT | value-added tax |
| WTO | World Trade Organization |

Highlights—ADO 2008 Update

Moderating growth and rising inflation have characterized developing Asia in the first 8 months of 2008. High international commodity prices are likely to stay for the long haul and have exacerbated homegrown inflation pressures. But containing inflation in the face of a serious global downturn will lead to a slowdown in regional growth in 2008 and 2009. This short-term sacrifice is required for longer-term economic, social, and political gain. Prudent macroeconomic management with reforms tackling the fundamental causes of tight commodity balances is also essential, if developing Asia is to ride out the global storm, weigh anchor, and set course for faster medium-term growth and modest inflation.

Key messages

- Developing Asia's 9.0% expansion in 2007 was the highest in almost two decades. However, the many years of robust growth supported by accommodative monetary policies buttressed excessive aggregate demand that nurtured price pressures. Turbulence in global markets has fanned the flames of inflation. Developing Asia's consumer price inflation is therefore seen rising from 4.3% in 2007 to 7.8% in 2008 before ebbing to 6.0% in 2009. The confluence of these external and internal factors is expected to slow growth to 7.5% in 2008 and 7.2% in 2009.
- In many countries, demand-pull rather than cost-push factors are causing high prices. Monetary policy thus has a major role in containing these price pressures, and regional economies need to address rising inflation even at the expense of slower (short-term) growth. Central banks should impose the requisite tightening measures to prevent inflation from becoming entrenched in their economies.
- Risks—such as a prolonged slowdown in major industrial countries, continued elevated levels of international oil and food prices, persistence of high inflation, and policy reticence—are bearing down on the regional outlook, which is more heavily tilted to the downside than in April.

- The myth of uncoupling has been exploded. The worsening outlook for major industrial economies is buffeting developing Asia's export, equity, and offshore bond markets. The region clearly remains heavily reliant on industrial countries for its exports and has not uncoupled from their business cycles. The loss of investor confidence in industrial countries' equity markets has crossed over to Asia. The risk premium on dollar-denominated offshore bonds of Asian issuers has risen sharply since the outbreak of the subprime crisis in the United States. If the global slowdown extends beyond 2009 therefore, the repercussions for the region could be severe.
- The global oil market remains tight. While oil prices are likely to soften somewhat in the short run, they will stay high and volatile. Since food prices are heavily influenced by oil prices, the days of cheap food also seem to be over.
- Developing Asia will have to learn to adjust to this high global commodity price environment and to undertake the necessary structural reforms. But first, it must reestablish macroeconomic stability through sound monetary, fiscal, and exchange rate policies.
- Political pressures are building up in some countries, and these could result in the authorities' reluctance to pass needed reforms, and this risks deepening macroeconomic imbalances. Prolonged periods of political instability could inhibit investment and affect growth prospects in the medium term.

Outlook for 2008 and 2009

- Events in the first 8 months of 2008 suggest some major changes in the external environment affecting the assumptions made in April when *Asian Development Outlook 2008* was released. The slowdown in the G3 (United States, eurozone, and Japan) is now seen continuing until the end of 2009. As a result, growth in the volume of world trade will slow. Both food and fuel prices, which have surged this year, are forecast to come down but will remain higher than in 2007 for the rest of this year and next. With the continuing turmoil in financial markets, the cost of new capital will become higher, and access harder, for developing Asia.

- In addition to the regional slowdown in growth and jumps in inflation, current account surpluses are diminishing and deficits are widening. Currencies are depreciating, putting upward pressure on inflation. Another danger is that although central banks have begun to tighten monetary policy, some may have let the inflation genie out of the bottle by doing too little, too late, since interest rates in most countries are still lower than inflation.
- Containing inflation will take time as monetary policy works with a lag. In 2009 when inflation is reined in, regional growth will slow—also hit by the slowdown in export growth to the G3.
- East Asia is expected to decelerate to 8.0% growth in 2008 and to 7.7% in 2009, from 9.6% in 2007. Growth rates in all East Asian economies are forecast to ease. Aggregate inflation in the subregion is expected to rise from 3.9% in 2007 to 6.1% in 2008 before declining to 4.8% in 2009. But overall, a soft landing is projected for East Asia.
- Weakening external demand and the impact of policy tightening has trimmed GDP growth in the People's Republic of China to a still-rapid 10.4% in the first half of 2008. Private consumption remained robust because income growth outpaced inflation. The 10.0% growth forecast for 2008 is maintained and that for 2009 is brought down slightly to 9.5% on the expectation of a reduced trade surplus and slower investment growth. After rising to 7.0% in 2008, inflation is forecast to decelerate to 5.5% in 2009.
- Southeast Asian growth is projected to slow from 6.5% in 2007 to 5.4% in 2008 and to stay around that rate next year. Rising inflation is generally damping growth in consumption. Primary commodity exporters in the subregion benefited from higher commodity prices in the first half of 2008. For example, Malaysia's exports gained from rising prices of palm oil and crude oil. Southeast Asia's inflation is forecast to more than double from 4.0% in 2007 to 9.4% in 2008 before pulling back to 6.9% in 2009. Double-digit inflation is projected this year for Cambodia, Indonesia, Lao People's Democratic Republic, Philippines, and Viet Nam. Curbing inflation is the crucial macroeconomic challenge in most Southeast Asian countries.

- In Viet Nam, macroeconomic turbulence intensified in the first several months of 2008. Inflation accelerated sharply and the trade deficit widened. In response, the Government changed its priority from spurring growth to curbing inflation and reducing the trade deficit. Growth is forecast to decelerate from 8.5% in 2007 to 6.5% in 2008 and to 6.0% in 2009. The corresponding inflation rates are 8.3% in 2007, climbing to 25.0% this year and still high at 17.5% in 2009. Risks to these projections are tilted to the downside.
- South Asia's growth will decelerate from 8.6% in 2007 to 7.1% in 2008 and to 6.7% in 2009. Inflation is forecast to more than double from 5.5% to 11.8%, and then recede to 9.2% in this 3-year period. Current account deficits are forecast to widen significantly. Overheating from excessive aggregate demand, aggravated by imported cost-push factors, has made inflation the critical macroeconomic concern. South Asia needs to strengthen its macro management as well, to rein in fiscal deficits and so avoid a hard landing.
- In India, growth in the April–June quarter of the current fiscal year (ending March 2009) slowed to 7.9% from the 9.2% seen in the first quarter of FY2007, for the slowest rate of growth since 2004. Inflation in the first quarter of FY2008 was 9.5% compared with 5.3% in the same quarter a year earlier. India's monetary policy has been tightened significantly. The inflation forecast for this and the next fiscal year are 11.5% and 7.5%, respectively. Growth is forecast to edge down from 7.4% in FY2008 to 7.0% in FY2009 as inflation is ironed out. A pause in growth accompanied by prudent macroeconomic management and reforms to improve efficiency and productivity would set the stage for the pursuit of a higher growth trajectory over the medium term.

- A slowdown is under way in Central Asia. From a strong rate of 11.6% in 2007, growth is forecast to be clipped to 7.6% in 2008 before rising gently to 8.0% in 2009. Inflation is forecast to rise from 11.3% in 2007 to 15.4% this year before coming back to 11.4% next year. Rising oil prices have boosted the current account balances of hydrocarbon exporters such as Azerbaijan, Kazakhstan, Turkmenistan, and Uzbekistan. As countries in the Middle East have done, these countries should use their earnings bonanza to diversify the structure of their economies. Hydrocarbon importers such as the Kyrgyz Republic and Tajikistan have suffered from high oil prices, but have been helped by remittance inflows. Increasing food prices, however, are having adverse consequences throughout the subregion.
- Aggregate growth in the Pacific subregion is forecast to double to 4.8% in 2008 from 2.4% in 2007, mainly because of a stronger expansion in resource-rich Papua New Guinea, the biggest economy. However, about half the 14 economies are expected to grow at a slower pace or contract in 2008. Next year, aggregate growth is projected to ease to 3.4%. Higher global oil and food prices have contributed to sharply higher inflation, which is now projected at 8.7% this year (from 3.3% in 2007) and 6.4% next year. The higher cost of living is seriously hurting vulnerable groups, such as those without fertile land or living in remote areas. Greater efforts are required to reduce the oil intensity of these economies and to turn back the clock and produce more food domestically.
- In the whole of developing Asia, accelerating inflation, moderating growth, and depreciating currencies call for a sober assessment of macroeconomic priorities for the short and medium term, and the design of a major reform agenda for the medium and long term.
- The immediate challenge is to rein in inflation pressures. Inflation in the region is largely homegrown and is explained by excessive aggregate demand fueled by years of accommodative monetary policy. For many countries, although international price shocks have added fuel to the fire, it was excessive aggregate demand growth that kindled the flames.

- Monetary authorities face a very difficult and complex environment. The external price shocks that first made themselves felt in 2003 have not been fully passed on to domestic consumers and producers in many countries. But there is no alternative to culling subsidies, in order to prevent major fiscal imbalances. Even if international commodity prices ease in the near term, the pass-through of higher prices will add to inflation pressures. Therefore, the general bias across the region toward monetary policy tightening is highly desirable.
- To restore economies to a higher growth path over the medium to long term, significant efficiency and productivity improvements are required to meet the challenge of the finiteness of resources, particularly land (and thus food) and fuel. The effective implementation of a reform agenda—one that focuses on consumers responding to market-oriented price signals and on producers improving efficiency and productivity—is imperative for countries to strengthen competitiveness, foster growth, and generate productive and decent job opportunities.
- The downside risks to developing Asia's growth prospects are now more apparent than in April. Global conditions are more volatile—the financial crisis has not yet fully run its course. High commodity prices and their increased volatility are likely to stay and geopolitical concerns are always in the background.
- Moderating growth and rising inflation in developing Asian countries require painful tradeoffs. Political realities in some countries make the decision process difficult. As a result, implementation of much-needed corrective policy measures may be delayed to the detriment of both the short- and medium-term outlooks.

Responding to commodity price shocks

- Elevated commodity prices and their pronounced volatility in international markets have been features of the first 8 months of 2008. Food and oil prices are closely interlinked. If high oil prices are here to stay, so are high food prices. This has important implications for developing Asia.

Oil: Prolonged period of high and volatile prices

- While oil prices have come down from their peaks of \$147 per barrel in July 2008, they will stay high in the long run. Inflation-adjusted oil prices will remain well above \$100 per barrel until about 2020, according to research commissioned by the Asian Development Bank.
- The price runup in oil has been driven mostly by the fundamentals of demand and supply. Surging global demand and the inability of global supply to keep pace have relentlessly generated upward price pressures.
- Limited surplus capacity has led to greater price volatility, amplifying the effects of even the smallest demand or supply shocks. Financial speculation may have compounded price spikes.
- In the future, global oil prices will continue to be determined by fundamentals. Global demand growth will be increasingly driven by demand from developing Asia and the Middle East. The growing appetite for transportation fuel will be of particular importance. On the supply side, the near-term peaking of output from oil producers who are not members of the Organization of the Petroleum Exporting Countries (OPEC), and constraints on the expansion of OPEC's output capacity in the medium term, will put severe strains on meeting incremental global oil demand.
- The tightening of the supply-demand balance will push up prices on a sustained basis, underpinning oil prices at above \$100 a barrel. Failure by developing Asia to make painful but necessary adjustments today will lead to much larger costs tomorrow.

Oil price trajectory will have a macroeconomic impact

- The surge in oil prices has hardly touched the macroeconomic performance of developing Asia so far. However, the predicted long period of high and volatile oil prices is bound to affect prospects.
- Deterioration of terms of trade due to higher oil import costs will take a bite out of regional growth. Steeper transportation costs—from elevated fuel costs—will push up regional inflation. Higher shipping costs, too, may hurt export performance.

- Simulations point to the oil price shock crimping growth throughout the region in both the short and long run. However, this pullback will be limited, and insufficient to derail developing Asia's long-run growth momentum.
- These simulations also indicate that higher oil prices have a much bigger impact on developing Asia's inflation than on its growth, both short and long run. Therefore, taming inflation is the region's biggest macroeconomic challenge.
- The limited effect of the oil shock on growth suggests that the main cost of anti-inflation monetary tightening—slower growth—should be bearable.

Food prices to stay high

- The price of rice—the basic food staple for billions of Asians—has fallen from peak levels reached earlier this year yet remains more than twice as high as it was at the start of 2008. The surge in prices of rice and other staple foods reverses a decades-long decline in real prices.
- The causes of this runup are complex, but have four fundamental drivers. First, rapid economic growth in emerging economies, particularly the People's Republic of China and India, has put upward pressure on prices of a range of commodities, including food. Demand has simply outpaced supply. Second, a sustained decline in the dollar since 2004 has added to upward price pressure on dollar-denominated commodities—particularly on crude oil—and this has fueled a search for hedges against a weak dollar. Third, the combination of high oil prices and legislative mandates to raise production of biofuel substitutes for gasoline and diesel fuel has established a price link between feedstocks, such as corn and vegetable oils, and fuel prices. Fourth, to some degree at least, financial speculation arising from low interest rates has motivated commodity price changes.
- The price increases of the last year have some commodity-specific causes. Weather and disease problems reduced wheat supplies in 2007 in the face of mounting demand. Sharp incremental demand for corn as an ethanol feedstock helped explain the corn price rise, and the related shifts of cropland out of soybeans into corn partly explained the rise in prices of edible oils.

- The cause was different for rice. The price spike in 2008 was triggered by export bans in Viet Nam, India (the world's second- and third-largest rice exporters), and elsewhere that led to panic among buyers, consumers, traders, and farmers alike. This sudden withdrawal of supplies of rice in the thin international market drove prices spectacularly high.
- More basic underlying forces are at work and these must be addressed. Global stocks of grain have fallen sharply relative to demand, and stocks as a share of use are near historical lows. This destocking has taken place because the long-term trend to lower prices provided a disincentive to keeping large inventories of grain. Increased international trade between surplus and deficit countries allowed governments to maintain stable prices with low stocks.
- There has been an underlying trend for growth in demand to exceed that in supply, particularly for rice. (Over the past decade, population and income growth have far outpaced productivity growth as measured by rice yields per hectare.) This is a direct result of declining public investment in the infrastructure, institutions, and innovations that underpin agricultural productivity growth.
- Tightness in world market creates vulnerability to supply shocks. The world is just one supply shock away from another grain price spike. It will take several years of good harvests to rebuild stocks. To do this, the prices that farmers receive for their produce must stay high, particularly since input costs have risen with oil prices. Fertilizer prices, for example, have soared and transport and other fuel-related costs for farm machinery are also up.
- The world has seen a reversal of patterns, with declines in real food prices over the last three decades and the prospect of high food prices over the next decade or more. Asia must undertake structural reforms to adjust to a new environment of resource scarcity. Governments have to invest in public goods that support agricultural productivity growth and allow clear price signals to pass through to producers and consumers alike. Only a robust supply response by Asia's farmers can bring down prices to comfortable levels again.

Inflation in developing Asia: Demand-pull or cost-push?

- Contrary to popular belief, developing Asia's current inflation surge is largely homegrown. About 60% of regional consumer price inflation derives from two factors unrelated to external shocks, namely excess aggregate demand and inflation expectations. Years of lax monetary policies have bumped up aggregate demand and have led to widespread expectations of higher prices.
- External shocks such as surging global oil and food prices have played a less important role. This is partly because government subsidies and trade restrictions have limited the pass-through to domestic prices in many regional economies.
- These subsidies, though, are generally being reduced, largely because of their fiscally unsustainable costs in a world of high market prices. In addition, since the pass-through of external price shocks has so far been much greater for producer prices than for consumer prices, this points to increased pass-through to consumer prices in the coming months.
- Therefore, both falling subsidies and greater producer-to-consumer pass-through imply that cost-push inflation pressures are set to intensify in the near future.
- Since inflation is "largely homegrown," monetary tightening will remain a powerful tool for fighting inflation. The prospects of increased cost-push inflationary pressures in the near term reinforce the case for firmly anchoring inflation expectations preemptively and decisively.
- Yet monetary tightening is not without significant risks. In particular, the G3 slowdown will hit the region's export and growth performance. There is therefore a worry that monetary policy will reinforce a contraction even after demand had already begun to slacken. The risks should not, though, be exaggerated. The more urgent priority for monetary authorities is to contain inflation expectations.
- The region's growth prospects remain fundamentally sound, even after the G3 slowdown is factored in. Therefore, these risks do not diminish the broad policy message—that there has to be a reshifting of the basic monetary stance toward tightening throughout developing Asia.



Part 1

Developing Asia: Riding out the global storm

Developing Asia: Riding out the global storm

Introduction

The global economy is in trying times. The financial crisis has spread and has severely affected even those countries with limited exposure to the problems of the United States (US) subprime market. Troubles in financial markets were exacerbated by the spike in oil and non-oil commodity prices. As a result, developing Asian economies are being caught between rising inflation pressures and weakening growth prospects.

Part 1 of this *Asian Development Outlook 2008 (ADO 2008) Update* provides an assessment of the outlook for the global economy and analyzes the impacts on developing Asia of global economic conditions. In the *Global outlook* section, the international economic conditions underlying the revised regional outlook in this *ADO 2008 Update* are discussed (Table 1.1.1). The performance of the G3 economies (US, eurozone, and Japan) in the first half of 2008 is reviewed and prospects for the next 2 years presented. A protracted slowdown in the G3 is now seen. An evaluation of the outlook for international commodity prices follows, providing a snapshot of the short-term prospects for oil and food prices. High global commodity prices are expected to prevail in the foreseeable future.

The section, *Impacts on developing Asia*, takes a look at the channels by which worsening global conditions are transmitted to the region. Slower growth in industrial countries is setting back developing Asia's export sector. The US subprime crisis has evolved into a general credit crunch that is threatening to curtail the region's access to finance. Elevated commodity prices are requiring some pass-through to domestic producer and consumer prices.

The final section, *Prospects for developing Asia*, summarizes the revised outlook for the region after considering the changed global growth and commodity price environment. Risks to this outlook are then identified.

Global outlook

In the first 3 months of 2008, the G3 economies held up surprisingly well. The US economy expanded at a quarter-on-quarter, seasonally adjusted

1.1.1 Baseline assumptions for external conditions

| | 2006 Actual | 2007 Actual | 2008 ADO 2008 | 2008 Update | 2009 ADO 2008 | 2009 Update |
|--|----------------|----------------|------------------|----------------|------------------|----------------|
| GDP growth (%) | | | | | | |
| Industrial countries ^a | 2.7 | 2.2 | 1.5 | 1.3 | 1.9 | 1.1 |
| United States | 2.8 | 2.0 | 1.5 | 1.3 | 2.0 | 1.0 |
| Eurozone | 2.8 | 2.6 | 1.6 | 1.4 | 2.0 | 1.4 |
| Japan | 2.4 | 2.1 | 1.5 | 1.0 | 1.5 | 1.0 |
| Memorandum items | | | | | | |
| US Federal funds rate (average, %) | 5.0 | 5.1 | 2.8 | 2.3 | 2.9 | 2.0 |
| EU refinancing rate (average, %) | 2.8 | 3.8 | 3.6 | 4.1 | 3.8 | 4.3 |
| Japan overnight call rate (average, %) | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Brent crude spot prices (average, \$ per barrel) | 65.4 | 72.7 | 85.0 | 120.0 | 95.0 | 109.0 |
| Nonfuel commodity prices (% increase) | 29.1 | 17.0 | 0.2 | 20.0 | -5.7 | 5.0 |
| CPI inflation (OECD, average) | 2.9 | 2.7 | 2.7 | 3.7 | 2.4 | 2.6 |
| World trade volume (% increase) | 9.2 | 6.8 | 7.0 | 4.8 | 7.7 | 5.0 |

^a Growth rates for industrial countries are a GDP-weighted average for the US, eurozone, and Japan.

Sources: US Bureau of Economic Analysis, available: www.bea.gov; Eurostat, available: <http://eurostat.eu.int>; Economic and Social Research Institute of Japan, available: www.esri.cao.go.jp; World Bank, *Commodity Price Data and The Global Outlook in Summary*, available: www.worldbank.org; Organisation for Economic Co-operation and Development, *Main Economic Indicators and Economic Outlook*, available: www.oecd.org; International Monetary Fund, *World Economic Outlook*, available: www.imf.org; staff estimates.

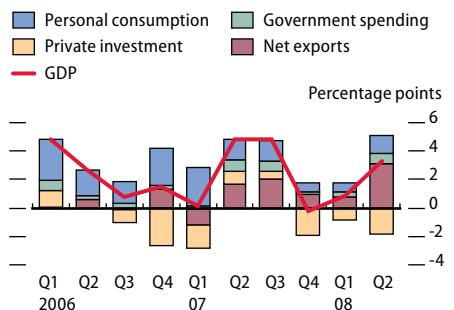
annualized rate (q-o-q, saar) of 0.9%. In both the eurozone and Japan, growth was sharply above expectations, at 2.6% and 2.8%, respectively (q-o-q, saar). However, these numbers appeared to be the calm before the storm. In the second quarter, the eurozone and Japanese economies contracted, and while growth in the US was much stronger than in the first, this was partly due to the impact of the tax rebates given to households, the effects of which are likely to have dissipated by the second half of the year.

United States

Growth in the first half was underpinned by personal spending on nondurable goods and services, net exports, and government consumption (Figure 1.1.1). Tax rebates amounting to \$100 billion supported retail sales in May through June, but its one-off effect is likely to wane in the third and fourth quarters. Conversely, expenditures for durable goods declined in the first half, and housing investment contracted for the 10th straight quarter in April–June. Consumption prospects are shrouded with pessimism as confidence indicators continued to slide. In June, the Conference Board Consumer Confidence Index fell to its lowest reading since February 1992, and the University of Michigan Consumer Sentiment Index dropped to a 28-year low.

While some pickup in sentiment is evident going into the third quarter, prospects for the consumer remain fragile. Import demand for consumer manufactures remains weak (see the Annex to Part 1). At least until recently, the steady weakening of the US dollar had been a bane to US importers, but a boon to exporters. In the second quarter, the trade gap fell to its lowest level in 8 years, contributing 3.1 percentage points to

1.1.1 Contributions to GDP growth, United States



Source: US Department of Commerce, Bureau of Economic Analysis, available: www.bea.gov, downloaded 29 August 2008.

[Click here for figure data](#)

growth. Without net exports, the economy would have barely expanded by 0.2% during the period.

The housing sector remains a major drag on the economy. Housing starts are still falling, foreclosures are mounting, and prices are still tumbling, indicating that the housing recession has not bottomed out (Figure 1.1.2). If previous housing cycles are any indication, the ongoing housing rout could extend for several more months. The worst housing recession in US history resulted in a 64.7% decline in housing starts from peak to trough; the current rate is 57.5%.

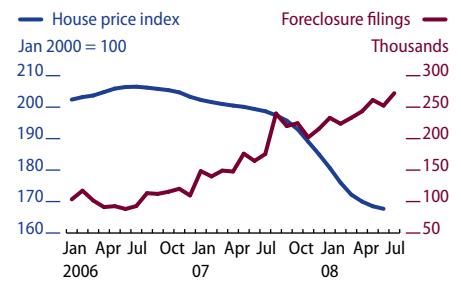
The housing crisis has hurt many financial institutions and dented confidence in financial markets. Many banks have suffered steep losses, and according to the Federal Deposit Insurance Corporation, 117 more banks and thrifts are considered in trouble, the largest number on record since mid-2003. Equity values have sharply fallen, both in terms of the Standard & Poor's composite index and of the financials index. This has eroded household wealth and limited the value of collateral that can be used for borrowing. Overall credit conditions have tightened, not only for housing loans but also for consumer loans. More stringent credit standards are making it difficult for households to refinance debt, which could lead to more defaults.

Job market conditions, too, remain weak. The unemployment rate is rising, hitting 6.1% in August. More than 600,000 jobs have been lost in the first 8 months of the year, and filings for initial unemployment benefits are mounting. Institute for Supply Management indexes show employment contracting in nonmanufacturing, but starting to pick up in manufacturing (Figure 1.1.3). However, more job cuts are expected as firms downsize in the wake of rising input costs and weak demand. These factors will put further pressure on consumer spending.

Business conditions are not too rosy either. Through May, the index of industrial production was slipping and capacity utilization was falling. Though gains were recorded in manufacturing in June and July, this was mainly due to the resumption of production following an end to a strike at automotive plants that had started in February. The only bright spot is the robustness of exports, but this too could suffer if input and transport costs continue to climb, and if the dollar maintains its recent strengthening.

Headline inflation is accelerating (Figure 1.1.4). In July, consumer prices increased by 5.6% compared with 2.4% the previous year, the highest recorded rate since January 1991. Median inflation expectations for the next 5 years are currently at 3.2% (though down from the 21-year high registered in May and June). The recent softening in gasoline and food prices has provided households with some respite, but with global food and oil prices anticipated to stay elevated in the medium term, household budgets will remain under pressure. Indeed, general pessimism over short-term economic conditions has restrained spending over the last few months, in spite of the tax rebates: households saved 4.9% of their incomes in May, 2.5% in June, and 1.2% in July, up from 0.2% in the first 4 months of the year. In addition, any embedding of higher inflation expectations would further imperil growth prospects. Since April, heightened inflation pressures, coupled with downside risks to growth, have compelled the Federal Reserve to keep the policy rate steady. For the rest of 2008, monetary authorities are projected to stay with this stance.

1.1.2 Housing market indicators, United States



Source: Standard & Poor's, Case-Shiller Home Price Indices, available: www.standardandpoors.com; RealtyTrac, available: www.realtytrac.com; both downloaded 1 September 2008.

[Click here for figure data](#)

1.1.3 Institute for Supply Management employment indexes, United States

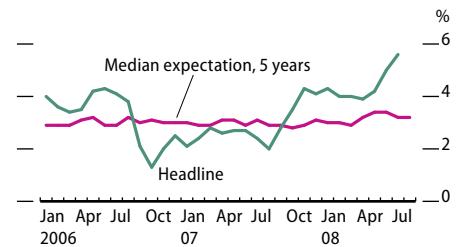


Note: A reading below 50 indicates a contraction.

Source: Datastream, downloaded 1 September 2008.

[Click here for figure data](#)

1.1.4 Inflation, United States



Source: Datastream, downloaded 2 September 2008.

[Click here for figure data](#)

In the near term, the major threat to the US economy—emanating from the protracted housing and financial crisis, commodity price inflation, and consequent asset price declines—is the perpetuation of a downward spiral involving both the financial and real sectors. On the whole, however, the performance of the US economy will depend on how soon the credit crisis eases, and how well consumers and businesses adjust to high prices.

Eurozone

Investment spending and robust exports were the main growth contributors to the eurozone economy in the first quarter of 2008 (Figure 1.1.5). While performance surprised on the upside, it concealed a mixed picture of the health of the eurozone's economies. Germany was the engine of growth, expanding at a very healthy 5.2% (q-o-q, saar), driven by exports and corporate investment. However, many eurozone economies performed worse than the eurozone average, with the economies of Ireland and Portugal contracting.

With a high first quarter base, expectations were for a sharp slowdown in the second quarter. In fact, a 0.8% contraction was seen, reflecting shrinkage in the eurozone's three largest economies (France of 1.2%, Germany of 2.0%, and Italy of 1.1%). These economies were hit by the confluence of escalating commodity prices, the strong euro, and higher lending rates. Manufacturing activity also slowed and new orders declined as producer prices climbed. As a result, household spending, investment, and exports all declined in the April-June quarter, clipping economic growth by 1.9 percentage points.

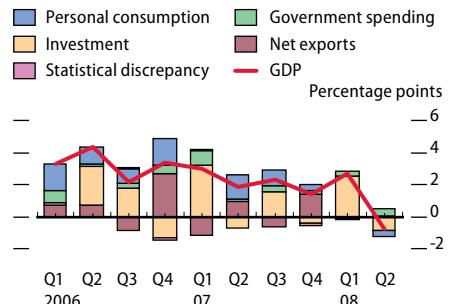
Destinations for eurozone exports are diversified, but the US remains a major market, accounting for about 13% of the total. This implies that deteriorating prospects for the US economy, beginning in the second half of 2008, could adversely affect its import demand and reflect a corresponding slippage in eurozone exports. Combined with a stronger euro, this would mean eurozone exports could face headwinds in world markets.

Business and consumer sentiment data are gloomy. The eurozone Economic Sentiment Index fell to a 5-year low in August, reflecting a general weakness in all confidence indicators, from consumption to construction, industry, retail trade, and services (Figure 1.1.6).

Spillover from the US housing crisis is taking its toll on the eurozone. European banks have disclosed nearly \$230 billion in write-downs, yet concerns persist about the speed at which they remove “toxic debt” from their balance sheets. As credit conditions tighten, corporate and consumer debt defaults have started to rise. In addition, Ireland and Spain (plus the non-eurozone United Kingdom) have their own housing woes. All these developments suggest a moderation of growth going into the second half of 2008 and beyond.

Even with a strong euro, eurozone economies have not been spared the mounting costs of global oil and food. Inflation has breached the European Central Bank target of “close to, but below 2%” since September 2007 (Figure 1.1.7). By July, consumer price increases averaged 4.1% as inflation in major eurozone economies climbed: 5.3% in Spain (a 16-year high), 4.0% in France (a 17-year record), and 3.4% in Germany (the highest since December 1993). In August, inflation eased slightly as energy

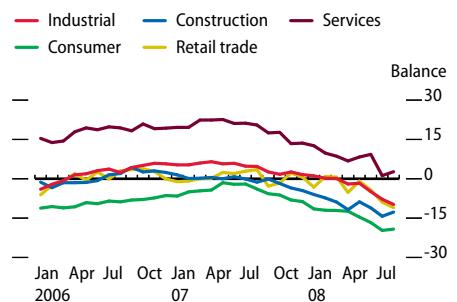
1.1.5 Contributions to GDP growth, eurozone



Source: Eurostat, available: <http://ec.europa.eu/eurostat>, downloaded 4 September 2008.

[Click here for figure data](#)

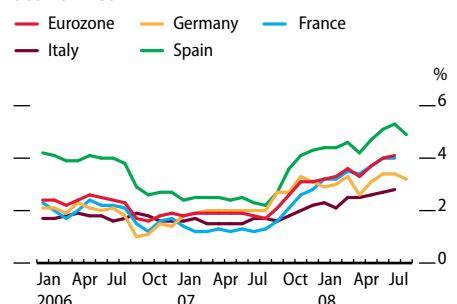
1.1.6 Confidence indicators, eurozone



Source: Datastream, downloaded 31 August 2008.

[Click here for figure data](#)

1.1.7 Inflation, eurozone and its major economies



Source: Datastream, downloaded 1 September 2008.

[Click here for figure data](#)

prices moderated. But if current exchange rate trends continue (and the euro does not substantially appreciate), the pass-through of high global commodity prices is set to continue through the second half.

Labor market conditions have remained generally firm, with the unemployment rate stable at about 7.2–7.3% since September 2007, well below the near-9% rates seen during an extended period in 2004 and 2005 (Figure 1.1.8). However, job market conditions risk worsening if mounting prices squeeze profits and if firms begin cutting jobs. So far, wages have been steadily rising, and this could further exacerbate price pressures.

Inflation concerns prompted the European Central Bank to raise its refinancing rate by 25 basis points in July, despite its worries about slowing growth. Rising inflation has hit real incomes, damping consumer sentiment, and slowing retail sales. As higher prices persist, consumers are likely to restrain their spending. Trade prospects are not positive either, partly because slower growth in the eurozone's top two export markets, the United Kingdom and the US, is expected to continue to limit exports.

With accelerating inflation, monetary authorities are constrained from implementing accommodative measures to reignite growth. Although the average fiscal deficit in the eurozone is projected to stay at about 1% of GDP in 2008, variations among members are seen. France and Italy could lift growth by providing a stimulus package but are constrained by the 3% deficit limit under the Stability and Growth Pact. Germany can afford a fiscal boost, but has not reached a political consensus to give one. Apart from the €20 billion stimulus plan approved in Spain, no other fiscal stimulus seems imminent in the rest of the major eurozone economies.

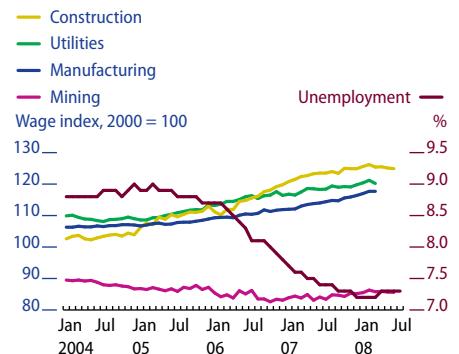
Japan

The profile of economic performance in Japan in the first 6 months of 2008 was similar to the eurozone's, with strong first-quarter growth but contraction in the second. The positive contribution of exports and household spending to growth in the first quarter was largely reversed in the subsequent quarter (Figure 1.1.9). Japanese exports slowed not only to the US, but also to other major markets. In addition, rising consumer prices held back private spending. The slight lift provided by housing investment early in the year was not sustained. Business investment also declined in the first two quarters.

Exports maintained an expansionary, though slowing, pace in April and May, supported by a weakening yen (Figure 1.1.10). However, June exports unexpectedly fell by 1.8% despite the depreciation of the local currency in both nominal and trade-weighted terms. This indicates that Japanese exports were feeling the impact of the global slowdown. In July though, exports rebounded as the People's Republic of China (PRC) overtook the US as Japan's largest market. However, that month's growth of 8.0% was still lower than the 11.7% registered in the same period of 2007. Shipments to the US declined for the 11th straight month, while those to Europe and the rest of Asia recovered. Meanwhile, import growth surged by 18.2%, trimming the trade surplus to Y85.5 billion. If exports continue to slow, their contribution to second half growth could ease further.

Japan is suffering from a rapid worsening of its terms of trade, paying much more for its imports than what it gets from its exports (Figure 1.1.11).

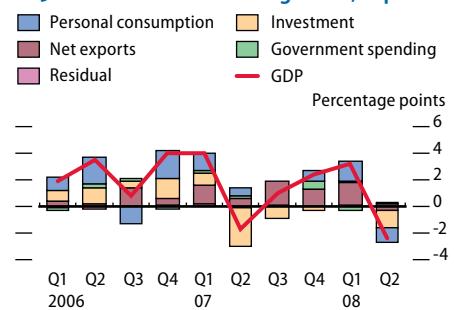
1.1.8 Labor market indicators, eurozone



Source: Datastream, downloaded 2 September 2008.

[Click here for figure data](#)

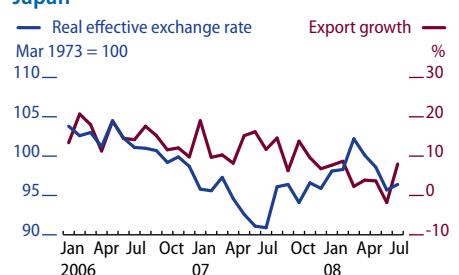
1.1.9 Contributions to GDP growth, Japan



Source: Economic and Social Research Institute of Japan, available: www.esri.cao.go.jp, downloaded 12 September 2008.

[Click here for figure data](#)

1.1.10 Exchange rate and export growth, Japan



Source: Datastream, downloaded 1 September 2008.

[Click here for figure data](#)

In the first 7 months of 2008, export prices decreased by 5.2% while import prices rose by 12.6%. Rising import costs are taking a toll on firms, pinching corporate profits. In the first half of 2008, profits fell by 11.4%, and expectations are for the profit slump to endure. This is likely to hurt capital spending in the coming quarters. With higher costs eroding profits, firms are increasingly reluctant to hire. The unemployment rate thus climbed to 4.0% in April and remained at about that rate until July.

General pessimism over short-run business conditions prevails. Machinery orders registered a contraction in June, and manufacturing production remains wobbly. In addition, results of the Tankan survey (of large manufacturers) in the second quarter showed largely deteriorating sentiment. The index of business conditions (also for large manufacturers) fell for the third straight quarter, and that for nonmanufacturing industries dropped for the fourth successive quarterly period. Wholesale prices increased to a 27-year high of 7.1% in July. As businesses are unable to pass on rising costs to consumers, production is expected to shift down a gear.

Similarly, consumption spending may not hold up in the coming months, because confidence in the economy is flagging, with the national consumer confidence index slumping by 29.3% and the Tokyo consumer confidence index by 26.5% in July. These falls are largely related to price increases: national headline inflation hit a nearly 11-year high of 2.3% in July as fuel and food prices mounted. Household spending had been declining since March (Figure 1.1.12). And as wage growth fell to 0.5% in June, real wages are dropping significantly against the rising consumer prices, in turn hurting retail sales. Falling equity prices are also taking a toll on firms and consumers. From its end-2007 value, the Nikkei 225 index declined by 14.6% by end-August amid concerns about declining corporate profitability. This is likely to limit firms' funding sources and take more money out of consumers' pockets, further clipping domestic spending in the near term.

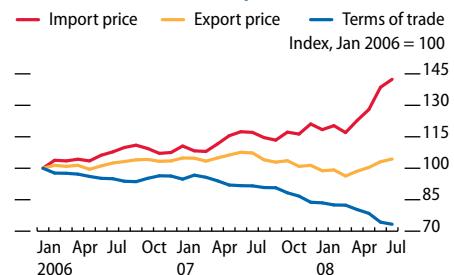
Against this gloomy backdrop, on 29 August the authorities unveiled an Y11.7 trillion economic stimulus package that is set to help consumers and firms cope with high oil and food prices. The package includes tax cuts for low-income families and loan guarantees for small and medium companies. Despite its scale, analysts have generally been wary about the actual impact of the package in boosting the economy.

Japan's growth outlook remains fragile, as concerns about the global slowdown, as well as high oil and food prices, crimp prospects. Inflation is expected to remain elevated for the rest of the year, and this could keep a lid on spending. Trade growth is projected to slow. These downside risks to growth are set to persist through 2008 and are likely to overshadow inflation concerns. Consequently, no monetary tightening by the Bank of Japan over the rest of this year is expected. This accommodative policy stance is projected to be maintained through 2009, keeping the overnight call rate at 0.5%.

Commodity prices

A prolonged boom in the world economy has fueled an extended expansion in global demand for oil and non-oil commodities. As economies prospered, they underpinned an upward shift in demand for all types of commodities, but one that was unmatched by an appropriate

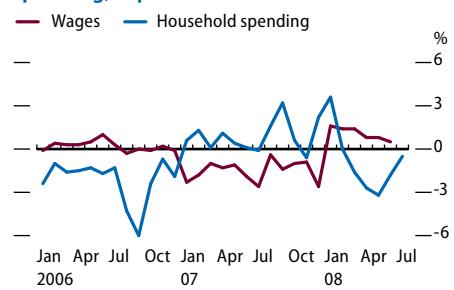
1.1.11 Terms of trade, Japan



Source: Datastream, downloaded 1 September 2008.

[Click here for figure data](#)

1.1.12 Growth in wages and household spending, Japan



Source: Datastream, downloaded 1 September 2008.

[Click here for figure data](#)

shift in supply. As a result, price pressures for food, oil, and other primary commodities began to intensify between 2003 and early 2007. However, the continued high-growth and low-headline-inflation environment deluded firms and households into ignoring the price signals. The prevalent view was that such pressures would eventually dissipate, which in turn encouraged them not to adjust their behavior, and demand persistently outpaced supply.

Over time, the gap between the demand for, and the long-run supply capacity of, commodities grew tighter and the slightest shock was amplified into large market disequilibrium and volatility (Figure 1.1.13). Between the fourth quarter of 2007 and the first 7 months of 2008, commodity prices scaled new heights. Volatilities increased in the price of oil, but even more so in food prices.

Food

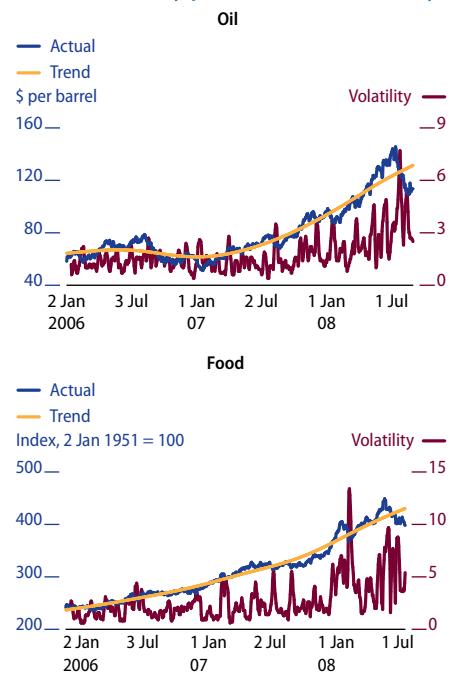
Food prices had been declining in real terms for nearly five decades (barring the food crisis in the 1970s produced by the first oil shock). However, after 2000 food prices began to stabilize and then to gradually rise. Demand was outstripping supply as income and population growth overtook growth in farm productivity. By 2006, expectations of higher prices had taken hold as the appetite for all commodities increased with the acceleration of world economic growth and the emergence of large developing countries, particularly in Asia. Four general drivers responsible for the runup in food prices between the third quarter of 2007 and mid-2008 may be identified: oil prices; movements in the US dollar; mandates for biofuel production; and financial speculation (see the chapter, *Causes of high food prices*, in Part 2).

Oil prices carry a large influence on the direction of food prices, since the price of oil has direct and indirect impacts on production costs. For one, food prices are dependent on input prices, a large part of which is fertilizer. Its feedstock comes from natural gas, whose prices move in tandem with oil prices. Second, agricultural machinery and equipment are powered by diesel fuel, an oil product. Finally, oil prices determine transportation costs, which affect the final price of food products. Oil price adjustments thus ripple through to food prices by way of these channels.

Movements in the US dollar affect food prices as well (Figure 1.1.14). Many globally traded food commodities are priced in US dollars, and so expectations about the value of the US dollar against the euro and other major currencies affect the demand for food commodities, which in turn are reflected in food prices. In the first half of 2008, for instance, the weakening of the US dollar relative to the euro rendered the euro price of commodities lower, making it more attractive for end users paying in euros to increase their demand, bidding up the dollar price of commodities in the process.

Mandates for biofuel production have also caused variations in certain food prices. The corn-based ethanol subsidy program in the US partly accounted for the runup in corn prices since mid-2007. Similarly, the oilseeds-based biodiesel program in the European Union (EU) (beginning in 2001) and in the US (starting in 2004) helped raise oilseed prices. Incentives for biofuel production have thus encouraged farmers around the globe to shift land use away from food production and

1.1.13 Commodity prices and their volatility

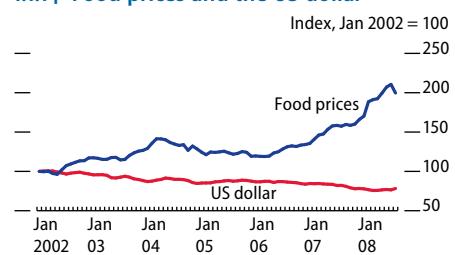


Notes: Volatility is defined as the 10-day standard deviation of the differences between actual and trend prices. Food prices are represented by the Commodity Research Bureau foodstuffs spot price index. Oil prices are represented by the Brent crude benchmark.

Source: Datastream, downloaded 1 September 2008.

[Click here for figure data](#)

1.1.14 Food prices and the US dollar



Notes: Food prices are represented by the Commodity Research Bureau foodstuffs spot price index. The US dollar is valued at its real effective exchange rate.

Sources: Board of Governors of the Federal Reserve System, available: www.federalreserve.gov; Datastream; both downloaded 2 September 2008.

[Click here for figure data](#)

into corn and oilseeds. These biofuel mandates feed the complex inter-commodity linkages running from oil to corn to soybeans to vegetable oils (including palm oil in Asia).

Financial speculation has also motivated commodity price changes to some degree. Low interest rates and the subprime crisis in the US have induced investors to search for other asset classes with higher returns. This has increased the number of players placing bets on commodities. The impact of financial speculation on food prices is similar to that of hedging against the expected movements of the US dollar. The linkages among commodity futures markets, financial markets, and commodity spot markets are not well defined but are likely to help explain the increased volatility in spot prices in recent months.

Besides the general drivers of food prices, factors such as weather and disease, stock levels, political decisions, and hoarding are specific to certain crops and help explain the recent episode of high prices. Last year's drought in Australia, for instance, was partly responsible for limited wheat supplies that contributed to a price spike early this year. In the same vein, the turnaround in Australia's production reversed the uptick in wheat prices after early April.

Stocks of rice, wheat, and corn have been declining since 1999, providing a limited cushion to supply and demand fluctuations (Figure 1.1.15). As a result, small movements in the supply–demand equation translate into large price adjustments for these commodities. This is a major reason why the disruption in Australian wheat supplies last year generated a significant price response in the global market.

Political decisions have also been determinants of recent food price hikes. The increase in international rice and wheat prices, for example, elicited protectionist responses from exporters and anxious responses from importers. As rice prices gradually became elevated, major rice exporters such as Cambodia, PRC, India, and Viet Nam restricted or even banned exports, further limiting already low global supplies. At the same time, the world's largest rice importer, the Philippines, decided to increase its rice stockpile, paying premium prices for whatever supplies it could get in the world market. The combination of these political decisions further tightened supplies in the market and set off a panic among importing countries and traders and contributed to a period of very high rice prices.

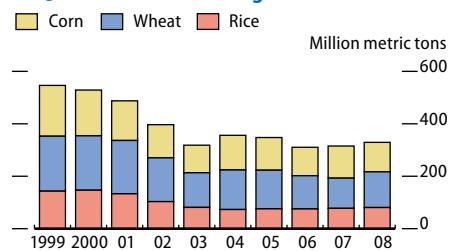
Rising food prices in domestic markets in turn drew a similar panic reaction among consumers, triggering a certain degree of hoarding. As domestic rice prices climbed, all types of consumers—households, farmers, traders, rice millers—bought more to guard against future price increases. The cumulative impact of this jolt in demand provided a trigger for higher rice prices in the global market.

In summary, the recent runup in food prices cannot be explained by a single factor, but rather by the confluence of general and specific factors.

Oil

Oil prices have been steadily rising since 2003. The main difference between the current price runup and previous steep price elevations is the source of the shock (Figure 1.1.16). The price increases of 1973–74 and 1979–80 were caused by supply disruptions that triggered rapid price surges. The higher prices swiftly reduced demand and restored balance in

1.1.15 Stocks of selected grains



Source: Foreign Agricultural Service, United States Department of Agriculture, available: www.fas.usda.gov, downloaded 1 September 2008.

[Click here for figure data](#)

the market. The current episode is a positive demand shock from strong growth in developing countries' demand for oil. Robust global economic growth has also bolstered demand. Demand consistently outpaced supply in the last few years, forcing prices higher and higher. The tight supply-demand balance has left little surplus capacity to cushion the impact of supply and demand shocks. As a result, prices have not only increased but have also become more volatile.

Apart from the fundamentals of supply and demand, nonfundamental factors such as financial speculation, US dollar depreciation, and fuel subsidies have contributed to the price surge. The impact of the first two factors is similar to their impact on food prices. For the third, government policies that subsidize retail fuel prices have shielded consumers from rising prices, and thus weakened consumers' incentives to adjust their behavior. Yet these nonfundamentals have played only a supporting role to that of supply and demand fundamentals, and it is these that explain the bulk of the post-2003 oil price surge.

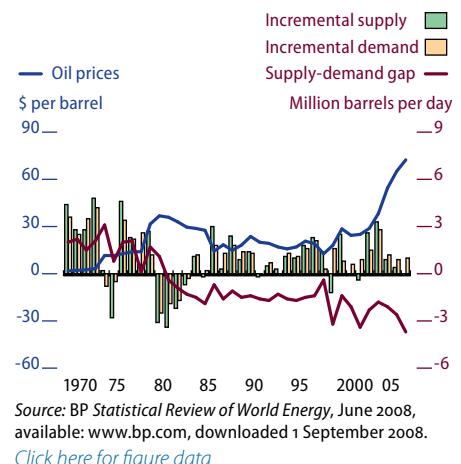
The future course of oil prices will be ultimately determined by the future drivers of demand and supply (see the chapter, *Are high oil prices here to stay?*, in Part 2). The most powerful demand driver will continue to be developing countries' large and growing appetite for oil. In particular, the demand for transportation fuels in the developing world is set to take off because of explosive growth in ownership of motor vehicles. There are no commercially viable substitutes for gasoline and diesel, which implies continued robust growth for oil demand. Another related key demand driver is global economic growth. Historically, a 1% increase in world growth corresponds to a 0.5% increase in oil demand. But the ongoing phaseout of fuel subsidies, improvements in oil efficiency, and use of alternative fuels will help reduce the demand for oil.

In terms of future supply, output by non-Organization of the Petroleum Exporting Countries (non-OPEC) is expected to surge in the next 2 years. Thereafter, however, non-OPEC production is likely to enter an extended period of gradual decline. Growing global demand and stagnant non-OPEC output puts the burden of satisfying incremental global demand squarely on the shoulders of OPEC. However, several factors suggest that adequate investment in new production capacity will not be made.

For one, resource nationalism is limiting the access of large international oil companies to the vast hydrocarbon potential of the OPEC countries. This matters because these companies usually have the most capacity, in terms of capital, technology, and know-how to seek and exploit new oil reserves. Government-owned national oil companies, which have largely displaced international companies as the main producers in OPEC countries, are less willing to make the investments that will see output capacity keeping up with robust global demand growth.

This interplay of future demand and supply drivers suggests that the oil market will remain tight in the foreseeable future. The fundamental driver of this tight supply-demand balance is strong global demand growth, especially from developing countries, and the failure of global supply to keep up—that is, a continuation of the same pressures that have characterized the oil market since 2003. These pressures are expected

1.1.16 Oil market indicators



to keep inflation-adjusted oil prices at above \$100 per barrel until 2020, along with pronounced price volatility.

These higher and more volatile prices represent an external shock to Asia that is largely beyond the region's control. What is well within its control is how it adjusts to the shock and manages the fallout, and appropriate government policies can facilitate the necessary regional adjustment. Such policies should give priority to promoting more efficient oil use, limiting short-run supply disruptions, and encouraging price transparency.

Impacts on developing Asia

One key message brought across by *ADO 2008* (ADB 2008) is that the region of developing Asia remains heavily reliant on the G3 economies for its major export markets and has *not uncoupled* from industrial countries' business cycles. That uncoupling is a myth is confirmed in the discussion that follows on Asia's trade and financial sectors in the first half of 2008.

Manufactured exports

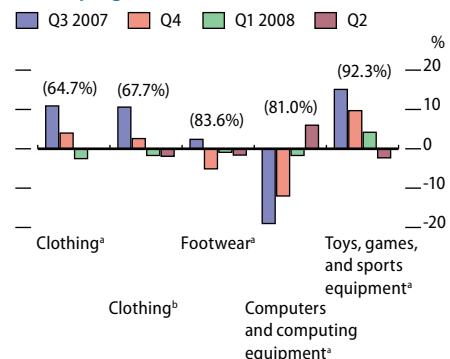
A sharp slowdown in the G3 economies is under way. Price pressures are now expected to be felt for longer than forecast in April, and this has constrained the authorities' use of an easing in monetary policy to provide a fillip to slowing growth. The probability that the global downturn will be long and drawn out has therefore increased, implying that demand for Asian exports is likely to be sluggish for longer than expected in April. Evidence for imports from the US, EU, and Japan for the first half of 2008 confirms this (see the Annex to Part i).

Developing Asian manufacturers supply about two thirds of clothing imports to the US, with the PRC as the leading supplier. Since 2007, however, US demand for imported clothing, both in value and volume terms, has been on a downtrend (Figure 1.1.17). This cutback is hitting Asian manufacturers hard, and exports from the region contracted in the first half of 2008. A similar, though more pronounced, downturn is evident for footwear. US shipments of footwear have been shrinking since the fourth quarter of 2007. With manufacturers in developing Asia accounting for close to 85% of the US market for imported footwear, slower US demand is translating to weaker regional exports.

Apart from clothing and footwear, developing Asia is also a significant supplier of US imports of toys, games, and sports equipment. Quarterly data suggest that the market for these items seems to be lagging the clothing and footwear markets. While a downturn in the sector is likewise apparent, a contraction appeared only in the second quarter of 2008. As the region almost completely supplies the US import market for these goods, a prolonged weakening of demand could adversely affect developing Asian manufacturers. In contrast, the market for computers and computing equipment has shown some recovery, with growth in imports turning positive in the second quarter. However, this could just be a temporary blip reflecting the impact of the tax rebates in the US, and could well dissipate in the second half.

Japan's imports from developing Asia are weakening as well

1.1.17 Growth in selected imports from developing Asia, United States



^a \$, value. ^b Square meters, volume.

Notes: Figures in parentheses indicate developing Asia's market share in the United States import market in 2008 for the indicated product. Developing Asia comprises the Association of Southeast Asian Nations, People's Republic of China, and South Asian Association for Regional Cooperation.

Sources: United States International Trade Commission Dataweb, available: dataweb.usitc.gov; United States Office of Textiles and Apparel Dataweb, available: <http://otexa.ita.doc.gov>; both downloaded 28 August 2008.

[Click here for figure data](#)

(Figure 1.1.18). All regional suppliers of Japan's clothing imports have been adversely affected by the declining value of its purchases. Japanese footwear imports also deteriorated, with supplies from Cambodia and the PRC falling sharply. In terms of computers and computing equipment, the downturn is more severe, with imports from the PRC and Southeast Asia falling by over 25% in 2007 and 5% in the first half of 2008.

Growth of EU clothing import volumes sharply decelerated in the first 5 months of 2008, but unlike Japan and the US, there was still some growth (Figure 1.1.19). In value terms, however, clothing shipments to the EU were almost stagnant. This implies a decline in unit values, which is reflective of the strengthening of the euro against major currencies during the period. Footwear imports to the EU are also showing signs of weakening, dropping by about 2.6% from January through May 2008. Most regional suppliers have been adversely affected by a fall in demand for their footwear exports. In terms of computers and computing equipment, growth in EU imports is still sluggish but less so in the first 5 months of 2008 compared with 2007. PRC suppliers recovered somewhat, but Southeast Asian suppliers are still feeling the pain of weaker EU import demand.

In summary, general declines are recorded in G3 imports of clothing and footwear, for which developing Asian countries are the dominant suppliers for retailers in the US, EU, and Japan. For computers and computing equipment, there are some trend variations. Overall, the key message of this section is that as the G3 continues to weaken, developing Asia will face bleaker prospects for its manufactured exports. Slower growth in the G3 and spillovers of the global slowdown into emerging economies will limit the increase in the volume of world trade to about 4.8% this year from 6.8% in 2007. This suggests that prospects for trade *within* developing Asia could deteriorate: as final demand for the region's exports diminishes, so too will intraregional trade in intermediate parts and components.

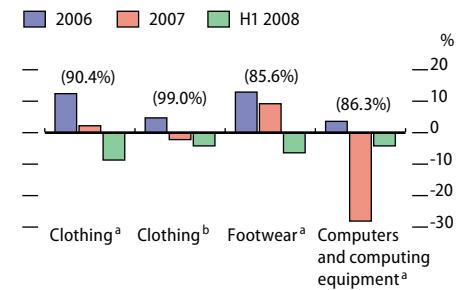
A welcome fillip to world trade could have been grasped in July of 2008 in the form of a World Trade Organization Doha Round Agreement. Sadly, however, ministers were unable to do this (Box 1.1.1). A resumption of negotiations is unlikely in the next couple of years.

Financial stability

The contagious effect on developing Asia of the still-unfolding US subprime crisis has largely been indirect so far. More precisely, the G3 economic slowdown precipitated by the crisis has sharply curtailed the G3's imports of Asian goods, denting the overall economic performance of a highly export-dependent region (see *Manufactured exports* above). While the indirect trade channel has been the predominant transmission of contagion, the direct financial channel should not be ignored. After all, the Asian crisis of 1997–98 was essentially a financial crisis that stemmed from structural weaknesses in the region's financial systems. Furthermore, despite impressive progress since the crisis, the depth, breadth, and sophistication of Asia's financial markets continue to trail those in the G3. The risks of a second Asian crisis have abated, but not disappeared.

The overall impact of the subprime crisis on Asia's financial stability has been relatively limited to date. (See Lee and Park 2008 for a more

1.1.18 Growth in selected imports from developing Asia, Japan



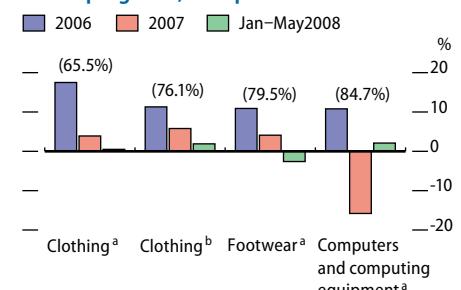
^a ¥, value. ^b Kilograms, volume.

Notes: Figures in parentheses indicate developing Asia's market share in Japan's import market in 2008 for the indicated product. Developing Asia comprises the Association of Southeast Asian Nations, People's Republic of China, and South Asian Association for Regional Cooperation.

Source: Japan Customs, Ministry of Finance, available: www.customs.go.jp, downloaded 19 August 2008.

[Click here for figure data](#)

1.1.19 Growth in selected imports from developing Asia, European Union



^a €, value. ^b Kilograms, volume.

Notes: Figures in parentheses indicate developing Asia's market share in the European Union's import market in 2008 for the indicated product. Developing Asia comprises the Association of Southeast Asian Nations, People's Republic of China, and South Asian Association for Regional Cooperation.

Source: Eurostat, available: <http://epp.eurostat.ec.europa.eu/portal>, downloaded 18 August 2008.

[Click here for figure data](#)

1.1.1 Collapse of Doha Round negotiations: Should anyone care?

A marathon of trade negotiations ran on in late July in Geneva at the World Trade Organization (WTO) as ministers sought to reach an agreement. Instead, they failed, leaving in limbo an agreement on lowering tariffs for agricultural and nonagricultural products, on providing greater access for internationally traded services, on strengthening intellectual property protection, and on streamlining customs procedures around the globe.

The issue on which the negotiations came to an impasse is the seemingly innocuous one of the special safeguard mechanism in agriculture, by which developing countries are allowed to impose temporary duties on farm products during a surge of low-priced imports in order to protect the livelihoods of farmers. In the current context of high international food prices, it is paradoxical that fear of low-cost imports would forestall an agreement.

The other irony is that ministers from major food-exporting countries, chiefly the United States and India, could not agree on the terms and conditions for the special safeguard mechanism, even though safeguards have always been an integral part of the framework of international trade law.

Should anyone care? Opinions sharply diverge among economists and officials handling the negotiations. Brazil's trade minister lamented the collapse and made vigorous efforts to try to revive the negotiations. The Director-General of WTO, Pascal Lamy, insisted that with this round of negotiations "... what we have on the table is at least two or three times greater than from any previous round of negotiations." The Doha Round was meant to be a development agenda that would lift many millions of rural poor out of poverty in Asia, Africa, and Latin America by reducing rich-country farm subsidies and high agricultural tariffs.

Dani Rodrik, a leading academic economist, argues the Doha Round was never a development round and that it would be at best a mixed blessing for the poor. The subsidy cuts in the rich countries would mainly redistribute income to rich consumers and taxpayers there. The poor in the developing world would be left with paltry gains from reduced tariffs in commodities like sugar and cotton but might suffer from reduced rich-country export supplies of food that could drive up domestic food prices for imported staples.

Antiglobalization groups have also applauded the collapse of the Doha Round as, in their view, it would lead more poor African farmers to be dependent on foreign markets for cash crops, when the poor need more and cheaper food. Others objected to the cuts in tariffs that would erode the preferential treatment that some least-developed and developing countries are granted under the Generalized System of Preferences and other unilateral

preference programs such as "Everything But Arms" of the European Union.

Most trade economists disagree with these extreme views of huge benefits or outright losses to the developing world from the round's successful conclusion. However, the timing of the collapse in the midst of a global slowdown that is slashing growth in the volume of international trade is unfortunate. Something overlooked in the heated agricultural negotiations is the nonagricultural market access (NAMA) gains that were left at the negotiating table. These gains may not have been a huge feast but they would at least have been a hearty lunch for manufacturers in the developing world.

Impact of the formula for reducing bound tariff rates in the package proposed by the nonagricultural market access negotiating group

| Product groups | Final bound duties | | Applying the "package" formula ^a | |
|-------------------------|--------------------|---------|---|---------|
| | Average | Maximum | Average | Maximum |
| Australia | | | | |
| Textiles | 18.30 | 55.00 | 5.57 | 6.98 |
| Clothing | 41.10 | 55.00 | 6.70 | 6.98 |
| Leather, footwear, etc. | 14.40 | 55.00 | 5.14 | 6.98 |
| Canada | | | | |
| Textiles | 10.60 | 18.00 | 4.56 | 5.54 |
| Clothing | 17.20 | 18.00 | 5.46 | 5.54 |
| Leather, footwear, etc. | 7.60 | 20.00 | 3.90 | 5.71 |
| European Union | | | | |
| Textiles | 6.50 | 12.00 | 3.59 | 4.80 |
| Clothing | 11.50 | 12.00 | 4.72 | 4.80 |
| Leather, footwear, etc. | 4.20 | 17.00 | 2.75 | 5.44 |
| Japan | | | | |
| Textiles | 5.40 | 25.00 | 3.22 | 6.06 |
| Clothing | 9.20 | 13.00 | 4.28 | 4.95 |
| Leather, footwear, etc. | 17.70 | 724.00 | 5.51 | 7.91 |
| United States | | | | |
| Textiles | 7.70 | 34.00 | 3.92 | 6.48 |
| Clothing | 11.40 | 32.00 | 4.70 | 6.40 |
| Leather, footwear, etc. | 4.60 | 55.00 | 2.92 | 6.98 |

^a To current average and maximum tariffs in manufacturing sectors of export interest to developing Asia in selected industrial countries.

Note: The formula used to calculate the new average (AVG) and maximum (MAX) bound tariffs is:

$t_f = (a \times t_o) / (a + t_o)$, where t_o is the previous bound tariff rate; a is the coefficient for developed Members ($a = 8$); t_f is the final bound tariff rate.

Sources: World Trade Organization Secretariat, "Market Access for Non-Agricultural Products" Report by the Chairman, Ambassador Don Stephenson to the Trade Negotiations Committee, Negotiating Group on Market Access, J0B(08)/96, 12 August 2008; World Trade Organization, International Trade Center UNCTAD/WTO 2007, "World Tariff Profiles 2006," WTO Secretariat, Geneva, Switzerland.

1.1.1 Collapse of Doha Round negotiations: Should anyone care? (continued)

Implementing the formula adopted by the NAMA negotiating group of WTO would have had the favorable feature of cutting down to size the peak tariffs that are still blocking market access to Asian exporters in the industrial economies (Box table). For example, adopting the formula would have cut maximum tariffs to a fraction of existing levels in key sectors of export interest to developing Asia. This would also have slashed average bound tariffs while reducing the variance of tariffs across these key industries.

These tariff cuts would indeed have had the effect of reducing preferences in the Generalized System of Preferences and Everything But Arms programs—but these programs cover only a tiny fraction of exports from developing countries. And cutting down the tariff peaks would have had the salutary effect of sharply eroding the discriminatory preferential treatment under bilateral free trade agreements. The gains for Asia from the NAMA could have been substantial.

The commercial interests that underlie international trade negotiations are real and substantial. No model exists that can calculate the gains that would arise from the combination of lower tariffs and more open services

or from better disciplines than such trade-destroying practices as antidumping and convoluted rules of origin. The political task of explaining that failure also has—likely significant—costs is something that has been badly neglected, particularly by leaders in Washington, Brussels, and Tokyo. A lurch toward protectionism is one cost the world cannot at present afford.

Bibliography

- James, William. 2008. "Asian Textile and Apparel Trade: Moving Forward with Regional Integration." ERD Working Paper Series, Economics and Research Department, Asian Development Bank, Manila. January.
- Rodrik, Dani. 2008. "Don't Cry for Doha." 8 August. Available: <http://www.guardian.co.uk>.
- World Trade Organization (WTO). 2008. "Market Access for Non-Agricultural Products," Negotiating Group on Market Access, Report by the Chairman, Ambassador Don Stephenson to the Trade Negotiations Committee, JOB(08)96, 12 August.
- . 2008. "Negotiations Can Find Compromise on the Safeguard Issue—Lamy". 13 August. Available: http://www.wto.org/english/news_e/sppl_e/spp198_e.htm.

comprehensive analysis.) This is because Asia's commercial banks, which continue to play a dominant role in Asian financial systems despite the rapid development of capital markets, had limited direct exposure to subprime mortgages and structured credit products. The improvement in the financial health of Asian banks since the Asian crisis is evident in the current ratio of nonperforming loans, capital-adequacy ratios, rates of return, and other key indicators. In short, the limited magnitude of the shock and a stronger capacity to withstand adverse shocks has enabled Asian banks to weather the financial turbulence emanating from the subprime crisis.

The two areas of Asian financial systems where the subprime crisis has had some impact are equity markets and offshore bond markets. Share prices have suffered heavy losses since the fourth quarter of 2007 (Figure 1.1.20), driven largely by mounting concerns over the deteriorating global economic outlook and its impact on Asia. The loss of investor confidence in Asian equity markets closely mirrors that of the US, and the two markets have moved in tandem since the second half of 2007. The risk premium on dollar-denominated offshore bonds of Asian issuers has risen sharply since the outbreak of the subprime crisis (Figure 1.1.21). The deterioration of investor confidence in the offshore bond market has been especially evident for Pakistan. Not surprisingly, the widening of credit spreads has curtailed the issue of new bonds from the region. Such tightening of financing conditions has not yet spilled over into local currency bond markets.

In the near future, the impact of the subprime crisis on Asia's financial stability is likely to be limited. The same factors that have so

1.1.20 Stock prices

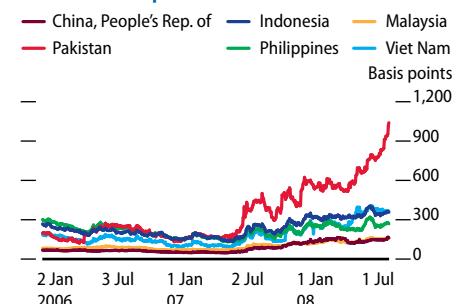


Note: The developing Asian index is represented by the Morgan Stanley Capital International All Country Asia excluding Japan price index; the US index is represented by the Standard & Poor's 500 Composite price index.

Source: Datastream, downloaded 2 September 2008.

[Click here for figure data](#)

1.1.21 Credit spreads



Note: Data refer to JPMorgan Emerging Markets Bond Index sovereign stripped spreads.

Source: Datastream, downloaded 2 September 2008.

[Click here for figure data](#)

far shielded the region will continue to do so. More precisely, the relative good health of the region's financial systems will combine with their limited direct exposure to subprime mortgages to subdue the impact of the crisis. The one variable that could upset this optimistic assessment is the future course of the US subprime crisis. It is far from clear whether the crisis has run its full course, as evidenced by the continuous stream of bad news. For example, there is huge uncertainty about the economic and financial repercussions of the US Government placing Fannie Mae and Freddie Mac (which jointly hold or guarantee half of all US mortgage debt) in a government-run conservatorship. Bond holders, including many central banks, should not, though, suffer because of the more explicit guarantee on these obligations made by the Treasury when it announced the action on 7 September. If the subprime crisis worsens significantly, Asia is bound to suffer much more serious financial effects, including an abrupt reversal of the capital inflows that have held up well so far.

In terms of policy implications, it is critical for Asian governments not to draw the wrong lessons from the limited financial effects of the subprime crisis. It is true that the structural improvement of Asian financial systems since the Asian crisis has helped protect the region. Yet it is equally true that Asia was in some sense fortunate in that its banks had largely avoided exposure to subprime mortgages—clearly, any shock would have been far greater had exposure levels been substantially higher.

The more relevant general lesson for Asia is that even financially advanced economies such as the US are susceptible to financial crises arising from imprudent lending and unsound policies. This gives Asian countries greater reason to further buttress the post-Asian crisis structural reforms that have significantly strengthened their financial systems. A more specific lesson for Asian lenders, which have only recently begun to shift from financing companies to financing households, is that they will have to be more alert to the risks of mortgage lending.

Domestic prices and monetary policy

The degree to which the most recent hikes in global oil and food prices are transmitted to domestic producer and consumer prices in developing Asia is extremely varied. The rates of increase in these prices have generally outpaced the increase in domestic inflation. Nevertheless, international oil price increases are more easily passed on to domestic prices than global food price rises. Across the region, there is a common view that the latest runup in inflation is predominantly explained by such international factors. As a result, domestic monetary policy is seen as having a limited role to play in containing current inflation pressures.

In the first 8 months of 2008, global oil prices have risen by over 70%. While many countries in developing Asia have raised prices for products such as gasoline and diesel, local retail prices for kerosene have remained below international benchmark prices. With kerosene being heavily used by poor households, governments across the region have largely been subsidizing domestic kerosene prices. However, the rapid pace at which international oil prices escalated in recent months left many governments with little choice but to pass on rising costs to consumers and producers. As diesel prices in world markets climbed and overtook gasoline

prices, the option of cross-subsidization between gasoline and diesel quickly faded (Figure 1.1.22). Increases in diesel prices in the region thus largely outpaced gasoline price hikes. Overall, pump prices of gasoline and diesel in developing Asia have become more closely in line with international benchmark prices (see the chapter, *Are high oil prices here to stay?*, in Part 2).

Until last year, high oil prices had limited adverse effects on developing Asia's growth (see the section, *Macroeconomic effects of high oil prices*, in Part 2). The region even marked its strongest expansion in nearly two decades in 2007. However, the steep rise in international oil prices in recent months is expected to reduce regional incomes by raising overall production costs. Rising costs of imported inputs and of transportation will clip profitability and could affect employment and consumer spending. This will put a dent on regional growth and hasten inflation.

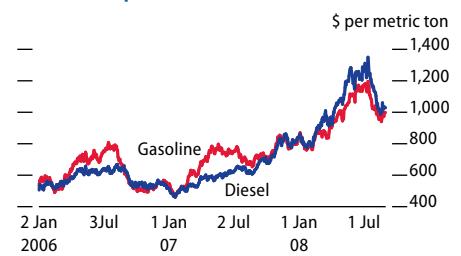
The transmission to domestic prices of higher international oil prices varies across countries. In most Southeast and East Asian economies, the process of adjustment has been faster and broader. In the Republic of Korea, Philippines, Singapore, and Thailand, domestic oil prices are deregulated and determined by market forces. Rising international oil prices are thus usually reflected fairly quickly in climbing domestic fuel prices. In contrast, fuel prices in the PRC and in many South Asian countries remain government-administered, and as such, hikes in domestic pump prices lag those of international oil prices.

As regards food prices too, the regional picture is diverse. For some exporters, international increases in rice prices are rapidly transmitted to domestic prices. An example is Thailand, the world's largest rice exporter. Variations in international rice prices are immediately reflected in domestic prices, to provide the correct incentive to rice farmers to increase production. For importers (such as the Philippines, the world's largest rice importer) the pass-through to domestic rice prices tends to be slow and incomplete (under the country's public rice distribution system). In some rice-exporting countries, the transmission of high global rice prices to domestic prices is also severely limited. This is especially true for countries such as India, which like the Philippines, has a public rice distribution system (see the chapter, *Causes of high food prices*, in Part 2).

Using a sample of nine developing Asian economies, the degree of pass-through to domestic prices of changes in international oil and food prices was estimated (see the chapter, *Inflation in developing Asia: Demand-pull or cost-push?*, in Part 2). The general finding is that the pass-through of fuel and food price shocks to domestic producer and consumer prices is incomplete. In addition, the transmission of international oil price hikes tends to be limited in countries with administered prices and relatively high fuel subsidies. In terms of food price shocks, the pass-through is generally lower than that for oil. Higher pass-through to producer prices is also registered in most food-exporting countries.

Variance decomposition analysis of domestic producer and consumer prices was also undertaken. Results show that factors other than external cost-push shocks, in particular excess aggregate demand and inflation expectations, account for a larger share of variations in domestic price

1.1.22 Fuel prices



Note: Gasoline prices refer to premium unleaded gasoline; diesel prices refer to gas oil; both free on board Amsterdam, Rotterdam, and Antwerp.

Source: Datastream, downloaded 2 September 2008.

[Click here for figure data](#)

inflation. Variations in excess aggregate demand explain more than 60% of consumer price inflation in the PRC; inflation expectations account for about 40–50% of wholesale price variations in India and of consumer price variations in most other countries. In general, external cost-push factors such as oil and food price shocks explain at most 55% of producer price variations and 30% of consumer price changes.

This section thus knocks down the common view that rising inflation is due to external reasons, and as such domestic monetary policy is powerless. On the contrary, the main reason for variations in local producer and consumer prices is generally homegrown. Demand-pull inflation pressures have in fact been building up as a result of many years of robust growth accompanied by accommodative monetary policies. Domestic price strains were thus already forming and were exacerbated by the rapid escalation in global commodity prices.

Despite expectations of moderating global growth in 2009, the current limited transmission of external factors to domestic prices indicates that the pass-through will continue and generate further inflationary pressures in 2009. These suggest that authorities have an important role to play in curbing inflation through monetary policy. Specifically, tighter interest rate policies could have a powerful effect in anchoring inflation expectations and in crimping domestic demand. In addition, an economy's exchange rate policy must be in line with its tighter interest rate policy. This means that exchange rates in developing Asia may be allowed to appreciate to reduce the domestic cost of imports. Overall, monetary measures must be applied consistently and geared toward reducing liquidity in order to clip inflation pressures. The sequencing and pace of such measures are crucial in ensuring that policies actually work their way toward securing inflation expectations and limiting second-round effects.

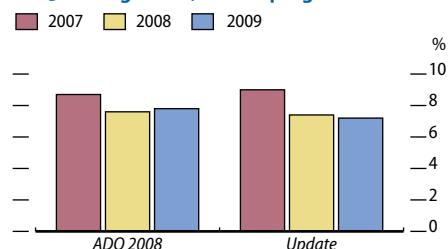
Prospects for developing Asia

Despite the turbulence in global markets that disrupted developing Asia's performance in the first half of 2008, developing Asia's economic fundamentals are still sound. Still, growth in 2008 is expected to slow to 7.5% (Figure 1.1.23), revised down slightly from the 7.6% projected in April's *ADO 2008*. Next year's growth is forecast at 7.2%, lower than the previous 7.8%, but this forecast is less certain, as the outcome depends both on the duration and extent of the current global downturn and the runup in commodity prices, as well as on how Asian economies respond.

While *ADO 2008* correctly projected growth to slacken in many developing Asian economies in 2008, first-half data suggest that the deceleration is likely to be faster than it foresaw. Expansion in the Philippines and Viet Nam moderated to 4.6% and 6.5%, respectively, in the 6 months through June, while that for India slowed to 7.9% in the April–June quarter. In the Philippines, growth slowed because of softer household spending and weaker services output. In Viet Nam, inflation running above 20% crimped domestic demand. In India, investment slowed markedly as access to credit tightened and its cost increased.

Rising global prices of food and fuel stoked headline inflation across developing Asia, warranting significant upward revisions in inflation

1.1.23 GDP growth, developing Asia



Source: Asian Development Outlook database.
[Click here for figure data](#)

forecasts. Inflation began to accelerate from the second half of 2007. In Pakistan, Sri Lanka, and Viet Nam, price increases are now exceeding 20%; in Viet Nam, food price inflation accounts for about three fourths of overall inflation. The increases have not been limited to food and fuel prices though, as rising raw materials costs have pushed up manufactured goods prices as well. Wage pressures are also building up in many Asian economies. Inflation in the region is now forecast to register an average of 7.8% in 2008 and 6.0% in 2009 (Figure 1.1.24).

Across developing Asia, the effects of the recent commodity price boom have been mixed. For primary commodity exporters in Central and Southeast Asia, the food and oil price jumps in the first half of 2008 provided an earnings bonanza. Malaysia's exports benefited from rising prices of palm oil and crude oil. The value of Indonesia's natural gas exports increased as international gas prices tracked high crude oil prices. Cambodia, Thailand, and Viet Nam all gained from the peak in rice prices in the first half of the year. In contrast, economies that depend on commodity imports experienced severe strains in their current accounts, and those that subsidized food and fuel, in their fiscal accounts as well. Most South Asian economies now have to deal with ever-widening current and fiscal account deficits.

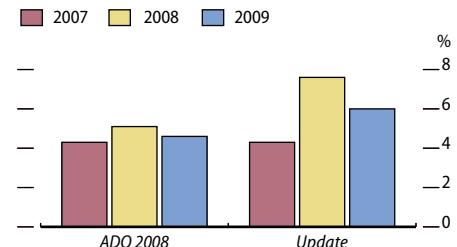
Significant uncertainties underlie the baseline projections in *ADO 2008 Update*. The major risks include: a prolonged slowdown in the G3; the continued elevated level of international oil and food prices; the persistence of high inflation in the region; the perils of policy reticence; and the ever-present threat of geopolitical disturbances.

As discussed above, a protracted slowdown in the G3 will adversely affect developing Asia's trade and financial sectors through a deceleration in demand for the region's manufactured exports and through limiting the access to and cost of funds for the region's corporations and households.

The sharp escalation of commodity prices provided a much-needed dose of reality that the world of cheap commodities was gone for the foreseeable future, and inflation pressures are now mounting worldwide. In developing Asia, many regional economies have already seen a return to double-digit inflation. If commodity prices stay elevated, developing Asia's gains in reducing poverty and inequality could be lost. Inflation pressures thus need to be curbed and the reality of higher commodity prices acknowledged and addressed.

Before developing Asia can undertake the structural reforms to adapt to this new world, it must first reestablish macroeconomic stability through sound monetary, fiscal, and exchange rate policies. Regional monetary authorities have begun to address rising inflation in recent months. Initially, responses seemed too little and too late. In most countries, real interest rates have turned negative (Figure 1.1.25). As a result, the impact of tightening measures on consumption has been limited, and such moves have been ineffective in curbing rapid price increases. Recently, central banks have become more aggressive in tackling inflation pressures, and indeed policy rate increases in, for example, India, Indonesia, Philippines, and Viet Nam, have exceeded market expectations. However, if central banks become reticent once more in terms of imposing the requisite tightening measures, inflation

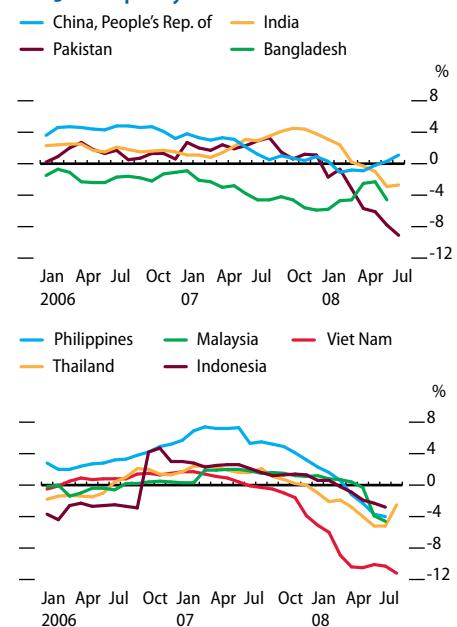
1.1.24 Inflation, developing Asia



Source: Asian Development Outlook database.

[Click here for figure data](#)

1.1.25 Real policy rates



Source: CEIC Data Company Ltd., downloaded 2 September 2008.

[Click here for figure data](#)

could become ingrained in economies, eventually undermining long-run growth prospects.

Across developing Asia, oil subsidies have tested budgetary limits. For social reasons, many governments initially attempted to avoid fuel price increases, but eventually yielded as subsidy bills battered their fiscal accounts. Bangladesh, PRC, India, Indonesia, Sri Lanka, and Viet Nam have all reduced fuel subsidies. Even net oil-exporting Malaysia raised fuel prices by at least 40% in June (Figure 1.1.26). However, authorities in some countries have partly reversed earlier steps to curtail fuel subsidies. Malaysia and Viet Nam, for instance, reduced pump prices in August as crude oil prices came down from their \$147 per barrel peaks. Admittedly, developing Asia's policy makers face a dilemma on food and fuel subsidies: reducing them now would increase inflation in the short term, but not doing so would generate fiscal trouble later, as well as inflation.

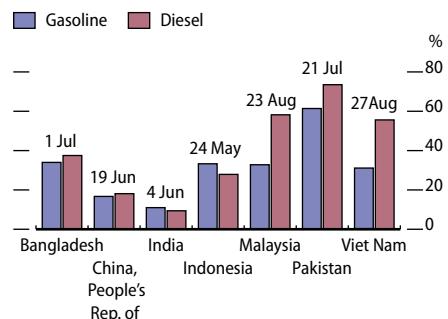
Despite their current limited pass-through to domestic prices, high global oil and food prices are prompting dissatisfaction among the region's population. To a certain extent, this has limited authorities' policy options for addressing rising inflation. With negative real interest rates, monetary tightening measures in the region are generally seen to be behind the curve, and the authorities do not regard the removal of fuel and food subsidies as a priority. This limited monetary policy response and the failure to remove subsidies stem partly from their unpopularity among both the authorities and the general population. With forthcoming elections in countries such as India and Indonesia in 2009, governments view such moves as detrimental to their re-election efforts.

Political systems are also fragile in some countries. In some South and Southeast Asian countries, governments are being challenged by the opposition, and this is likely to result in reluctance to undertake the needed reforms. Ruling governments are likely to focus on populist policies to discourage dissent. However, this runs the risk of exacerbating macroeconomic imbalances and clouding the economic outlook. Prolonged periods of political instability could inhibit investment and affect growth prospects in the medium term. Some countries have in fact been advised by credit agencies of possible downgrades if they do not restore macroeconomic stability. With troubles brewing in the global economy, political turmoil is the last thing the region needs. Issues of politics must take a back seat, and economic policies to address mounting economic risks must take a front one.

Security issues still pose a threat to economic prospects. According to assessments made by the World Economic Forum (2008), global geopolitical risks are likely to remain. If material security threats emerge, the movement of people, goods, and capital could be disrupted. This would adversely affect the global business environment, perhaps more so in developing Asia than elsewhere, where economies are closely linked via supply chains.

In summary, downside risks to developing Asia's growth prospects are now stronger than in April. Global conditions are more volatile—the financial crisis has not yet fully unraveled, high commodity prices seem likely to stay, and geopolitical concerns refuse to go away. Regional conditions are not too promising, either. Inflation rates are higher than expected, and are set to remain high as the pass-through to domestic

1.1.26 Cumulative fuel price increases in 2008



Notes: Dates reflect effectiveness of latest price adjustments. For Malaysia, prices were increased on 5 June then partially reduced on 23 August. For Pakistan, prices were raised on 1 March, 16 March, 18 April, 1 May, 29 June, and 21 July. For Viet Nam, prices were hiked on 25 February and 21 July, then partly rolled back on 14 and 27 August.

Source: Various news articles.

[Click here for figure data](#)

prices completes its course. Political pressures are threatening to come to a head in some countries, and this could stall the implementation of much-needed corrective policy measures.

The rest of *ADO 2008 Update* is organized as follows. Part 2 looks at the major drivers of the recent runup in commodity prices and the extent of the price transmission mechanism from international to domestic prices. Oil, food, and other commodity prices have been steadily rising since 2003. But in early 2008, prices escalated sharply. While commodity prices are now off their recent peaks, prices remain elevated. Understanding the underlying causes of the recent price surge will enable developing Asia to undertake the reforms it needs to adapt to this new commodity environment. Part 3 provides subregional as well as individual assessments for nine selected economies of recent economic performance, projections for 2008 and 2009, and the risks that could significantly affect economic prospects. Part 4 offers a methodology to identify the possible sources of forecast errors for GDP growth and inflation.

References

- Asian Development Bank (ADB). 2008. *Asian Development Outlook 2008: Workers in Asia*. Manila. April.
- Lee, Jong-Wha, and Cyn-Young Park. 2008. "Global Financial Turmoil: Impact and Challenges for Asia's Financial Systems." *OREI Discussion Paper No. 18*. Office of Regional Economic Integration, Asian Development Bank, Manila. June.
- World Economic Forum. 2008. "Global Risks 2008: A Global Risk Network Report." Available: www.weforum.org.

Annex: Impact of the G3 slowdown on selected Asian manufactured exports

Introduction

Asian Development Outlook 2008 (ADO 2008), printed in April this year, emphasized that the pronounced slowdown in the growth of the G3 economies—United States (US), eurozone, and Japan—was bound to take a toll on developing Asia. Weakened consumer demand in the G3 was seen in slumping retail sales data with direct consequences particularly for the manufactured consumer products that are a mainstay of Asian exports. The slide in the volume of imports of cyclically sensitive manufactured products from Asia was illustrated using quarterly data from the US and European Union (EU) and using half-yearly data in the case of Japan over the course of 2007.

In this annex, data on selected cyclically sensitive manufactured imports through the first half of 2008 provide a clearer picture of how the slowdown is affecting Asia, in particular East Asia (defined in this annex as Hong Kong, China; Republic of Korea; and Taipei, China), Southeast Asia, and South Asia. In a nutshell, Asian exports are likely to face difficulty over the rest of 2008 and well into 2009.

In this annex, disaggregated trade data are examined to demonstrate that the G3 slowdown has indeed had a negative impact on exports of manufactures from economies in developing Asia. The impact may be partially mitigated for some Asian countries, such as Indonesia, Malaysia, Thailand, and Viet Nam, which export commodities. The impact of sluggish demand in the G3 however, may eventually spread to commodities that have recently seen very high prices. In addition, weakness among the G3 economies may be mutually reinforcing and may sharply reduce growth in world trade volume in 2008 and 2009.

Weak consumer demand in the United States

Declines in consumer purchases of clothing items and footwear in US retail outlets have a direct and rapid impact on exports from developing Asia because over 90% of US sales are from imports. Clothing shipments from Asia and other trading partners are monitored by the Office of Textiles and Apparel (OTEXA) in the US Department of Commerce, which follows not only the value but also the volume of imports from all major suppliers, particularly the People's Republic of China (PRC). Product-specific safeguards limit the volume of shipments from the PRC in 24 major clothing categories ranging from socks and underwear to slacks, trousers, and shirts.¹ Many other items of clothing are unrestricted, however, and even in the categories with quotas, the volumes are allowed to increase by an agreed amount annually.

The PRC is by far the leading supplier of clothing to the US market and total imports from all suppliers exceed \$70 billion annually. South

Asia and Southeast Asia are significant, and have expanded their shares of the US market ever since the global system of quotas was abolished on 1 January 2005.

For simplicity, data are presented for three Asian groupings: PRC, Association of Southeast Asian Nations (ASEAN), and South Asian Association for Regional Cooperation (SAARC), together constituting developing Asia. They encompass most of the major developing Asian suppliers of clothing to the US and collectively accounted for two thirds of global shipments to the US market in 2007.²

OTEXA provides volume data in million square meter equivalents and in current dollar value. As ADO 2008 provided quarterly figures for 2007 compared with 2006 and showed that growth steadily deteriorated between the first and fourth quarters and became negative in the fourth quarter in volume terms, here the focus is on developments in the first half of 2008. Spending in the second quarter of 2008 was influenced by a fiscal stimulus program that had returned \$100 billion to US households from mid-March through July. By end-June 2008, much of the fiscal stimulus from tax rebates had already reached US consumers. A survey of 34,000 households indicated that by mid-June, 19,000 had reported receiving their tax rebate checks with most of those reporting receipt of rebates having had them for 4 weeks (Broda and Parker 2008). The study revealed that the stimulus package was successful. However, clothing and footwear expenditures on average rose by the smallest amount of five expenditure categories, rising by only \$32 over pre-rebate levels.

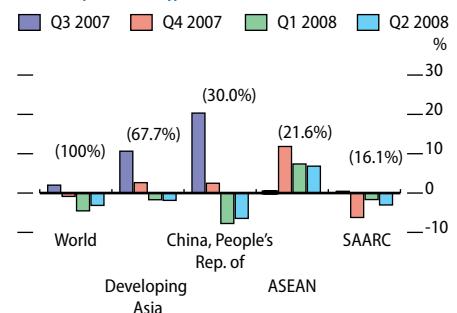
Thus the survey data support the analysis here that US consumers were cutting back on clothing purchases, though a little more slowly in April–June than in January–March (Figures A1.1.1 and A.1.1.2). The stimulus may have helped prop up retail sales but not by enough to reverse the decline in the real volume of purchases of clothing.

After slowing markedly in the fourth quarter of 2007, the volume of clothing exports from the PRC actually contracted in the first half of 2008, by over 7%. This fall was matched by a similar increase in the volume of exports from ASEAN. However, within the member states of ASEAN performance varied widely with growth in the Lao People's Democratic Republic (Lao PDR) and Viet Nam exceeding 20% but with other large suppliers, such as Cambodia and Indonesia, expanding by only around 4%. The Philippines and Thailand contracted.

The SAARC countries did more poorly, with nearly four consecutive quarters of no growth or contraction in the volume of exports to the US. Within SAARC, only Bangladesh avoided contraction in the first half of 2008 with a less than 1% increase. Although developing Asia's shipments of clothing to the US performed marginally better than all suppliers in the first half of 2008 (down 2% compared with down 3% for all suppliers), they were hardly immune from the contraction in US retail sales of clothing.

The value (in current US dollars) of shipments from the PRC contracted by nearly 10% year on year in the first quarter of 2008 and were still shrinking in the second, so that overall the value fell by about 6% in the first half of 2008. Again, the PRC's loss was ASEAN's gain as their shipments rose in value by around 5% in the first half of 2008. The Lao PDR and Viet Nam performed well with over 25% increases, but other

A1.1.1 Growth in imports of clothing (square meters, volume), United States

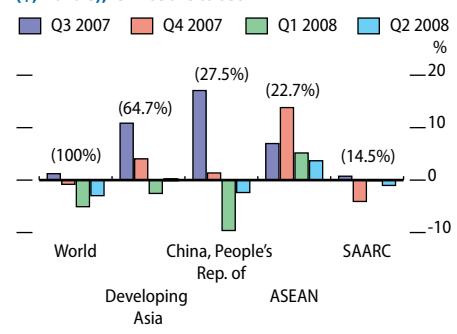


Notes: Figures in parentheses indicate share in US clothing imports for 2008. Developing Asia comprises the Association of Southeast Asian Nations (ASEAN), People's Republic of China, and South Asian Association for Regional Cooperation (SAARC).

Sources: United States Office of Textiles and Apparel Dataweb, available: <http://otexa.ita.doc.gov>; author's compilations.

[Click here for figure data](#)

A1.1.2 Growth in imports of clothing (\$, value), United States



Notes: Figures in parentheses indicate share in US clothing imports for 2008. Developing Asia comprises the Association of Southeast Asian Nations (ASEAN), People's Republic of China, and South Asian Association for Regional Cooperation (SAARC).

Sources: United States Office of Textiles and Apparel Dataweb, available: <http://otexa.ita.doc.gov>; author's compilations.

[Click here for figure data](#)

ASEAN members had no growth or even contracted. Among the SAARC countries, only Bangladesh showed growth, with a modest 7% gain in the first half of the year. Shipments from India, Pakistan, and Sri Lanka fell.

For developing Asia as a whole, the value of shipments in the first half of 2008 was down by a little over 1% compared with a world decline of 4%. The moderation of the contraction in April–June compared to January–March in clothing import growth may be attributed to the fiscal stimulus, but this is unlikely to persist into the second half of 2008. According to a sample of 19 major clothing retailers in July 2008, retail sales fell on average by 3.1% over those of the previous year.³ Retail sales can be expected to weaken further once the fiscal stimulus dissipates over the next few months, with consequent reduced demand for imports from Asia.

Footwear imports account for virtually all US retail sales (around \$20 billion in 2007) and show a pattern quite similar to clothing: the economies of developing Asia—especially the PRC—are dominant suppliers of the US footwear market with a share even larger than for clothing. Footwear imports are subject to import duties averaging around 10% with peak tariffs of over 40% for some low-end products, despite the fact there is virtually no footwear manufacturing in the US. As footwear is complementary to clothing, it is unsurprising that it, too, shows a downturn into contraction at the same time and along the same pattern as clothing at end-2007 and the first half of 2008 (Figure A1.1.3). As with clothing, the PRC has been hit hardest by the downturn in US retail footwear sales.

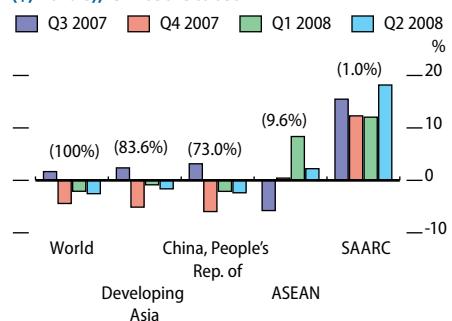
A conjecture is that PRC supplies are becoming less competitive relative to other Asian suppliers, possibly due to labor cost increases and the appreciation of the yuan. A new labor law in the PRC in late 2007 imposed additional costs on firms, particularly those that have large numbers of workers with several years' employment.

ASEAN and SAARC both recorded growth over the last three quarters, but collectively they supply only about 11% of US imports compared with over 70% from the PRC. Within ASEAN, only Viet Nam has performed well with all other suppliers such as Indonesia, Malaysia, Philippines, and Thailand seeing a fall in shipments over the last three quarters. SAARC supplies only a little over 1% of US import demand for footwear but is improving its performance steadily, taking advantage of the decline in competitiveness of other suppliers.

ASEAN has no room for complacency as inflation is accelerating in most member countries, with Viet Nam experiencing a consumer price index increase of over 25% in recent months. This is likely to raise costs and lead to shoe retailers placing orders in other countries where prices are less volatile.

A third example of a manufactured product line for which US consumption is heavily reliant on imports is toys, games, and sports equipment. The demand for these products is strongly influenced by seasonal factors with sales peaking around the US winter holiday months. Typically, about two thirds of annual shipments to the US are made in the last two quarters of the calendar year. In contrast to clothing and footwear, sales of toys, games, and sports equipment sustained growth into the first quarter of 2008 and only began to shrink in April–June (Figure A1.1.4). Consumer expenditures on these products are highly

A1.1.3 Growth in imports of footwear (\$, value), United States

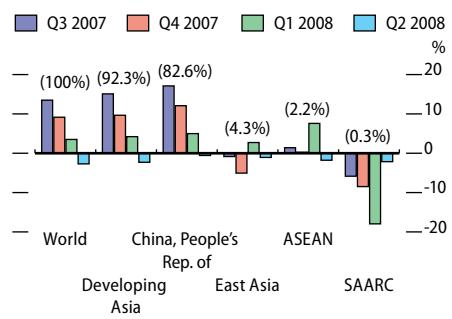


Notes: Figures in parentheses indicate share in US imports for the indicated product for 2008. Developing Asia comprises the Association of Southeast Asian Nations (ASEAN), People's Republic of China, and South Asian Association for Regional Cooperation (SAARC).

Source: United States International Trade Commission Dataweb, available: www.dataweb.usitc.gov, downloaded 20 August 2008.

[Click here for figure data](#)

A1.1.4 Growth in imports of toys, games, and sports equipment (\$, value), United States



Notes: Figures in parentheses indicate share in US imports for the indicated product for 2008. Developing Asia comprises the Association of Southeast Asian Nations (ASEAN), People's Republic of China, and South Asian Association for Regional Cooperation (SAARC). East Asia comprises Hong Kong, China; Republic of Korea; and Taipei, China.

Source: United States International Trade Commission Dataweb, available: www.dataweb.usitc.gov, downloaded 20 August 2008.

[Click here for figure data](#)

discretionary and are subject to consumer confidence. It may well be that purchases may have been buoyed by the fiscal stimulus and would have fallen more sharply in the second quarter in the absence of the rebate checks. The seasonal factor in demand may also help spur growth in the second half of 2008, particularly in the fourth quarter.

Developing Asia accounts for over 90% of imports of toys, games, and sports equipment with the PRC alone supplying over 80% of US imports. East Asia accounts for the next highest share of US imports with over 4%, compared with just 2% for ASEAN and less than 1% for SAARC.

The PRC saw its shipments of these items slip into negative territory in April–June 2008 and the same fate befell all groups of Asian suppliers. The steady deterioration of shipments to the US market of these items is significant as total shipments from developing Asia exceeded \$25 billion in 2007.

The categories of manufactured goods considered above are all subject to consumer sentiment and discretionary spending behavior usually associated with nondurable goods. Purchase of a clothing item, a pair of shoes, or a stuffed toy does not require a large share of a household's or individual's budget. Investment goods or household goods of long-lasting use, in contrast, require a larger amount of funds and are likely to be more sensitive to conditions in credit markets, such as availability of bank loans and the rate of interest.

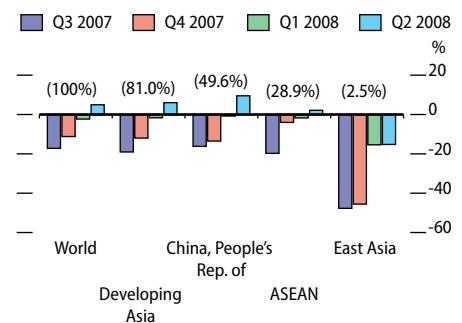
Computer⁴ (HTS 8471) shipments amounted to \$58.5 billion in 2007 and had fallen precipitously relative to 2006 and continued to decline in January–March 2008 before rebounding in April–June, compared with the same period in 2007 (Figure A1.1.5). The level of shipments was still, though, well below shipments in April–June 2006. Most of the recovery in shipments in the second quarter of 2008 (compared with the same period in 2007) is attributable to imports from the PRC, which accounts for nearly half of total shipments. ASEAN suppliers showed some rebound in shipments to the US as well, with some recovery in shipments from the second- and third-largest suppliers, Malaysia and Thailand, while those from East Asia continued to shrink.

Despite the growth in the second quarter of 2008, the value of shipments in this grouping is still quite weak vis-à-vis shipments in 2006. It is possible that the fiscal stimulus may have provided a boost to spending on computers in recent months, though this is likely to disappear in the second half of the year. The findings of the above survey of 34,000 households indicate that spending on durable goods such as appliances, electronics, and furniture rose sharply by \$91 on average in the weeks following receipt of the rebates (Broda and Parker 2008). This may help explain the increase seen in April–June 2008 relative to the same period in 2007, but the effects are likely to be short-lived. The weakened demand for investment and tight credit conditions may therefore continue to damp shipments in the second half of 2008 and into 2009.

Japan's weakening economy

Growth in the largest economy in Asia faltered in the second quarter of 2008 and the outlook is for continued sluggish growth with worsening

A1.1.5 Growth in imports of computers and computing equipment (\$, value), United States

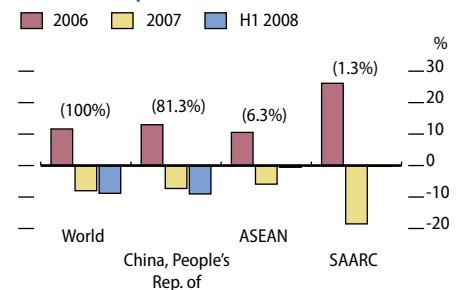


Notes: Figures in parentheses indicate share in US imports for the indicated product for 2008. Developing Asia comprises the Association of Southeast Asian Nations (ASEAN), People's Republic of China, and South Asian Association for Regional Cooperation. East Asia comprises Hong Kong, China; Republic of Korea; and Taipei, China.

Source: United States International Trade Commission Dataweb, available: www.dataweb.usitc.gov, downloaded 20 August 2008.

[Click here for figure data](#)

A1.1.6 Growth in imports of clothing (¥, value), Japan



ASEAN = Association of Southeast Asian Nations;
SAARC = South Asian Association for Regional Cooperation.

Note: Figures in parentheses indicate share in Japan's imports for the indicated product for 2008.

Source: Japan Customs, Ministry of Finance, available: www.customs.go.jp, downloaded 19 August 2008.

[Click here for figure data](#)

consumer sentiment. The consumer confidence index fell to the lowest levels seen since 2001. The poor outlook for developing Asia's exports of consumer manufactured goods is indicated by the steady deterioration in retail sales in large department stores and consumption expenditures in the first 5 months of 2008 (Bank of Japan 2008a). Consumer goods imports fell sharply in real terms in the second quarter of 2008 by almost 7% compared with the same period in 2007 (Bank of Japan 2008b). The implication of the decline in consumer purchases at retail clothing outlets is for a continued decline of imports of clothing. Contraction in clothing shipments from developing Asia to Japan began in 2007 and continued into the first 6 months of 2008 (Figures A1.1.6 and A1.1.7).

All groups of developing Asian suppliers have been adversely affected by negative consumer sentiment and declining purchases in Japan, with the PRC having the worst performance among the three groupings of suppliers. The volume of shipments has contracted less steeply than the value of shipments, suggesting that unit prices of clothing items in yen have been falling, reflecting the weakening of the US dollar against the yen.

Footwear imports from developing Asia also declined in value over the first half of 2008, with particularly sharp declines from Cambodia and the PRC—the latter being by far the largest foreign supplier (Figure A1.1.8). This reinforces the general impression of softening consumer demand for labor-intensive manufactured products that are important exports from developing Asia. Shipments to Japan from Thailand fell by over 30% in the first half of 2008, while those from the second largest ASEAN supplier (Viet Nam) also slipped, by 1%.

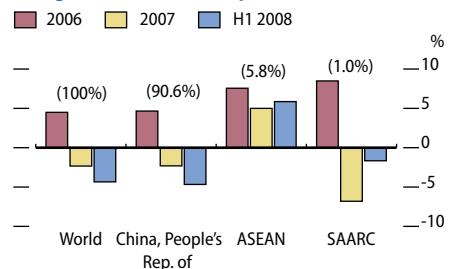
Imports of computers from Asian developing countries also continued to decline during the first half of 2008, after a disastrous performance in 2007 (Figure A1.1.9). This indicates that investment goods are also facing a weaker market in Japan for a second consecutive year. Shipments from the Philippines and Singapore fell the most, with shipments from the PRC and Singapore also in retreat. Thus it appears that Japan is experiencing a slowdown that is even broader than in the US. Japan has just unveiled an Y1.7 trillion stimulus package, but it is uncertain that wary Japanese consumers will actually increase their spending.

European Union imports set to decline?

With inflation on the rise, fueled by high commodity prices and concerns that inflation pressures are building globally, the European Central Bank has put its policy rate on hold despite growing signs of weakness in economic activity. Consumption is at best stagnant and is running out of steam in major countries with housing market problems and rising unemployment, such as Ireland, Spain, and United Kingdom. The slowdown is also apparent in recent data from Germany, the largest of the EU economies.

The outlook for a protracted period of low growth is another source of concern for developing Asia's export prospects in the second half of 2008 and in 2009, particularly for manufactured products such as clothing and footwear. The EU market for imports sourced from outside the Union (i.e., extra-EU imports) has been expanding, and in 2007 overtook the US in terms of size for clothing imports in dollar terms.

A1.1.7 Growth in imports of clothing (kilograms, volume), Japan



ASEAN = Association of Southeast Asian Nations;

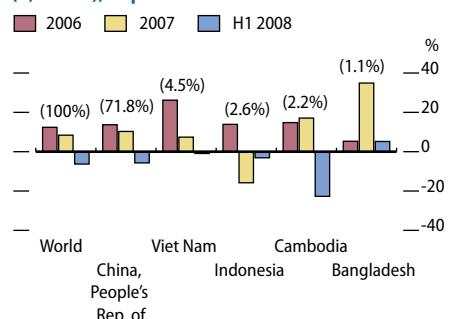
SAARC = South Asian Association for Regional Cooperation.

Note: Figures in parentheses indicate share in Japan's imports for the indicated product for 2008.

Source: Japan Customs, Ministry of Finance, available: www.customs.go.jp, downloaded 19 August 2008.

[Click here for figure data](#)

A1.1.8 Growth in imports of footwear (¥, value), Japan

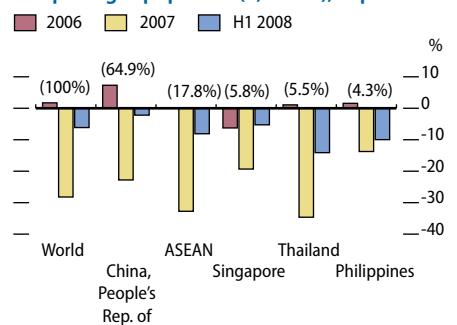


Note: Figures in parentheses indicate share in Japan's imports for the indicated product for 2008.

Source: Japan Customs, Ministry of Finance, available: www.customs.go.jp, downloaded 21 August 2008.

[Click here for figure data](#)

A1.1.9 Growth in imports of computers and computing equipment (¥, value), Japan



ASEAN = Association of Southeast Asian Nations.

Note: Figures in parentheses indicate share in Japan's imports for the indicated product for 2008.

Source: Japan Customs, Ministry of Finance, available: www.customs.go.jp, downloaded 19 August 2008.

[Click here for figure data](#)

So far this year, though, EU clothing imports have sharply decelerated. Volume growth has flattened to near zero for ASEAN and SAARC suppliers and, although the PRC has sustained growth, this has not been enough to prevent an extremely anemic performance for developing Asia taken as a whole (Figure A1.1.10). The region's share in extra-EU clothing imports is even larger than that in the US market in volume terms, at over three quarters, and is quite similar to that in the US market in value terms, at about two thirds (Figure A1.1.11).

Clothing exports from ASEAN members to the EU (with the single exception of Viet Nam) contracted in 2007. By value they grew in the first 3 months of 2008 but deteriorated sharply in April and May, resulting in a contraction for the first 5 months of 2008. A similar pattern is seen for clothing exports from SAARC members, where moderate growth was experienced in the first 3 months followed by sharp deterioration in April and May, with the net effect a contraction of exports also from SAARC for the first 5 months. Only the PRC has seen value growth in 2008, with less than a 2% rise in exports in the year, to May 2008.

Major countries from South Asia (Bangladesh, India, Pakistan, and Sri Lanka) have essentially tracked the world's and developing Asia's exports of clothing to the EU (Figure A1.1.12). A trend of contraction can be seen in Pakistan. For Bangladesh and India, the trend has been toward flat or falling growth rates, particularly when compared to 2006 rates of growth. Sri Lanka (which accounts for less than 2% of EU clothing imports) has been able to maintain a higher growth rate than its neighbors. Clothing shipments to the EU market from SAARC member countries benefit from duty-free treatment under the GSP Plus program. Shipments from Sri Lanka may not hold up in 2009 as Sri Lanka is likely to become ineligible for GSP Plus treatment, and tariffs will be levied on its clothing exports. Moreover, shipments may come under cost pressure as prices have tracked up by over 20% in recent months.

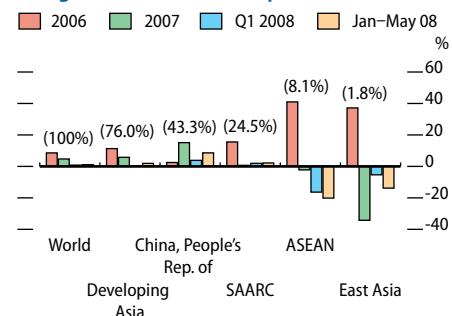
The EU market for footwear imports is roughly the size of the US market. Growth of footwear exports slowed in 2007 and shipments contracted for the PRC and ASEAN footwear exporters over the first 5 months of 2008. Shipments from the Philippines and Thailand contracted sharply in the first 5 months, falling by over 20%; those from Indonesia, Malaysia, and Viet Nam also contracted in January–May 2008, compared with the same period in 2007 (Figure A1.1.13).

SAARC shipments of footwear have not tracked the world's and developing Asia's rates of shrinkage, mainly because shipments have remained positive in value terms (Figure A1.1.14). By value, only Pakistan showed a contraction in 2008, while Bangladesh and India were able to achieve growth—albeit slow. However, all suppliers contracted in volume terms and, if prices begin to fall, this could result in a contraction by value in the second half of 2008 and in 2009.

It is clear that demand for the nondurable goods that feature prominently in Asian shipments to the EU market is in retreat and, as recent economic data including an across-the-board slowdown in economic activity in April–June 2008 indicate, the outlook for the rest of 2008 and 2009 is for further weakness that will inflict pain on Asian exporters.

The eurozone has yet to embark on a stimulus program and has also refrained from loosening monetary policy as inflation is already

A1.1.10 Growth in imports of clothing (kilograms, volume), European Union

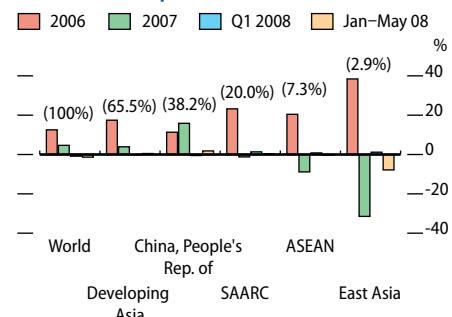


Notes: Figures in parentheses indicate share in EU imports of clothing for 2008. EU excludes intra-EU trade. Developing Asia comprises the Association of Southeast Asian Nations (ASEAN), People's Republic of China, and South Asian Association for Regional Cooperation (SAARC). East Asia comprises Hong Kong, China; Republic of Korea; and Taipei, China.

Source: Eurostat, available: <http://epp.eurostat.ec.europa.eu/portal>, downloaded 18 August 2008.

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A1.1.11 Growth in imports of clothing (€, value), European Union

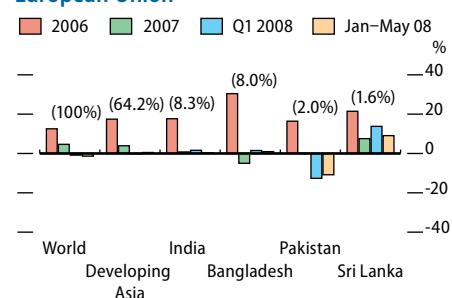


Notes: Figures in parentheses indicate share in EU imports of clothing for 2008. EU excludes intra-EU trade. Developing Asia comprises the Association of Southeast Asian Nations (ASEAN), People's Republic of China, and South Asian Association for Regional Cooperation (SAARC). East Asia comprises Hong Kong, China; Republic of Korea; and Taipei, China.

Source: Eurostat, available: <http://epp.eurostat.ec.europa.eu/portal>, downloaded 18 August 2008.

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A1.1.12 Growth in imports of clothing from selected South Asian countries (€, value), European Union



Notes: Figures in parentheses indicate share in EU imports of clothing for 2008. EU excludes intra-EU trade. Developing Asia comprises the Association of Southeast Asian Nations, People's Republic of China, and South Asian Association for Regional Cooperation.

Source: Eurostat, available: <http://epp.eurostat.ec.europa.eu/portal>, downloaded 18 August 2008.

[Click here for figure data](#)

double the high end of the target range of 2% or less. Thus one might expect difficulties in consumer nondurables to worsen. In the case of durable goods the outlook is also pessimistic. Shipments of computers and related equipment fell in 2007 compared with 2006 and contraction continued from all groups of Asian suppliers in the first 5 months of 2008 (Figure A1.1.15).⁵

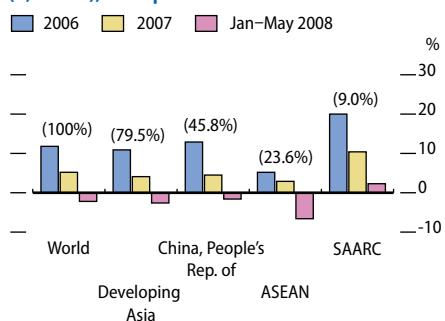
Major exporters of computer parts and equipment from ASEAN continued to suffer from double-digit contractions in shipments to the EU from 2007 into 2008. The biggest falls have been from Malaysia, followed by Singapore and the Philippines. Thailand has suffered the smallest decline; however, the contraction is still showing a worsening trend. Major East Asian exporters of computer parts and equipment followed the ASEAN trend of contractions in shipments to the EU in 2007; however, in 2008 so far, East Asia seems to have recovered some ground as shipments have grown (except from the Republic of Korea).

The main message of this annex is that the G3 slowdown will have strong repercussions for Asian exports in 2008 and, in all probability in 2009 as well. Forecasts of world trade volume have been slashed to 4.8% for 2008. Under these circumstances it is very likely that as demand in the G3 slackens, intra-Asian trade may also come under pressure as there will be less final demand and therefore less trade in intermediate parts and components.

Endnotes

- 1 See James (2008) for a description of the 24 restricted clothing categories and an analysis of how various major suppliers had performed in the US market after the restrictions were imposed.
- 2 East Asia (as defined in this annex) also has exports of clothing to the US market and experienced sharp declines in shipments in volume (down 18%) and in value (down 12%) during the first half of 2008. However, it is losing its share of the US market for structural reasons that have been apparent since the quota system was dismantled under the Agreement on Textiles and Clothing (James 2008 and ADB 2006). It currently accounts for only 4% of US imports of clothing, although it is more significant as a supplier of textile products such as yarn, fabric, and industrial textiles.
- 3 The figure is the simple arithmetic average of sales growth in stores open at least 1 year in 19 major chains for July 2008 compared with the same month the previous year. Data are from www.emergingtextiles.com, downloaded 8 August 2008.
- 4 The Harmonized Tariff Schedule (HTS) commodity code 8471 comprises desktops, laptops, and other peripherals such as computer monitors, central processing units, keyboards, mice, memory devices, and optical readers.
- 5 SAARC countries are not major suppliers of computing equipment to the EU (nor the US or Japan).

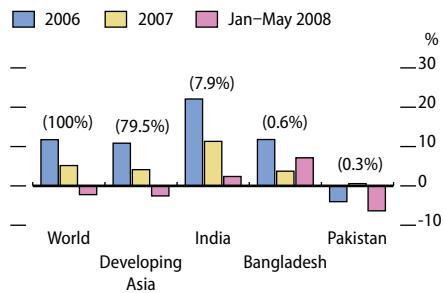
A1.1.13 Growth in imports of footwear (€, value), European Union



Notes: Figures in parentheses indicate share in EU imports of footwear for 2008. EU excludes intra-EU trade. Developing Asia comprises the Association of Southeast Asian Nations (ASEAN), People's Republic of China, and South Asian Association for Regional Cooperation (SAARC). **Source:** Eurostat, available: <http://epp.eurostat.ec.europa.eu/portal>, downloaded 21 August 2008.

[Click here for figure data](#)

A1.1.14 Growth in imports of footwear from selected South Asian countries (€, value), European Union

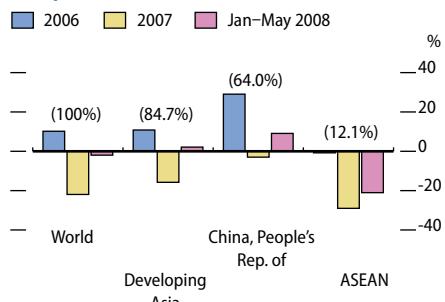


Note: Figures in parentheses indicate share in EU imports of footwear for 2008. EU excludes intra-EU trade. Developing Asia comprises the Association of Southeast Asian Nations, People's Republic of China, and South Asian Association for Regional Cooperation.

Source: Eurostat, available: <http://epp.eurostat.ec.europa.eu/portal>, downloaded 21 August 2008.

[Click here for figure data](#)

A1.1.15 Growth in imports of computer and computer equipment (€, value), European Union



Notes: Figures in parentheses indicate share in EU imports for indicated product for 2008. EU excludes intra-EU trade. Developing Asia comprises the Association of Southeast Asian Nations (ASEAN), People's Republic of China, and South Asian Association for Regional Cooperation.

Source: Eurostat, available: <http://epp.eurostat.ec.europa.eu/portal>, downloaded 22 August 2008.

[Click here for figure data](#)

References

- Asian Development Bank (ADB). 2006. *Asian Development Outlook 2006*. Manila.
- Bank of Japan 2008a. *Monthly Report of Recent Economic and Financial Developments*. Tokyo. 17 June.
- . 2008b. *Monthly Report of Recent Economic and Financial Developments*. Tokyo. 17 July.
- Broda, C., and J. Parker. 2008. "The Impact of the 2008 Tax Rebate on Consumer Spending: Preliminary Evidence." University of Chicago. July.
- James, William. 2008. "Asian Textile and Apparel Trade: Moving Forward with Regional Integration." ERD Working Paper Series, Economics and Research Department, Asian Development Bank, Manila. January.

Part 2

Global commodity
price rises and
impacts on
developing Asia



Are high oil prices here to stay?

Introduction

The huge escalation of oil prices in 2007 and so far in 2008 has shattered any remaining doubts about the end of cheap oil. The real (inflation-adjusted) price of oil began this year at around \$90 per barrel but surged throughout the year to hit a peak of over \$140 in July.¹ Although prices have since moderated, the average price for the year as a whole is still expected to be about \$120 per barrel, up 70% from the 2007 average. Yet amid the worldwide anxiety over oil prices, it is easy to forget that oil prices have been rising for some time. Although real average annual prices stagnated at under \$25 for much of 1986–2003, they rose sharply from \$27 in 2003 to \$70 in 2007. What is remarkable about the recent movement of oil prices is not the direction but the speed. The alarm over oil prices has subsided in recent weeks along with the oil prices themselves. It is therefore a good time to take a dispassionate look at why oil has become so dear and whether it will remain so.

The runup in oil prices since the second half of 2007 has prompted questions over the role of financial speculation in oil. Financial institutions betting on higher prices have come under intense criticism for allegedly driving up prices to levels far above those resulting from the supply and demand position. While speculation may play some role in determining oil prices over short periods, it cannot explain the inexorable rise of oil prices since 2003.

The more plausible explanations are likely to be found in the fundamentals of supply and demand. Some drivers of demand, such as the state of the world economy, are cyclical while others, such as the economic transformation of the People's Republic of China (PRC) and India, are structural. Likewise, some supply drivers, such as disruptions stemming from geopolitical tensions, are temporary while others, such as the growing share of global oil reserves held by members of the Organization of the Petroleum Exporting Countries (OPEC), are more long run. The relative importance of structural versus cyclical fundamentals will shape the future outlook for oil prices. More specifically, to the extent that the underlying fundamentals of high oil prices are structural, oil prices will remain elevated for years to come.

This chapter was written by Donghyun Park of the Economics and Research Department, ADB, Manila. It draws on a background paper prepared by Jeff Brown, FACTS Global Energy Group. The box on retail fuel prices in Asia was prepared by Gemma Estrada.

The future trajectory of oil prices is of enormous interest for developing Asia. As a net importer of primary energy, the region will be hit hard by a prolonged increase in the price of oil. Cheap oil has contributed to developing Asia's rapid economic growth in the past. For example, it lowered transportation costs and hence the cost of internal and foreign trade. It also helped satisfy the region's growing appetite for electricity. It is unlikely that the PRC and India could have grown as fast as they have done in a world of more expensive oil.

Looking ahead, a prolonged elevation of oil prices would almost certainly have an adverse impact on developing Asia's future growth. The past few years of robust growth in the face of rising oil prices should not delude people into believing that developing Asia's growth prospects will be immune from the effects of dear oil. Intuitively, for oil-importing developing Asia, higher oil prices amount to an increase in the cost of a core input in the production process. They also represent a loss of income and transfer of income to oil-exporting countries.

The oil price outlook has implications not only for developing Asia's macroeconomic prospects but also for its energy markets. Soaring oil prices test the fiscal capacity of governments to provide subsidies on refined final products such as gasoline and kerosene. Indeed, many Asian economies have already begun to modify their policies so as to align their prices more closely with world market prices. Demand-side policies designed to encourage firms and consumers to use energy more efficiently will mitigate the impact of higher oil prices on energy consumption. Countries with hydrocarbon potential can facilitate investment in exploration and production to take advantage of higher prices. Furthermore, those same higher prices will make alternative energy sources such as nuclear, wind, and solar power more commercially attractive.

The rest of this chapter is organized as follows. The next section, *The role of Asia in the global oil market and the role of oil in Asia's energy mix*, explores the impact of developing Asia on global oil prices and the relative importance of oil as a source of energy in the region. The region's hunger for energy has grown rapidly in tandem with its robust economic growth, and oil plays a big part in satisfying that hunger. Given its limited oil reserves, developing Asia's impact on global oil markets is felt primarily through its fast-rising demand. Developing Asia's strong growth prospects suggest that its impact on global oil demand will continue to grow. At the same time, developing Asia's dependence on oil to drive its growth is unlikely to ease soon.

The section, *Why have oil prices soared since 2003?* looks at recent trends in oil prices and the underlying causes of those trends. The recent spike in prices marks an acceleration of a secular price increase since 2003. Previous oil shocks were caused by temporary supply disruptions but the current price surge has been driven by sustained demand growth. Notwithstanding the media spotlight on the role of financial speculation, the price runup is largely a consequence of imbalances between global supply and demand. More precisely, the failure of supply to keep up with fast-growing demand has fueled inexorable upward price pressures.

What will drive oil prices in the future? examines the main drivers of future global oil demand and supply. Demand will increasingly be driven by developing countries, especially in developing Asia and the

Middle East. Of particular significance is those countries' demand for transportation fuels. On the supply side, the peaking of production from non-OPEC countries in the near future means that OPEC will have to meet the bulk of the incremental demand but there are good reasons to doubt its ability to do so. This section also classifies the main demand and supply drivers into structural versus cyclical, and assesses their relative importance in determining oil prices.

The following section, *Oil price outlook in the short, medium, and long run*, follows from and is guided by the above analysis of supply and demand drivers. In the short term, the oil price is likely to soften on higher output and weaker demand. Around the middle of next decade, however, sustained upward pressure will reappear due to a sustained gap between supply and demand. In the still longer run, the restoration of equilibrium will require a decisive adjustment of consumer behavior, which would sharply curtail demand growth. This explains why the long-run oil price outlook is a prolonged period of prices well above \$100 per barrel.

The section, *Policy options for developing Asia in an era of expensive oil*, discusses the government's role in helping the region adapt to a less favorable oil-related environment. Above all, Asian governments should use a carrot-and-stick approach of subsidies and taxes to encourage firms and consumers to use oil more efficiently. A particularly welcome trend in this context is the phaseout of price controls and subsidies under way in many countries. Liberalizing the market for oil products will limit the impact of higher crude oil prices on end users. Governments also have a vital role to play in minimizing temporary supply disruptions by establishing strategic oil reserves.

Concluding observations underlines the central messages that emerge from the analysis. The biggest message is that high oil prices are here to stay, and the sooner that developing Asia wakes up to this reality, the better. Painful but necessary adjustments will have to be made in the areas of macroeconomic policy as well as energy policy. Failure to act today will lead to larger costs tomorrow. Given the central role of transportation fuel in oil demand, there is a need to coordinate transportation policy and energy policy. High oil prices may, though, be a "blessing in disguise," which encourages developing Asia to embark on a more sustainable course of economic growth.

The role of Asia in the global oil market and the role of oil in Asia's energy mix

The price of oil is determined by global demand and supply. The market for oil is truly global in the sense that events in one part of the world, whether related to supply or demand, have repercussions on the rest of the world. A basic but often ignored point is that the end users of oil—consumers and firms—do not buy crude oil but refined oil products. Refined products are sometimes consumed directly and sometimes used as inputs in the production of other goods such as electricity. An interesting feature of the Asian oil market is that although the region is poorly endowed with crude oil, it has ample oil refining capacity and

is home to seven of the world's top 20 countries in terms of refining capacity. The price of refined oil products facing firms and consumers depends not only on direct production costs but also on transportation costs as well as taxes and subsidies. The price facing the end users is not the only determinant of the demand for oil products. Their demand also depends on a number of other factors, in particular income, energy efficiency, and availability of affordable substitutes. The demand for oil products reverberates in the opposite direction to influence the market for crude oil. In short, the oil market has two defining structural features—a high degree of interdependence across countries and a long, complex supply chain—both of which work to amplify the impact of shocks erupting in any part of the world or at any stage in the supply chain.

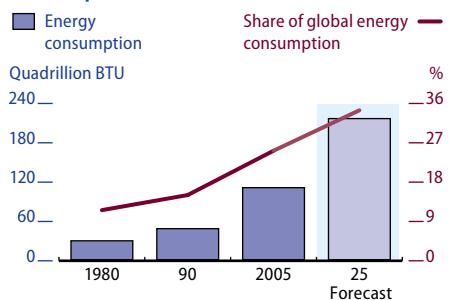
Developing Asia has been the most dynamic component of the global economy for quite some time now. One symptom of the region's breakneck growth is its large and growing appetite for energy. Energy consumption is both a cause and consequence of economic growth. For example, an ample and reliable supply of electricity contributes to growth by promoting a viable manufacturing sector. At the same time, growth gives rise to a mass consumption society in which large numbers of people buy and use personal computers, refrigerators, and other electrical appliances.

Quite predictably, massive industrialization and growing consumer affluence have combined to sharply ramp up Asian energy consumption. More precisely, the consumption of energy by countries in Asia outside the Organisation of Economic Development and Co-operation (non-OECD Asia) grew by about 64% between 1980 and 1990, more than doubled between 1990 and 2005, and is set to double again between 2005 and 2025 (Figure 2.1.1). Asia's energy consumption accounted for only 10.2% of global energy consumption in 1980 but its share rose to 13.6% by 1990 and 23.8% by 2005, and is set to rise further to 33% by 2025.

Developing Asia's surging oil consumption reflects its soaring energy consumption. Firms and consumers do not demand oil in itself but the energy generated by refined oil products. For example, oil-powered electricity plants provide energy for factories, homes, and commercial buildings although power generation is a relatively minor use of oil. More significantly, gasoline and diesel generate the energy which propels motor vehicles. Just like energy consumption in general, oil consumption is both a cause and consequence of developing Asia's rapid growth. In particular, transportation has been a key driver of higher oil consumption in the region. Transportation promotes growth by facilitating the flow of goods and services within a country and across borders. Growth has also created large middle classes with a growing appetite for automobiles and air travel in the PRC, India, and elsewhere. Inevitably, these trends have combined to sharply ramp up oil consumption throughout developing Asia (Figure 2.1.2). For developing Asia as a whole, oil consumption jumped by 82.5% between 1990 and 2007. The expansion of the PRC's oil consumption is even more striking, more than tripling in the same period.

Developing Asia's oil consumption is growing not only in absolute terms but also in relative terms. The region's share of global oil consumption has risen substantially in recent years, from 19.9% in 1990 to 28% in 2007 (Figure 2.1.3). Another visible sign of the region's growing

2.1.1 Non-OECD Asia's total primary energy consumption



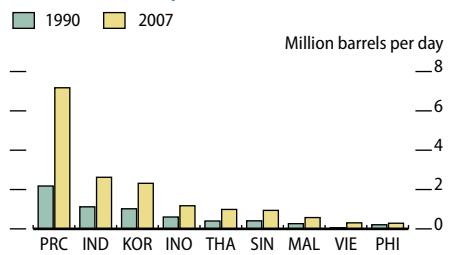
BTU = British thermal unit.

Note: Total primary energy consumption includes consumption of petroleum, dry natural gas, coal, and net hydroelectric, nuclear, and geothermal, solar, wind, and wood and waste electric power.

Source: Energy Information Administration, available: <http://www.eia.doe.gov/pub/international/iealf/tablee1.xls>, downloaded 25 August 2008.

[Click here for figure data](#)

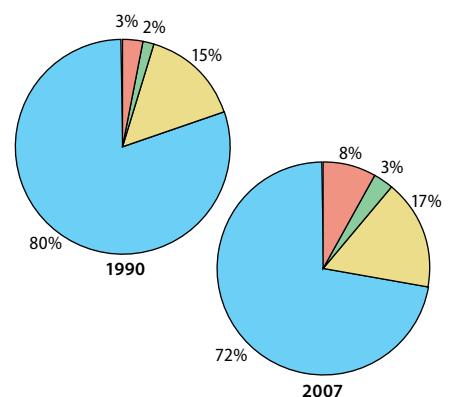
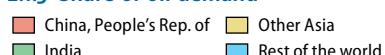
2.1.2 Oil consumption in selected countries



PRC = People's Republic of China; IND = India; INO = Indonesia; KOR = Republic of Korea; MAL = Malaysia; PHL = Philippines; SIN = Singapore; THA = Thailand; VIE = Viet Nam.

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.
[Click here for figure data](#)

2.1.3 Share of oil demand



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

importance in the global oil market is that it has accounted for around half the increase in total world oil demand since 1990 (Figure 2.1.4).

Asia is not completely without oil reserves but it only produces enough to cover one third of its needs. As a result, the region suffers from a growing dependence on imported oil (Figure 2.1.5). The Middle East supplies the bulk of Asia's imports, which means that Asia remains especially vulnerable to disruptions of Middle Eastern oil. The regional imbalance between burgeoning demand and stagnant supply is epitomized by the turnaround of Indonesia from an OPEC member to an importer of oil products. A fast-growing region poorly endowed with oil, developing Asia's primary impact on the global oil market has been to boost demand.

Developing Asia's heavy dependence on imported oil suggests that surging oil prices will have a major impact on its energy markets. How hard this impact is will depend on the relative importance of oil in the region's overall energy mix. Although oil is an important source of energy, it is by no means the only source.

Alternative energy sources include coal, natural gas, hydroelectricity, nuclear energy, solar, wind, geothermal, and biomass. The higher the share of non-oil energy sources in the energy mix, the smaller the effect of oil prices on energy consumption. Coal and oil accounted for 50% and 31% of Asia's total energy consumption in 2007 (Figure 2.1.6). This implies that Asia is less dependent on oil than the rest of the world. However, if the PRC and India are excluded, the share of coal falls to 25% and the share of oil rises to 45%.

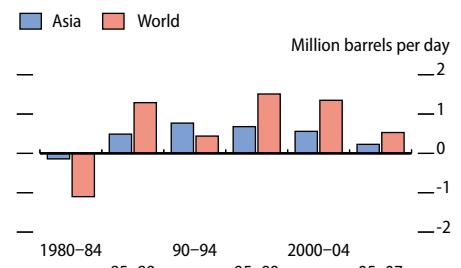
Furthermore, Asia is much more dependent on imports of oil than of the other major energy sources. The region's oil consumption is three times as high as its oil production. However, for coal, natural gas, hydroelectric power, and nuclear energy, the region produces about enough to satisfy its needs. The region's overall energy deficit is due largely to its huge oil deficit.

Looking ahead, the key question is whether developing Asia's role in the global oil market will continue to grow in the future. The answer is yes.

On the supply side, the potential for a substantial expansion of oil output from the region is virtually nonexistent. The region currently accounts for a mere 3.4% of total world oil reserves and geology suggests that this share is unlikely to rise.

On the demand side, the generally robust growth prospects of the PRC, India, and Asia as a whole suggest that the region will continue to be a key driver of global demand for energy and oil for years to come—see, for example, IEA (2007). In principle, a prolonged elevation of oil prices on a higher plateau would encourage substitution toward other fuels. In practice, economic and technological factors constrain the scope and speed of such substitution. For one thing, the price of one close substitute—natural gas—tends to move in tandem with the price of oil. For another, it takes a long time to bring some alternative energy sources into operation, such as hydroelectric or nuclear power plants. Above all, oil will continue to be the dominant fuel for transportation due to limited substitutability, and developing Asia's demand for transportation is set to expand rapidly along with economic growth.

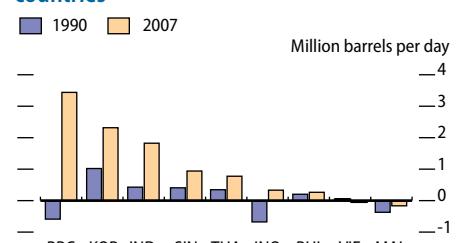
2.1.4 Incremental oil demand



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

2.1.5 Import dependence on oil of selected countries



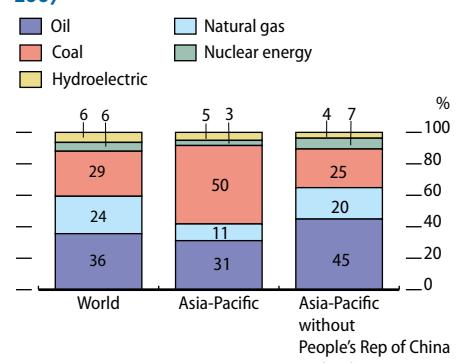
PRC = People's Republic of China; IND = India;
INO = Indonesia; KOR = Republic of Korea; MAL = Malaysia;
PHI = Philippines; SIN = Singapore; THA = Thailand;
VIE = Viet Nam.

Note: Import dependence is computed as a country's oil product consumption less its oil production.

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

2.1.6 Energy consumption by fuel type, 2007



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

Why have oil prices soared since 2003?

Given the dramatic nature of the increase in oil prices since the second half of 2007, it is easy to forget that inflation-adjusted oil prices have been rising for some time now. In fact, they have been rising on a secular basis for about 5 years, since the latter part of 2003 (Figure 2.1.7). The recent price surge should thus be viewed not in isolation but as an integral part of a prolonged upward price trend. Furthermore, the oil boom is very much part of a broader commodity boom, which has pushed up the price of many primary commodities since 2003. The general nature of the commodities boom was underlined more recently by the simultaneous runup of oil and food prices (see the chapter, *Causes of high food prices*, also in Part 2) over the past year. The post-2003 surge of oil prices had been immediately preceded by an extended period of cheap oil between 1986 and 2003. The real price of oil rarely rose above \$25 in this period. However, upward price pressures were already building by 1999, when prices began to nudge up.

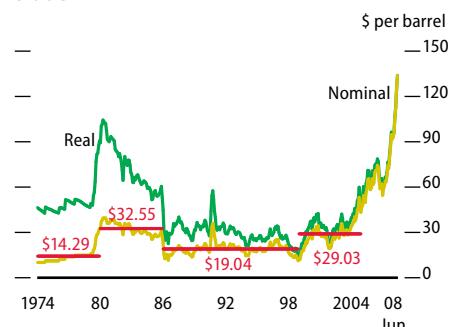
Over a longer period, what is striking about the post-2003 oil price surge is its continuity. Although real prices have ebbed and flowed over short sub-periods, the period as a whole has been marked by a continual increase in prices. The world experienced two earlier price spikes, in 1973–74 and 1979–80, but these were short-lived. A more fundamental difference is the impact on global economic growth. The two earlier oil price spikes hurt global economic growth to the extent that they were oil shocks. In contrast, the current oil price spike has had no perceptible impact on the world economy, which was in robust health in 2003–2007. What is even more surprising, and contrary to conventional wisdom, the oil price's breaking the psychological barrier of \$100 per barrel has not led to a global economic meltdown. To say the least, the apparent irrelevance of skyrocketing oil prices on economic performance is at first sight puzzling, especially in light of their big impact in the past.

Much of the puzzle can be explained by differences between the underlying causes of the current and earlier price shocks. The two oil crises of the 1970s were caused by negative supply shocks which involved short-lived geopolitical disruptions of Middle Eastern oil supply. In both cases, oil prices rose swiftly to reduce demand in line with supply and restore market equilibrium (Figure 2.1.8). In contrast, the immediate catalyst of the post-2003 surge in oil prices was a positive demand shock rather than a negative supply shock.

More specifically, demand from developing countries, in Asia in particular, took off in 2004, when global oil demand rose by almost 3 million barrels per day. An exceptionally buoyant world economy and robust expansion of world trade also supported demand. Since the demand for oil was propelled by rapid growth, the muted impact of dear oil on growth was no surprise at all. A further contributing factor was an earlier negative supply shock emanating from the Asian financial crisis of 1997–98. The collapse in oil demand led to a collapse in oil prices and a sharp drop-off in investments in new production capacity. This subsequently constrained the ability of oil producers to accommodate incremental demand.

In light of the central role of demand growth in the post-2003 oil price surge, a legitimate question to ask is whether the higher prices

2.1.7 Prices of West Texas Intermediate crude

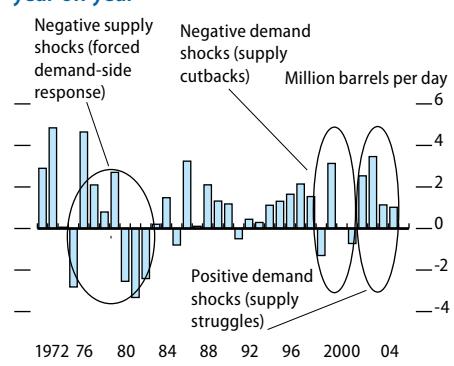


Note: Red lines are average nominal prices.

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

2.1.8 Global incremental crude oil supply, year on year



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

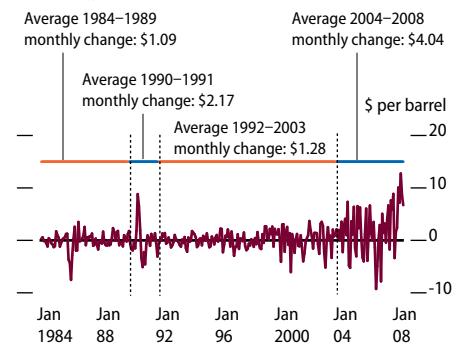
resulting from stronger demand have, in turn, damped demand. A comparison of world gross domestic product (GDP) growth and oil consumption growth indicates that rising oil prices have in fact destroyed some demand. Historically, when world GDP grows by 10%, world oil consumption grows by 5%. This rule of thumb has broken down since 2004 when oil consumption has grown by less than the expected amount. The lack of available supply to accommodate the incremental demand due to growth has driven up prices, destroyed demand, and restored the supply-demand balance.

It has just been seen that there are sound economic reasons for why oil prices have surged since 2003. Nevertheless, there is a widespread tendency to blame financial speculators. It is conceivable that in the short run financial speculators betting disproportionately on price rises rather than price falls can cause market prices to disconnect from the fundamentals of supply and demand. However, over a longer time frame, if prices move too high, supply will exceed demand and inventories will start to build up toward unacceptable levels. The liquidation of inventories will increase supply and drive market prices down, inflicting losses on speculators who cling to their upward bets. Therefore, given the long time period of the post-2003 oil price surge, financial speculation may at best explain short-lived price spikes within that surge but not the surge itself. Unsurprisingly, empirical research on this issue generally fails to find any clear evidence of causality running from speculation to oil prices—see, for example, IEA (2008) and ITF (2008).

Greater price volatility has accompanied the secular increase in real oil prices since 2003. Price volatility, measured as dollars per barrel month on month, has increased markedly (Figure 2.1.9). The failure of supply to match soaring demand has brought about market tightness that leaves very little surplus capacity to cushion supply or demand shocks. As a result, even small market disruptions, such as localized armed conflict in Nigeria or perceptions of rising tension in the Middle East, are amplified into large swings in price. Lack of timely and accurate market data also contributes to the heightened price volatility by forcing oil market participants to make ill-informed guesses about the actual impact of shocks on the markets. In particular, oil market data from developing countries, which are increasingly driving global demand, are available only after a long time lag. Volatility matters because it creates a lot of uncertainty about the direction of future prices. Uncertainty leaves Asian firms and consumers wondering whether they should make costly investments to improve energy efficiency. It also makes governments dither about taking painful but necessary anti-inflationary measures.

Although the oil price surge has been driven largely by the fundamentals of supply and demand, bad government policy must bear part of the blame. Governments often subsidize the price of refined oil products, such as diesel and kerosene, for social and political reasons. Such subsidies prevent the full pass-through of international oil prices to domestic fuel prices (see the chapter, *Inflation in developing Asia: Demand-pull or cost-push?*, also in Part 2). In doing so, they artificially lower the prices of refined oil products and encourage overconsumption. Fuel subsidies are to a large extent the legacy of the era of cheap oil when they allowed governments, driven by populist political motives, to

2.1.9 West Texas Intermediate crude price volatility, month-on-month change



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

score “political points” at manageable fiscal costs. Subsidies have largely shielded consumers from the post-2003 surge in oil prices. In so doing, they have artificially bolstered demand and contributed to the price surge. Developing Asian economies also provided socially and politically motivated fuel subsidies but the extent of those subsidies varied widely across countries. For example, subsidies were extensive in Indonesia and Malaysia but limited or nonexistent in Korea, Philippines, and Thailand, with the two regional giants—the PRC and India—falling in between. Gasoline and to a lesser extent diesel prices for the region as a whole are now more or less aligned with international market prices, partly as a result of reductions in subsidies (Box 2.1.1).

In addition to financial speculation and subsidies, another non-fundamental factor which may have contributed to higher oil prices is the depreciation of the United States (US) dollar—see, for example, Cheng and Mercer-Blackman (2007). Oil is bought and sold in dollars in international markets. Therefore, when the US dollar suffers a general decline, as it had until recently, the yuan price of oil (among others) will fall. Other things being equal, a 10% depreciation of the dollar against the Korean won implies a 10% fall in the won price of oil, which will have a positive effect on Korean oil consumption. Of course, other things are not equal and oil prices have taken off. In theory, the decline of the dollar offsets the rise of oil prices to some extent and thus restricts the pass-through of international prices to domestic prices. In practice, the sheer magnitude of the increase in the dollar price of oil means that the offsetting effect of the weakening dollar is likely to be limited at best. For the region as a whole, the slide of the dollar has helped hold down oil prices and thus support demand, but this dollar effect has been overwhelmed by the higher dollar prices (Figure 2.1.10).

What will drive oil prices in the future?

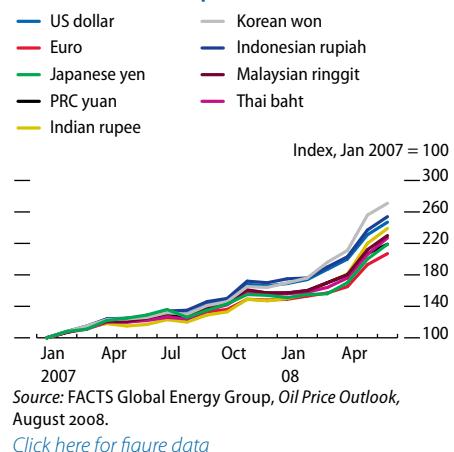
It is likely that supply and demand will continue to play the central role in the determination of prices in the future. As in the past, non-fundamentals such as financial speculation and exchange rate movements will have some impact but their impact is likely to be short-lived and uncertain. This section first explores the factors that are likely to have the biggest impact on global oil demand. It then looks at the factors that are likely to drive global oil supply. The paths of those underlying factors will determine the paths of global supply and demand, which, in turn, will determine the path of oil prices, an issue that is explored in the next section.

Future drivers of global oil demand

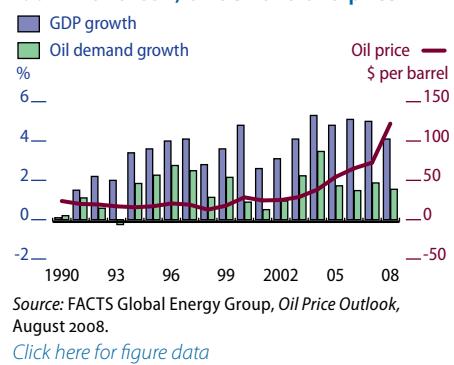
Global economic growth

Global oil consumption depends heavily on global economic growth. As noted earlier, the income elasticity of oil consumption has historically been about 0.5, so that 1% economic growth translates into 0.5% growth in oil consumption. The robust growth of oil consumption since 2003 mirrored an exceptionally robust global economy (Figure 2.1.11). The current deterioration of the global economic outlook will have a negative

2.1.10 Dubai crude price index



2.1.11 World GDP, oil demand and price



impact on demand in the short run. In particular, the sharp slowdown of growth in the US, Europe, and Japan will curtail demand growth. However, even in the short run, the slower but still healthy growth of developing countries will help prop up demand. Also in the short run, the growth of oil consumption depends on the ups and downs of the business cycle but in the long run, the growth of oil consumption will depend on the long-run trajectory of economic growth. Any sharp deterioration or improvement of long-run global economic prospects would have a major impact on long-run oil demand. Since less fuel-efficient developing countries are accounting for a larger share of world output, the same level of global growth can be expected to have a bigger impact on oil demand.

Demand from developing countries

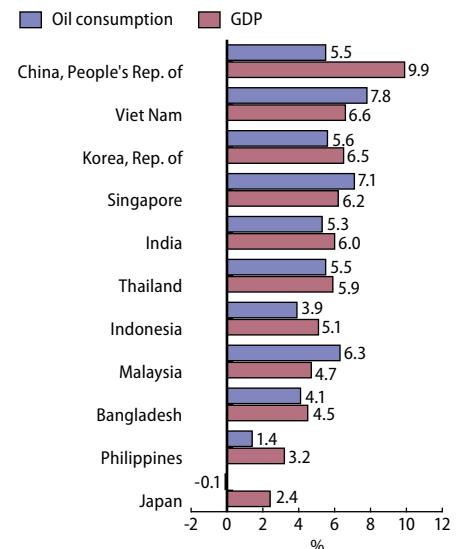
Global oil demand growth will increasingly come from two regions—developing Asia, in particular the PRC and India, and the Middle East. Developing Asia accounted for about 40% of the positive demand shock in 2004 and is likely to account for up to one half of global demand growth in the future. In the PRC and India, rapid growth and structural transformation will fuel rapid growth of oil consumption for some time to come. The PRC and India are at a stage in their economic development in which oil consumption has just taken off and will not decelerate in the foreseeable future. The positive income effect associated with robust economic growth is overwhelming the negative effect of higher oil prices. For example, in the gasoline market, the rise in demand due to large numbers of first-time car buyers is dominating the fall in demand due to higher prices. The uncertain global economic environment may slow the two Asian giants in the short run but their remarkable economic transformation is a long-run trend that will not have run its course soon. Oil consumption in developing Asian economies other than the PRC and India will also continue to grow rapidly and thus support global oil demand. Economic growth will underpin much of that growth throughout the region, as it has in the past (Figure 2.1.12).

An often overlooked but increasingly important center of oil demand growth is the Middle East. Soaring oil revenues have delivered an economic boom that has sharply raised the demand for oil products. Those same revenues also enable Middle Eastern governments to heavily subsidize the price of oil products. For example, in the Islamic Republic of Iran, the retail price of gasoline is a mere \$0.11 per liter, far below international prices. Saudi Arabia has actually *reduced* the price of gasoline in the oil price surge. In fact, the incremental demand from the Middle East up to 2015 will equal that of the PRC, which has 10 times as many people and one of the world's fastest-growing economies. A combination of strong growth coupled with high international oil prices and artificially low domestic prices has transformed the Middle East into one of the two main engines of demand growth in the developing world (Table 2.1.1).

Demand for transportation fuel

A large part of the growth in oil consumption in developing countries will come from a growth in transportation fuel consumption. In the case of developing Asia, transport fuels will account for about one half of the growth in the demand for all oil products through 2019 (Figure 2.1.13).

2.1.12 Average annual growth rates of GDP and oil consumption, selected countries, 1980–2007



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

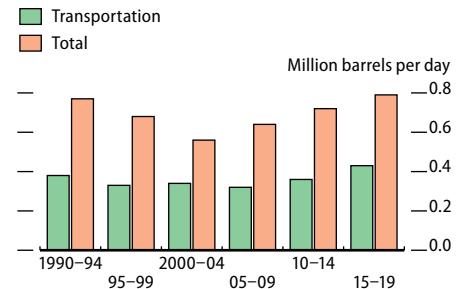
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2.1.1 Average annual oil demand growth, million barrels per day

| 2007–2015 | |
|-------------------------|----------------|
| China, People's Rep. of | 0.410 |
| India | 0.125 |
| Other Asia | 0.165 |
| Middle East | 0.380 |
| Total | 1.0–1.1 |

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

2.1.13 Incremental oil demand in developing Asia



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

2.1.1 Retail fuel prices in Asia

Fuel prices have surged in 2008. The Brent crude oil price went through \$100 per barrel in March and peaked at over \$140 in July. Although it went down to less than \$120 in August, the average price for the first 8 months was still much higher (by 70%) than in the same period last year. The surge in crude oil prices has pushed up retail fuel prices. Although these are heavily influenced by refining, distribution, and marketing costs, as well as taxes, crude oil still accounts for over one half of retail fuel prices (EIA 2008a, 2008b).

The box figure illustrates retail fuel price data for gasoline and diesel across developing Asia, surveyed by the Asian Development Bank mainly during the period 9–13 June 2008. For comparison purposes, three benchmark prices are also shown.

The first benchmark is the Brent crude oil price (84 cents per liter), marked by red vertical lines. In six out of 34 economies, retail prices of gasoline are below crude oil costs and are thus considered to be subsidized. More economies (11) provide subsidized retail prices for diesel than gasoline, since diesel is commonly used to fuel public transport for low-income households.

The second benchmark shows retail fuel prices in the United States (US), of \$1.14 per liter for gasoline and \$1.24 per liter for diesel, and are marked by green lines. The US price incorporates fuel tax and an industry margin, and therefore represents an unsubsidized or cost recovery price. Countries that price up to the green line are assumed to recover their crude and refining costs.

Fuel prices of some countries that do not provide direct subsidies may, however, deviate considerably from the US price. This stems from differences in refining and distribution costs, taxes, and other costs. Ten economies reported diesel prices above the US price (fewer than the last time that the Asian Development Bank conducted an oil price survey, as published in *Asian Development Outlook 2007 Update*). For gasoline, 19 economies reported prices higher than US prices (close to the number in last year's *Update*).

The third benchmark marks Luxembourg fuel prices (\$2.03 per liter for gasoline and \$1.94 per liter for diesel), shown as purple lines. Luxembourg fuel prices are higher than US prices and include taxes as well as environmental costs, and prevail across much of the European Union. In developing Asia, only the two economies of Hong Kong, China and the Republic of Korea price gasoline around the Luxembourg price. For diesel, only the Republic of Korea and Singapore have prices similar to those in Luxembourg.

Comparing oil prices between June 2008 and August 2007, the average diesel price rose more sharply (52.3%) than the gasoline price (36.4%). Still, diesel and gasoline

price increases in the region were less steep than those in the US (61.9% for diesel and 40.9% for gasoline). In the case of diesel, the average price increase was higher for countries that provided subsidies than those that did not, reflecting price adjustments that lowered the amount of subsidies.

In 21 economies, the authorities still regulate retail fuel prices. However, since world crude prices have jumped, costly oil subsidies have become unsustainable and some countries have been forced to raise fuel prices. In Bangladesh for example, the retail price of diesel was raised by 37.5% and that of gasoline by 34% in July. In the People's Republic of China (PRC) they were increased by 18.1% and 16.7%, respectively, in June. In India, fuel prices were raised twice, once in February and again in June. Even oil-producing countries such as Indonesia and Malaysia have reduced fuel subsidies. At least 13 countries that regulated fuel prices pushed through fuel price increases in the first half of 2008.

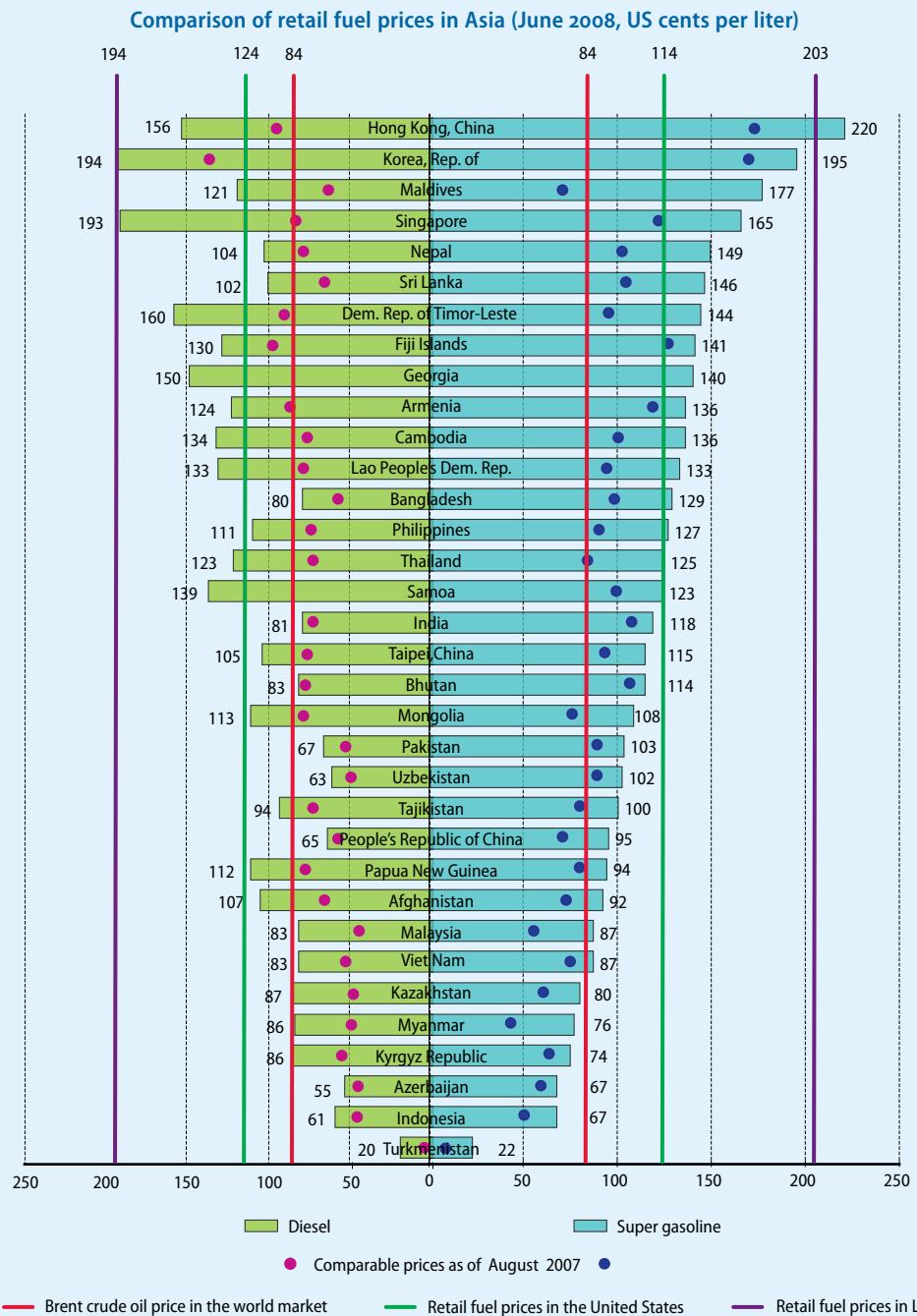
Very few countries introduced new or additional fuel subsidies. Maldives initiated fuel subsidies for farmers and fishermen. The authorities in Thailand temporarily reinstated a small subsidy on diesel during March–July. While the authorities in Turkmenistan hiked fuel prices, they have also provided monthly allocations of free diesel and gasoline since February.

In addition, eight countries have resorted to various tax measures in response to rising fuel prices. India and the Philippines lowered their import duties on oil products. Pakistan, Papua New Guinea, Sri Lanka, and Viet Nam reduced or eliminated excise taxes on oil. The PRC and the Republic of Korea have provided tax rebates.

Several economies offer incentives to encourage a shift to alternative sources of fuel. Authorities in Taipei, China have started to compensate motorists who modify their vehicles to run on both gasoline and liquefied petroleum gas (LPG). In Uzbekistan, the Government plans to draw vehicle owners away from gasoline consumption to LPG by expanding the network of LPG stations. In the Philippines, authorities have promoted biofuels (ethanol-blended fuels); they also support conversion of vehicles to LPG through zero-interest loans for “jeepney” operators.

Clearly, Asian economies have changed their pricing policies in response to rising fuel prices. What is particularly revealing in this context is a comparison of prices in August 2007 and June 2008 (Box figure). The June 2008 prices are almost invariably higher for both gasoline and diesel. Over one half of the economies in the oil price survey had higher gasoline prices than the US. In general, over the past 3 years, average fuel prices in the region have closely followed US fuel prices, especially in the case of gasoline. For diesel, the regionwide

2.1.1 Retail fuel prices in Asia (continued)



Sources: ADB resident missions; national press reports; Datastream; Energy Information Administration, available: <http://www.eia.doe.gov/>, downloaded 15 July 2008.

[Click here for figure data](#)

reduction in subsidies has substantially closed the gap between the US price and prices in many countries. With the planned additional reductions in subsidies within the year, fuel prices in the region should become aligned even more closely with US market prices.

References

- Energy Information Administration (EIA). 2008a. "A Primer on Gasoline Prices." Brochure No. DOE/EIA-X040. Washington, DC. May.
- . 2008b. "Diesel Fuel Prices: What Consumers Should Know." Brochure No. DOE/EIA-X045. Washington, DC. June.

The underlying factor is a sharp increase in motor vehicle ownership. Nowhere is the dramatic nature of the ongoing revolution in personal transportation more evident than in the PRC, which has already surpassed Japan to become the second-biggest national vehicle market after the US. Indeed, it is projected that the PRC will overtake the US as the world's biggest market for cars in around 2015. It is also projected that the total number of vehicles in the PRC will jump by a staggering 20 times between now and 2030.

Developing Asia's growing demand for transportation fuel will have a tangible impact on the global market for oil products in the medium and long run. In fact, Asian demand for gasoline and diesel is expected to account for a quarter of the growth in global demand for all oil products through 2025. More generally, an unusually large group of developing countries in Asia and beyond are reaching the "sweet spot" of oil demand—a per capita purchasing power parity income range of \$3,000–9,000—where stylized evidence suggests that vehicle ownership grows twice as fast as income (Figure 2.1.14). Crucially, the substitutability between oil and other energy sources is much more limited for transportation fuel than for power generation and other uses—see, for example, Small and Van Dender (2007). Therefore, the dominant role of transportation fuel in Asian oil demand growth will reinforce Asian oil demand in the future.

Subsidies

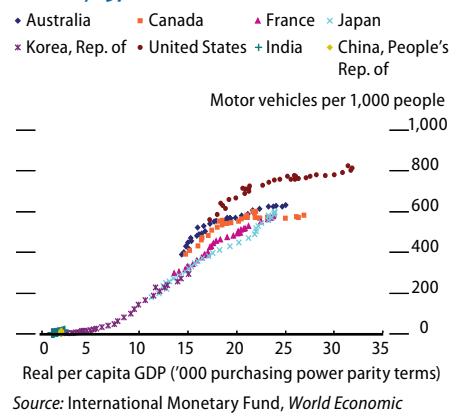
Subsidies shield consumers from market prices, encourage them to overconsume, and thus contribute to higher prices—see, for example, Baig et al. (2007). The sharp jump in oil prices since 2003 has rendered fuel subsidies fiscally unsustainable and forced governments throughout developing Asia to reduce them, resulting in higher retail fuel prices (Box 2.1.1 above). For example, the PRC raised the retail prices of gasoline and diesel by nearly one fifth in mid-June 2008. This represents the largest one-off increase in the PRC's prices for those products in at least a decade. Similarly, India raised the retail price of fuel by about 10% in recognition of the ballooning fiscal burden of government oil subsidies. Malaysia increased gasoline prices by more than 40% in early June while Indonesia put up the price of subsidized fuels by at least 28.7% in late May.

The trend toward lower fuel subsidies in developing Asia is part of a worldwide trend although some countries, especially in the Middle East, continue to heavily subsidize oil products. The worldwide reduction of subsidies suggests that subsidies will play a progressively smaller role in supporting global demand in the future.

Improving efficiency of oil use

Given the jump in oil prices, it is only natural to expect oil-importing countries to redouble their efforts to reduce their dependence on imported oil. Governments often take the lead in such efforts by implementing policies aimed at restricting demand and encouraging more efficient use of oil products. For example, governments may subsidize smaller fuel-efficient cars or heavily tax bigger, fuel-inefficient cars to induce consumers to economize on fuel consumption. Consumers and firms will also respond to higher oil prices by adjusting their

2.1.14 Vehicle ownership and per capita income, 1971–2002



Source: International Monetary Fund, *World Economic Outlook*, April 2005, available: <http://www.imf.org>.

[Click here for figure data](#)

behavior on their own. More commuters may choose to take public transport to work rather than drive in the face of soaring fuel prices. Anecdotal evidence suggests that the PRC and India have accelerated their efforts to improve the efficiency with which they use oil. The amount of oil required to produce one dollar of output has been falling in both countries, even though they—and the whole of developing Asia—still has a lot of catching up with Japan and Western Europe in energy efficiency (Figure 2.1.15). Improvements in the efficiency of oil use will have a negative impact on global oil demand in the future. However, the intensity of the efforts of governments, consumers, and firms to improve efficiency will very much depend on the future path of oil prices.

Alternative fuels

If the supply of an oil substitute increases and pushes down its own price in the process, firms and consumers will move away from oil toward the oil substitute. If the oil substitute becomes available in large commercial quantities at competitive prices, the global demand for oil could fall substantially. At the moment, the only commercially viable alternative fuels are derived from the conversion of organic matter into liquids—biofuels—or the conversion of solids and gases into liquids—coal-to-liquids or gas-to-liquids. (UN ESCAP 2008 examines the current state of biofuel production in selected Asian countries.)

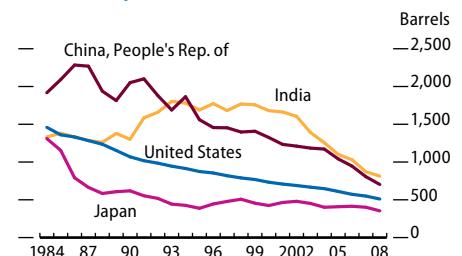
The initial euphoria over biofuels, which was seen as the solution to everything from climate change to dependence on imported oil to the hollowing out of rural communities, has largely faded. It has recently emerged that the economic and environmental costs of biofuels are significantly larger than previously thought—see, for example, Fargione et al. (2008) and Searchinger et al. (2008). In fact, biofuel production would not be economically sustainable in most countries without government subsidies. Even with technological improvements, it is unlikely that the production of biofuels will reach sufficient levels to exert downward substantial pressure on the price of oil before 2020. It is equally unlikely that the output of gas-to-liquids or coal-to-liquids will reach such levels.

Other demand drivers

The preceding list of drivers of future oil demand is by no means exhaustive. As noted earlier, the depreciation of the US dollar has helped prop up demand and will continue to do so. However, the future trajectory of the dollar is highly uncertain, as evident in its recent rebound, and is beyond the scope of this chapter. In any case, if the weakness of the dollar were to persist, it is conceivable that oil would be priced in other major currencies, such as the euro. Financial speculation may also play some part in pushing up demand but its role will be limited and temporary at the most. The recent softening of oil prices destroys the notion that investing in oil futures is a one-way bet.

Somewhat counterintuitively, refining capacity and upgrading can influence the price of crude oil. For example, current limitations in refining capacity limit the ability of refineries to process lower quality heavy crude, thus driving up their demand for higher quality light crude. In the near future, the buildup of new capacity, in the form of the construction of more advanced refineries as well as upgrading of existing

2.1.15 Evolving efficiency: Barrels of oil consumed per \$1 million GDP



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

refineries, will expand industry capacity for processing heavy crude and thus moderate the demand for light crude.² Most of the new capacity will be located in the PRC, India, and the Middle East, and come on stream by 2013 (Figure 2.1.16).

Technologies to improve the efficiency of vehicle engines already exist but their incorporation into vehicles has been limited so far. Adoption of such technologies on a large scale in the future can be expected to have some negative impact on oil demand. Government policy aimed at reducing demand can further promote the adoption of efficiency-enhancing technologies. Existing hybrid technology uses both conventional fuel and electricity to power vehicles. It thus helps curb the demand for oil but economies of scale and further technological development are required to make the prices of hybrid vehicles more competitive with conventional vehicles. Fully electricity-powered vehicles and fuel-cell vehicles hold out the promise of much bigger fuel savings but even on the most optimistic assumptions they will not have a tangible market presence until at least 2025.

Finally, in developing countries with energy shortages, oil products are sometimes substituted for other energy sources to quickly alleviate energy shortages. The effect on oil demand can be quite substantial. For example, consumers' shifting to oil-powered generators in response to blackouts caused the PRC's oil demand to jump by almost 1 million barrels per day in 2004.

Future drivers of global oil supply

Non-OPEC production

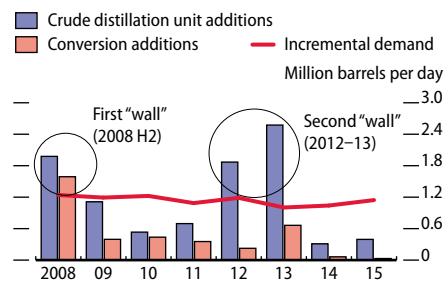
The share of non-OPEC countries in global oil production was generally above 55% in 1980–2007 (Figure 2.1.17). Furthermore, non-OPEC production has accounted for more than half the growth in total global production since the early 1980s. A brief surge in non-OPEC production is expected in 2009–2010 when newly developed reserves will come on stream. Non-OPEC production may peak around 2012 and then enter a decline (Figure 2.1.18). The pace of decline is likely to be gentle rather than steep. The development of new production capacity in geologically promising new areas will be offset by declining output in more mature fields.

The diminishing growth prospects of non-OPEC production are due to a declining reserve base, heavy dependence on mature fields, and the small size of prospective new reserves. They are also a legacy of a historical preference for developing new reserves outside OPEC, which restricted production to maintain high prices. This means that in non-OPEC countries most "easy" reserves have already been developed and those which remain are more challenging—a good example being Canada's vast oil sands reserves.

OPEC production

Given the likely future path of non-OPEC production, OPEC countries will have to supply the bulk of any incremental oil demand beyond 2010. A detailed analysis of known oil development projects indicates that in the very short run the increase in OPEC's production can comfortably

2.1.16 New refining capacity in Asia-Pacific and the Middle East

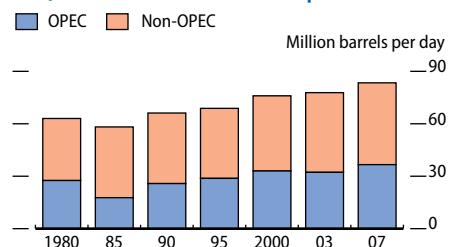


Notes: "Crude distillation unit" refers to conventional refining capacity. "Conversion additions" are new refinery units aimed at converting relatively low-value fuel oil to higher-value oil products. "1st wall" and "2nd wall" refer to two episodes of a surge in refinery construction.

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

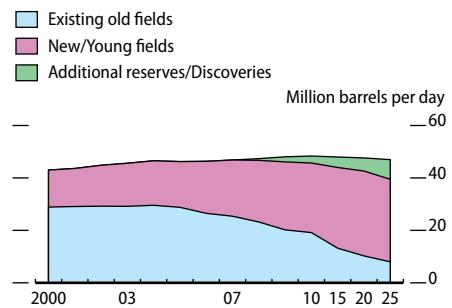
2.1.17 OPEC and non-OPEC oil production



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

2.1.18 Non-OPEC oil production



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

accommodate the expected increase in demand. In fact, surplus capacity is likely to grow substantially.

Beyond 2010, however, the combination of growing demand and peaking non-OPEC production will erode much of OPEC's spare capacity. History suggests that inadequate spare capacity can cause large price jumps (Figure 2.1.19). As discussed earlier, it can also magnify the price impact of shocks and thus cause greater price volatility. Maintaining a comfortable cushion of spare capacity beyond 2010 would require continuous and systematic additional investments in new production capacity, yet there are good reasons to suspect that those investments are unlikely to materialize in a timely manner. For one, uncertainty over future demand and prices may discourage OPEC members from making them. Furthermore, OPEC members often restrict foreign investors with valuable capital, technology, and know-how. Some governments may decide to allocate oil revenues to financial investment abroad or to domestic priorities such as infrastructure. An additional cause for skepticism is that actual reserves may fall short of official reserves, which are sometimes exaggerated for political reasons.

OPEC policy and cohesion

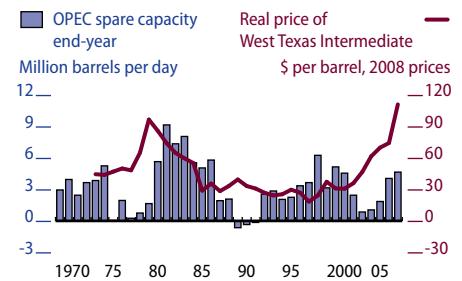
Since OPEC is a cartel that seeks to control prices by controlling output, OPEC's production levels are determined by OPEC's output and pricing policies and the degree of its internal cohesion. OPEC's disproportionate influence on global oil prices in the past stemmed not only from its control of vast reserves but also its ability to coordinate output and prices among its members.

Coordination involved assigning production quotas to individual members and thus preventing them from "cheating" by boosting output for short-run gain in periods of high prices. This type of structured quota-based price management system, which ensured higher prices and profits in the long run, disappeared in 2004. Even so, OPEC is expected to be cohesive enough to cut collective output in temporary market weakness through informal coordination.³ The absence of an explicit quota system will complicate collective output reduction in more sustained market weaknesses. However, more fundamentally, OPEC's spare capacity is increasingly in the hands of a few dominant producers—Saudi Arabia, Kuwait, United Arab Emirates, and Iraq—and this will enable the organization to maintain a tight market in the future.

Resource nationalism

In both OPEC and non-OPEC countries, resource nationalism can discourage foreign investments in exploration, development, and production—see, for example, *International Herald Tribune* (2008b) and *Financial Times* (2008a). Yet it is often foreign investors, especially large international oil companies (IOCs), such as Shell, that have the greatest capacity, in terms of capital, technology, and know-how, to find and exploit new reserves. The shift of power from IOCs to national oil companies (NOCs), such as Saudi Arabia's Aramco, will have lasting adverse repercussions on future oil production. Due to nationalization and less favorable contractual terms, the IOCs have suffered a drastic

2.1.19 OPEC spare capacity vs real price of West Texas Intermediate



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

decline in access to global oil reserves. This lack of access is emphatically illustrated by the fact that North America, which holds less than 10% of global oil reserves, is home to almost 70% of oil rigs (Figure 2.1.20). That is, IOCs are drilling where they can rather than where the oil is. Furthermore, rising oil prices since 2003 have given NOCs the wherewithal to pursue expansion at home and abroad.

The shift of power from IOCs to NOCs matters because the NOCs pursue more diverse objectives than just profit maximization. For example, relative to IOCs, NOCs may deliberately keep more oil in the ground for future generations even in the face of rising prices. The upshot is that oil production will become less responsive to price signals. The constraints on expanding oil production are as much geopolitical as geological.

Escalation of exploration and production costs

Oil exploration, development, and production are costly and time-consuming activities. There is a long time lag and a great deal of investment between prospecting for oil in an area and producing the first barrel. The cost of looking for and producing oil has escalated sharply in recent years.⁴ One underlying cause is the commodities boom which has ramped up the price of physical inputs such as steel for pipelines. A growing shortage of skilled human resources such as petroleum geology and engineering graduates is also contributing to higher costs. The current high engineering, procurement, and construction cost environment increases the risks and reduces the profitability of new projects for oil companies. If these high costs persist, they will have an adverse impact on future oil production.

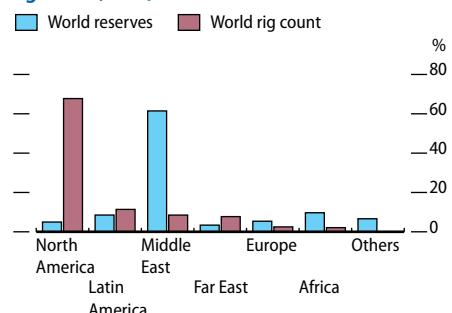
Other supply drivers

What is interesting is that the above list of supply drivers all point in one direction—that there are serious constraints to ramping up production to meet the rising global demand for oil. Nevertheless, a number of factors may cause output to rise rather than fall in the future. For example, given the geological uncertainties of oil exploration, there may still be vast yet to be discovered oil reserves in some remote corner of the earth. More realistically, mundane efforts such as improved recovery from existing reserves and more intensive exploitation of smaller deposits as well as of older fields hold out the promise of less dramatic output gains. Future advances in oil exploration technology will also have a positive impact on supply by enabling exploration in new areas. Such advances, for example in seismic technology, reservoir modeling, and horizontal drilling, also extend the life span of existing fields. However, the impact of the new technologies on production will be gradual and limited.

Relative importance of demand and supply drivers: Structural versus cyclical

Whether the future impact of the various drivers of global oil demand and supply will be short-lived or long-lived depends to a large extent on whether they are structural or cyclical. More precisely, the impact of structural drivers rather than cyclical drivers is more likely to persist for the simple reason that the structural drivers themselves will persist

2.1.20 Share of world oil reserves and rig count, 2007



Note: Of the 3,100 oil rigs globally, approximately 30% are in Texas.

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

for longer. This does not mean that the impact of cyclical drivers will necessarily diminish as the period under review is extended. For example, global economic growth is, by definition, a cyclical variable that ebbs and flows with the state of the world economy. At the same time, its impact on global oil consumption is huge at *any* point in time, not just today or in the near future.

However, it is also true there is no clear-cut distinction between structural and cyclical. For example, whether the substitution of oil products for other energy sources is cyclical or structural depends on whether the underlying energy shortage is cyclical or structural. Furthermore, it is impossible to know beforehand whether a particular demand or supply driver is structural or cyclical. For example, it is impossible to know whether the dollar's depreciation will continue and for how long. Yet despite these qualifications, the cyclical versus structural approach is still conceptually useful because it gives a clearer picture of the main forces underlying the future course of supply and demand.

Table 2.1.2 classifies the main drivers of oil supply and demand into structural, cyclical, mixed, or uncertain. The table also ranks the drivers in terms of their relative importance in the determination of oil price. Both supply and demand drivers will affect the price but the direction and magnitude of their effect will differ across drivers. The relative ranking is based on the above discussion of the supply and demand drivers. However, the table does not include some drivers that are difficult to disentangle from other drivers. For example, while resource nationalism is a major determinant of oil supply, its effects are embodied in two other drivers—non-OPEC supply and OPEC capacity.

The drivers are ranked on a scale of minus 10 to plus 10, where a negative number indicates a negative impact on the price of oil, and vice versa. The relative rankings are provided for four different time periods, from 2004–2008 up to 2016–2020, to reflect that they can change over time. The table indicates, for example, that robust global economic growth had a strong positive impact on oil price in 2004–2008 but that

2.1.2 Relative ranking of crude oil price drivers, 2004–2020

| Factor | Structural/Cyclical | 2004–2008 | 2009–2010 | 2011–2015 | 2016–2020 |
|------------------------------|---------------------|-----------|-----------|-----------|-----------|
| Global economic growth | Cyclical | 7 | -4 | 6 | 6 |
| Emerging market demand | Structural | 10 | 8 | 9 | 7 |
| Non-OPEC supply | Structural | 9 | 0 | 8 | 7 |
| OPEC capacity | Structural | 7 | 0 | 7 | 8 |
| OPEC cohesion | Mixed | 1 | 3 | 5 | 5 |
| Natural gas liquids | Mixed | 5 | -2 | 4 | 4 |
| Refinery capacity | Cyclical | 5 | -4 | -2 | 0 |
| Refinery upgrading | Cyclical | 9 | -5 | -4 | 0 |
| US dollar weakness | Uncertain | 6 | 0 | 0 | 0 |
| Interfuel substitution | Mixed | 6 | 2 | -2 | -1 |
| Fixed prices/price subsidies | Structural | 6 | 4 | 2 | 0 |
| Alternative fuels | Structural | -6 | -4 | -4 | -8 |
| Efficiency/conservation | Structural | -2 | -4 | -6 | -8 |

Note: Scale: -10 to 10, where zero is neutral/uncertain, and positive/negative numbers indicate positive/negative price impact.

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

the current global slowdown will have a moderate negative impact in 2009–2010. The relative rankings are necessarily qualitative and based on judgment but they do represent an effort to separate out the more influential drivers of oil prices.

Table 2.1.2 indicates that emerging market demand will remain the most influential price driver through 2020. The PRC's and India's large and growing appetite for oil mirrors their rapid economic rise and structural transformation, which is set to continue for at least two decades, if not longer. In conjunction with the demand from other developing countries, their demand will serve as a powerful engine of demand growth in both the short and long run.

Global economic growth, which to a degree reflects emerging market demand, also has a generally positive and large impact on oil demand. The effects of global economic growth and emerging market demand will diverge in 2009–2010, reflecting the sharper slowdown in industrial countries. On the supply side, serious limitations on non-OPEC production and OPEC capacity are the most influential price drivers. The influence of subsidies on demand and price is bound to decline as fiscally constrained governments phase them out. Alternative fuels and fuel efficiency improvements are the main sources of negative price pressures and those pressures will intensify in the future.

The above analysis of supply and demand drivers enables one to make a more educated guess about the future trajectory of oil prices. In short, factors that push up prices will continue to outweigh factors that pull down prices. The big picture that emerges for 2009–2020 is very similar to that of 2004–2008: robust global demand for oil, powered by emerging market demand, will continue to severely strain the ability of OPEC and non-OPEC producers to satisfy incremental demand.

Therefore, the overall price pressure will remain strongly positive, although not as intensely positive as in 2004–2008. Oil prices are likely to remain elevated at above \$100 per barrel in real prices through 2020. The next section provides a more detailed projection of the price outlook for oil, in the short, medium, and long run.

Oil price outlook in the short, medium, and long run

The preceding section analyzed the relative importance of the various supply and demand drivers which will determine the price of oil in the future. That analysis provides the background information for making projections about the future path of oil prices in this section. This chapter's projections are thus ultimately based on subjective but informed judgments about the likely future course of supply and demand. Given the heightened volatility and uncertainty surrounding the behavior of oil prices in recent times, the margin for error is inevitably large. Nevertheless, it is hoped that the projections presented here—and perhaps more important, the underlying rationales for those projections—will give the reader a better picture of where prices may be heading, as well as why they may be heading that way. All the projected oil prices in this section are real (inflation-adjusted) prices.

Short-term oil price outlook (2008–2009)

The defining characteristics of the oil market in 2008–2009 are as follows: continued robust growth of oil demand in developing countries; slowdown of oil demand growth in industrial countries; further expansion of non-OPEC output; increase in OPEC's production capacity; some increase in OPEC's surplus capacity; and substantial easing of bottlenecks in refining capacity. The above constellation of factors suggests a relaxation of the relentless upward price pressures of the past few years and possibly a moderate price decline. However, demand from developing countries will continue to maintain much of its momentum, which suggests that any marked fall in price is unlikely. Based on these considerations, the projected real price of oil per barrel is \$120 in 2008 and \$105 in 2009 (Table 2.1.3).

The sharp runup in the price of oil to July 2008, when the price of Brent crude hit an all-time peak of \$147.50 per barrel, was due to a "perfect storm" of factors that all pushed up prices. These included a noticeable fall in oil inventory levels held by industry in OECD countries in the first half of 2008, unexpectedly fast oil demand growth in the Middle East and South America, persistent supply disruptions in Nigeria, mounting geopolitical concerns over the Iranian nuclear issue, and a more general concern over production capacity constraints.

Much of the storm has now cleared and prices are likely to be about \$120 per barrel by the end of the year. The price decline is due to a combination of higher OPEC output, new production capacity coming on stream within and outside OPEC by year-end, higher Iraqi exports, new refining capacity coming on stream in the PRC and India, and weakening demand in response to higher prices, especially in the US. World oil demand growth will slow further in 2009, due to the economic slowdown in industrial countries, and this will put further downward pressures on price.

Medium-term oil price outlook

Sustained upward price pressures may reappear in the global oil market around the early to middle part of the next decade. Real prices are likely to be high as well as volatile. The catalyst of the change in the market environment will be a tight demand-supply balance arising from stagnant non-OPEC production and relatively robust global demand. Such tightness will clearly push up prices but it will also cause greater volatility. This is because tightness implies a reduction in the surplus capacity that is required to cushion the effects of supply and demand shocks. Peaking of non-OPEC output means that OPEC will have to satisfy most of the incremental global oil demand. Until the early part of the next decade, OPEC's production capacity is projected to rise sufficiently to meet much of that demand, but additional investments will be required to boost output from around the middle of the next decade. The critical issue is whether the NOCs within OPEC are willing and able to make those investments.

There are solid grounds for doubting that they will. As state-owned companies, Middle Eastern NOCs may behave differently from IOCs in the private sector. The government of an oil-producing state might hesitate to expand production capacity in a high-price oil market

2.1.3 Base-case Brent crude prices

| | \$ per barrel |
|-------------|---------------|
| 2007 | 72.52 |
| Q1 | 57.75 |
| Q2 | 68.76 |
| Q3 | 74.87 |
| Q4 | 88.69 |
| 2008 | 120.06 |
| Q1 | 96.86 |
| Q2 | 121.36 |
| Q3 | 136.00 |
| Q4 | 126.00 |
| 2009 | 105.00 |
| Q1 | 120.00 |
| Q2 | 110.00 |
| Q3 | 100.00 |
| Q4 | 90.00 |
| 2010 | 106.63 |
| 2011 | 108.25 |
| 2012 | 113.30 |
| 2013 | 123.40 |
| 2014 | 128.50 |
| 2015 | 128.40 |
| 2016 | 128.35 |
| 2017 | 126.30 |
| 2018 | 126.25 |
| 2019 | 113.25 |
| 2020 | 103.20 |

Note: Actual prices up to Q2 2008, forecast prices (in 2008 \$) thereafter.

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

environment (such as now) in order to prevent price weakness in the future. Some oil producers, such as the Islamic Republic of Iran and Venezuela, seem to consistently favor restricting OPEC output to raise prices. It is not clear if such policies are profit-maximizing in the long run since they would help to destroy demand and encourage conservation. Yet it may be in the self-interest of some governments to maximize short-term profits in order to finance its own popularity. Resource nationalism could induce NOCs to defer development to maintain reserves for future domestic consumption. It could also deter them from mutually beneficial partnerships with well-established IOCs that have greater capacity to look for and develop new reserves. Furthermore, NOCs tend to be far removed from the final consumers, unlike vertically integrated IOCs, which operate both upstream and downstream. This puts NOCs at a disadvantage in spotting and responding to new opportunities through appropriate investments.

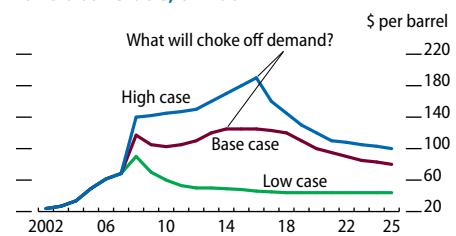
Long-term oil price outlook

Greater uncertainty over price prevails in the long term, which is characterized by two countervailing features. First, government policies aimed at curtailing demand and improving efficiency will have a bigger impact on oil demand in the long term as firms and consumers have more time to adjust their behavior in response to the incentives. The probability of technological breakthroughs resulting in alternative fuels that could be produced on a commercial scale at competitive prices also rises, since the stock of technological knowledge builds up over time. For example, a new technology may sharply reduce the economic and environmental costs of biofuels. Second, the production of oil may run into severe physical and geological constraints. After all, oil is a finite resource that will eventually be depleted. The first feature reduces the price of oil while the second feature has the opposite effect.

There are three different possible scenarios for the future course of real oil prices. The probabilities of the base-, high-, and low-case scenarios are estimated to be 60%, 30%, and 10%, respectively (Figure 2.1.21). According to the base-case scenario, the real price of oil will rise until the middle of the next decade, after which high prices begin to take a toll on demand growth. Government policies and technological progress also contribute to demand erosion. However, even in the face of weakening demand, the real oil price is unlikely to fall below the \$70–80 range.

Looking at the projected base-case price trajectory in greater detail, the price will fall until around 2010 as a result of higher non-OPEC output and increased OPEC capacity. After 2010, additional supply tapers off but the key demand centers—PRC, India, and the Middle East—continue to add to global demand. The only possible outcome is that prices must rise. The tightening of the supply-demand balance and the consequent erosion of spare capacity will also magnify the effects of the slightest shocks on prices, thus increasing price volatility. If real prices remain above \$120 per barrel for an extended period, firms and consumers are likely to decisively adjust their use of oil products. Those adjustments are likely to take place around 2015–2017. Once demand is destroyed, alternative fuels will emerge and push back prices to the

2.1.21 High, base, and low price forecasts for Dubai crude, annual



Note: Actual up to 2007 and forecasts in 2008 and thereafter.

Source: FACTS Global Energy Group, Oil Price Outlook, August 2008.

[Click here for figure data](#)

baseline plateau of \$70–80, which corresponds to the estimated marginal cost of alternative fuels in 2020–2025.

There is, however, a great deal of uncertainty over the real price that will destroy oil demand and bring about substantial changes in the behavior of economic agents. In the US, it may take a real price as high as \$180 per barrel to induce changes among consumers long used to a gasoline-intensive lifestyle. The primary difference between the base- and high-case scenarios is the price level which provokes decisive behavioral adjustments by economic agents. The low-case scenario assumes either a prolonged global slowdown or a combination of various positive supply shocks and negative demand shocks. It should be emphasized that the low-case scenario is by far the least probable of the three scenarios and it would take an unlikely constellation of forces to bring prices down to the levels it envisages.

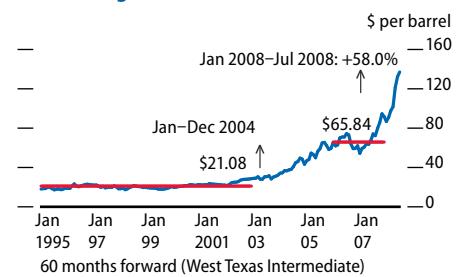
Market perceptions of the long-term price outlook seem to support this chapter's own long-term price outlook—namely, a prolonged elevation on a higher plateau along with increased volatility. In the recent price runup, spot prices initially rose faster than long-dated futures prices due to uncertainty over whether high prices would persist. Subsequently, however, long-dated prices have risen and fluctuated widely in line with spot prices (Figure 2.1.22). The volatility reflects a high degree of uncertainty among market players over the level of the long-run marginal cost of oil. More recently, the market seems to have accepted the notion that there are serious long-term constraints to oil production, which will prevent supply from keeping up with demand.

Restoration of long-run equilibrium requires a radical shift in consumer behavior, which will sharply curtail demand growth. A radical shift in consumer behavior, in turn, requires an extended period of high real prices well above \$100 per barrel, which will slow demand growth in developing countries and reduce demand in industrial countries. Mirroring such market sentiments, the back end of the forward curve rose more quickly than spot prices in March–July 2008, to over \$130 per barrel (Figure 2.1.23).

Policy options for developing Asia in a world of expensive oil

The projections of the preceding section indicate that the most likely future scenario is a prolonged period of high real prices and pronounced price volatility. One possible policy response to higher oil prices is to promote expansion of regional output by creating a more conducive environment for investments in oil exploration and development. However, given developing Asia's small reserve base and its large and growing appetite for oil products, especially transportation fuel, the region will stay heavily dependent on imported oil for years to come. Despite developing Asia's growing influence on oil prices, the fact remains that oil prices are determined by global oil supply and demand. As such, higher and more volatile prices represent an exogenous external shock that is largely beyond developing Asia's control. What is within its control is how well it adjusts to the shock and minimizes its adverse effects.

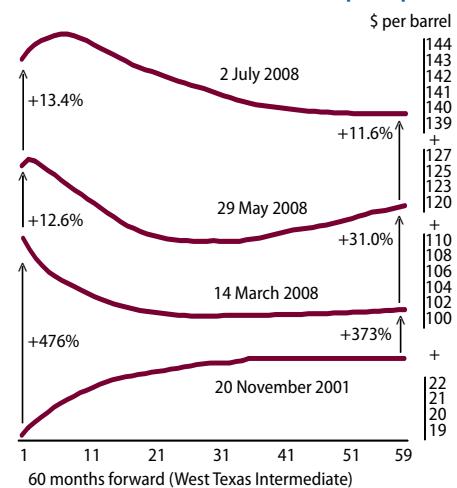
2.1.22 Long-dated oil futures



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

2.1.23 Oil futures: Shift in market perception



Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

Sound government policies can facilitate and accelerate the region's adjustment to a world of expensive oil. Such policies should give priority to promoting more efficient oil use, limiting short-run supply disruptions, and encouraging price transparency and risk mitigation.

Continuing to remove price controls and subsidies

Although Asian oil consumption has been driven primarily by economic expansion, subsidies and price controls have played an important supporting role. Such policies prevent the pass-through of rising international oil prices to the domestic prices of oil products such as gasoline, diesel, and kerosene (see the chapter, *Inflation in developing Asia: Demand-pull or cost-push?*, also in Part 2). The upshot is that firms and consumers do not face the true cost of oil products and overconsume those products. Some Asian governments are phasing out price controls and subsidies, and this will bring the market prices of oil products more into line with their true costs. Facing more accurate price signals, Asian firms and consumers can be expected to use oil products more efficiently.

Yet despite this encouraging policy development, much more needs to be done throughout the region to reduce artificial price distortions that increase the demand for oil products. Highly targeted subsidies with minimum leakages and that are linked to income rather than consumption can help soften the blow for poor consumers. More generally, Asian governments should use a carrot-and-stick approach of subsidies that encourage efficient oil use, such as driving small, fuel-efficient cars, and taxes that discourage inefficient oil use, such as driving large, fuel-inefficient cars.

Liberalizing and deregulating markets for oil products

Firms and consumers do not use oil but refined oil products. Oil is not a final consumption good but an input in the production of final consumption goods. This distinction highlights the fact that the relevant prices for firms and consumers are the prices of gasoline, diesel, and kerosene rather than the price of crude oil. The extent of competition in the market for, say, gasoline helps determine the price of gasoline. Government policy can influence the extent of competition and thus the level of prices. For example, a government may grant a monopoly position to a state-owned refining company and protect it from foreign and private sector competition.

The liberalization and deregulation of oil product markets will benefit end users—households and companies—by limiting the price impact of any given increase in the price of crude oil. More competitive markets are also conducive to the more efficient use of oil. In general, liberalizing and promoting competition in the market for oil products will force refiners to use crude oil more efficiently. Competition can also promote technological progress in the oil refining industry by encouraging refiners to maximize the product yield from crude oil. Such progress can also be promoted by government subsidies.

Promoting investments in public and rail transportation

Public transportation is more fuel-efficient than personal transportation, and rail transportation is more fuel-efficient than the main alternative

form of freight transportation—trucks. The demand for transportation fuel has been growing at a furious pace in PRC, India, and elsewhere in the region. In fact, this demand, which is fueled by the demand for personal transportation among a fast-expanding middle class, accounts for much of the growth in Asian oil consumption. The choice between personal transportation and public transportation is ultimately a personal choice of the individual consumer but government policy can influence that choice. Improving the quantity and quality of public transportation can help to tilt that choice in favor of public transportation. There is no fundamental reason why Asian commuters would necessarily choose driving over efficient subways. By the same token, enhancing railroad infrastructure, which is woefully inadequate in many developing Asian economies, will help shift freight transportation demand from trucks to trains.

Creating an enabling environment for alternative technologies

In the long term, alternative energy technologies and fuels will emerge as viable substitutes for oil. In fact, in response to the runup in oil prices and its likely persistence into the future, technological research for alternatives has intensified. The reality is that developing Asia is not at the frontier of this research and major technological breakthroughs are likely to emerge from industrial countries. Therefore, the more relevant policy challenge for the region is to establish an environment that would enable firms and consumers to adopt alternative technologies on a widespread basis when those breakthroughs materialize.

For example, opening up the domestic energy markets to foreign energy companies can facilitate the introduction of new technologies and products. Similarly, liberalizing domestic energy markets and fostering a more competitive market environment will incentivize domestic energy companies to look for and import promising new technologies and products.

Setting up strategic oil stocks

Strategic oil stocks provide critical protection in the event of a temporary supply disruption. (UN ESCAP 2008 describes the strategic oil reserves programs of selected Asian countries.) For example, geopolitically related disruptions of oil from the Middle East, by far developing Asia's biggest supplier, would have dire consequences for the region. Within developing Asia, the Republic of Korea, as a member of the International Energy Agency, must maintain oil inventories equivalent to 90 days of net imports. Taipei, China also holds substantial inventories, and the PRC has recently started to substantially expand its inventories. Other countries also have plans for strategic oil stocks but have moved more slowly.

Oil stockpiling facilities are costly to build, which suggests that Asian economies may consider sharing costs and jointly operating sites. In this case, countries would have to coordinate decisions on financing, sites, timing of oil buildup, optimum inventory size, and decision criteria and mechanisms for release. In fact, some economies in the region have already begun preliminary discussions on joint stockpiling through the Asia-Pacific Economic Cooperation grouping—discussed in greater detail in Fesharaki et al. (2007).

Monitoring transportation bottlenecks

Developing Asia transports over 90% of its crude oil imports, the bulk of which originate from the Middle East, by tanker through the narrow Malacca Strait between Indonesia and Malaysia. This vital sea lane is becoming increasingly congested and subject to an ever-present risk of piracy or terrorist attack. There is thus a high and growing risk of supply disruptions due to a bottleneck in the main transportation route for Asia's oil imports.

The sourcing of oil through the Malacca Strait is a geographic reality about which Asia cannot do much. Alternative transportation modes have been proposed to reduce the Malacca Strait risk but all those risks have substantial shortcomings of their own. For example, oil pipelines crossing Malaysia and Thailand would not be commercially viable. And while pipelines from Kazakhstan and the Russian Federation would diversify supply sources as well as transportation routes, the disruptions of Russian gas to European countries in the past shows that this alternative carries serious risks of its own. Perhaps the most practical and feasible policy option is for all Asian economies to work together to improve security in the Malacca Strait. After all, a secure Malacca Strait is a regional public good that benefits a large number of Asian economies.

Encouraging the development of a regional futures market

Unlike the US and Europe, developing Asia does not yet have a mature and well-developed oil futures market—an issue treated more comprehensively in Fesharaki et al. (2007). In developing Asia and elsewhere, the oil futures market is often associated with financial speculation and its potential role in the oil price surge.

What tends to be forgotten is that a futures market would deliver some substantial benefits for the oil market, as it does for any other market. In particular, a well-functioning futures market would enhance price transparency and thus enable both buyers and sellers to hedge risks more easily. More precisely, the timely availability of futures prices, which are continuously updated and disseminated to the public, promotes price transparency. Futures prices are determined by actual futures trades rather than price assessments by oil-reporting agencies. Furthermore, large numbers of traders—"speculators"—render the futures market highly liquid relative to the spot market for oil, and thus less susceptible to distortions.

There is no compelling reason why hedging against oil price fluctuations is inherently more "speculative" than hedging against, say, exchange rate fluctuations. In both cases, a future market mitigates risks for companies and thus encourages greater investment. For example, airlines concerned about fuel costs are more likely to buy new airplanes if they are protected to some extent against increases in those costs.

More generally, protection against future oil price fluctuations is as much of a valuable good for economic agents as protection against future exchange rate fluctuations, especially in light of the prospects of more volatile oil prices discussed earlier. Due to the lack of a futures exchange, market participants in developing Asia have been forced to turn to informal, less transparent hedging mechanisms, such as the over-the-counter swaps market. Governments should encourage companies

to support initiatives to establish a regional oil futures exchange, such as that of the Dubai Mercantile Exchange.

Concluding observations

The answer to the question in the title of this chapter—Are high oil prices here to stay?—is a loud and clear yes. The fundamental underlying reason is that supply will fail to keep pace with fast-growing demand for quite some time. While there will be short-term fluctuations, the unmistakable long-run trend is a prolonged period of high real oil prices and pronounced price volatility.

The more interesting and relevant issue concerns the implications of this new oil price environment for developing Asia. Perhaps the most immediate implication is that the governments, households, and companies of the region should finally wake up to the new realities. For far too long, developing Asia and the rest of the world were in a state of collective denial about the sea change in the global oil landscape. The implicit assumption was that a return to the days of cheap oil was just around the corner. What helped along this massive bout of wishful thinking was the exceptionally robust health of the world economy. While the sharp surge of prices in 2007 brought about a much-needed dose of reality, the projected softening of prices in the near term threatens to breathe new life into the long-entrenched wishful thinking camp. But the long-running charade has to stop and it has to stop now.

The sooner the realization that high oil prices are here to stay, the sooner the necessary adjustments will be made. One area where painful but necessary adjustments will have to be made is in the area of macroeconomic policy. Higher oil prices will have adverse effects on developing Asia's growth, inflation, and current account balance (see the chapter, *Macroeconomic effects of high oil prices*, also in Part 2). The impact will be felt most directly on inflation since oil remains the dominant fuel for transportation, which is required for the production of virtually all goods and services. The fundamental policy dilemma confronting Asian policy makers is that between slower growth and higher inflation. Tightening monetary policy to fight inflation will carry the cost of slowing growth. Alternatively, a failure to tighten will entrench inflation expectations and cause inflation to persist. Given the generally healthy state of developing Asia's economies, the growth-inflation tradeoff decisively favors giving priority to fighting inflation. There is insufficient appreciation that higher inflation today will have serious growth consequences tomorrow. The stagflation of the industrial countries in the 1970s, which was initiated by a short-lived oil shock, should disabuse everyone from any illusion that growth is independent of inflation.

The long-run elevation of real oil prices to a higher plateau also calls for microeconomic policy adjustments. In particular, government policies pertaining to the energy market will have to change. The soaring fiscal costs of fuel subsidies in the oil price surge of the past year or so have compelled many Asian governments to pare down their fuel subsidy programs. Whether forced or not, such moves are a welcome development, which will bring the market price of oil more closely into line with the true cost of oil. In a sense, the oil price surge has induced

the region's governments to reckon with the true costs of their fuel subsidy programs. A not insignificant risk is that governments may backtrack on their phaseout of subsidies in response to the prospective softening of prices in the short term. The broader point is that the long-term elevation of oil price represents a long-term increase in its relative price. It would be perverse enough to artificially encourage the consumption of a good whose relative price has risen temporarily, but it would be monstrous to do so for a long-term price rise.

On the contrary, Asian governments should make every effort to discourage oil consumption by adopting appropriating price policies, facilitating the introduction of energy-efficient and environmentally sound technologies, promoting public transportation, and taking other suitable measures. These policy efforts should be intensified when the economy hits the "sweet spot" for oil demand—per capita purchasing power parity GDP of \$3,000–9,000. Demand-curbing adjustments are fundamentally in the enlightened self-interest of Asia since the region has been, and will continue to be, a leading source of the growth in global oil demand. Given the inherently interdependent nature of the global oil market, fast-growing developing Asia's failure to rein in its oil demand will have harmful repercussions not only for itself but also for the rest of the world. By the same logic, developing Asia would help both itself and the world at large by taking more decisive action to learn to live in a world of more expensive oil.

The key driver of the increase in the demand for oil in developing countries is the demand for transportation fuel. Unlike other uses of oil, there are currently few commercially viable substitutes for transportation fuel. The one promising candidate to emerge in recent years—biofuels—has lost much of its luster due to mounting commercial and environmental concerns. Therefore, oil will remain the dominant transportation fuel until at least the medium term. This suggests a need to coordinate transportation policy with energy policy. More specifically, governments should pay more attention to the oil requirements of different transportation systems. An extended period of high oil prices increases the relative attractiveness of oil-efficient transportation systems. For example, given limited fiscal resources and the allocative choices that have to be made, the new oil price environment favors investments in public transportation and rail transportation. Improvement of the public transportation infrastructure has the added promise of affordable and reliable transportation for the urban poor, precisely the group that will be hardest hit by higher fuel prices.

It was earlier pointed out that the current oil price surge may be a "blessing in disguise." One reason is that it quickens the realization among governments and economic agents that the days of cheap oil are gone for good. There is another reason, too: In addition to subsidies, another source of the gap between the market price and true cost of oil is environmental costs. The release of carbon dioxide and other pollutants into the air is often not adequately factored into the price of transportation fuels. The long-term increase in the relative price of oil will accelerate the search for alternative fuels, which may be environmentally cleaner. The initial euphoria over biofuels was partly driven by their claimed environmental benefits, although these are

now very much in doubt. Second-generation biofuels still hold out the promise of an environmentally superior alternative to conventional fuel. Commuters switching from personal transportation to public transportation also help to reduce pollution. This suggests that a prolonged period of high oil prices may act as an implicit carbon tax and thus contribute to a cleaner environment.

The last point leads to a related but broader point. The fact that high oil prices are here to stay drives home a basic but uncomfortable truth—the world has finite resources. The sooner policy makers (and others) remember this and make the necessary adjustments, the higher the chances of making a successful transition to a more sustainable path of development and growth. This path may involve some real pain, in the form of lower conventional growth rates for example (i.e., excluding environmental costs), but in the long run it will enable countries to better cope with the constraints that are bound to emerge from the finiteness of resources. The millions of citizens of the PRC and India who are joining the middle classes each year may feel that it is unfair for them to make sacrifices that were not required of the millions of middle-class Americans a few decades earlier. They may resent having to take public transportation when they aspire to private transportation, and having to drive small cars when they aspire to larger cars. But the harsh reality is that an American middle-class lifestyle circa 1965 is no longer sustainable today—not for today's PRC, not for today's India, and not for today's America either, for that matter.

Endnotes

- 1 Real, as opposed to nominal, prices are used throughout this chapter, and are deflated by the United States consumer price index. The base year is 2008.
- 2 Berkmen et al. (2005) argue that this effect on crude prices will be limited; Oxford Analytica (2005) suggests that this effect may be quite substantial.
- 3 There are nevertheless tangible differences of views between Saudi Arabia, which takes a more long-term view of its self-interest, and countries such as the Islamic Republic of Iran and Venezuela, which consistently push for restricting output and raising prices. See, for example, *International Herald Tribune* (2008a).
- 4 According to the *Financial Times* (2008b), the latest IHS/Cambridge Energy Research Associates (Cera) Upstream Capital Cost Index—the consumer price index for the oil field—shows that costs for developing a new oil or natural gas field have more than doubled in the past 4 years.

References

- Baig, T. et al. 2007. "Domestic Petroleum Product Prices and Subsidies: Recent Developments and Reform Strategies." IMF Working Paper WP/07/71. Washington, DC. March.
- Berkmen, P., S. Ouliaris, and H. Samiei. 2005. "The Structure of the Oil Market and Causes of High Prices." IMF Research Department Note. 21 September.
- Cheng, K., and V. Mercer-Blackman. 2007. "Record Oil Prices Unlikely to Dent World Growth Much." IMF Survey Magazine: IMF Research. 5 November.

- Energy Information Administration (EIA). 2008. *International Energy Outlook 2008*. Washington, DC.
- FACTS Global Energy Group. 2008. "Oil Price Outlook." Background paper for *Asian Development Outlook 2008 Update*. Singapore.
- Fargione, J. et al. 2008. "Land Clearing and the Biofuel Carbon Debt." *Science* 319(5687): 1235-1238.
- Fesharaki, F., K. Wu, and W. Prawiraatmadja. 2007. "Policy Priorities." In K. Wu and F. Fesharaki, eds. *Asia's Energy Future: Regional Dynamics and Global Implications*. Honolulu: East-West Center, pp. 87-105.
- Financial Times*. 2008a. "Let Markets Solve the Energy Crisis." 10 June, p. 10.
- . 2008b. "Oil Has Reached a Turning Point." 27 May, p. 8.
- Interagency Task Force on Commodity Markets (ITF). 2008. "Interim Report on Crude Oil." Washington, DC. July.
- International Energy Agency (IEA). 2008. "Mid-Term Oil Market Report 2008." Paris.
- . 2007. "World Energy Outlook 2007." Paris.
- International Herald Tribune*. 2008a. "Saudi Increase Will Have Limited Effect." 23 June, p. 7.
- . 2008b. "Despite Profits, a Crisis for Big Oil." 20 August, p. 11.
- Oxford Analytica. 2005. "Refining Problems Swell Oil Prices." Global Strategic Analysis, 30 May.
- Searchinger, T. et al. 2008. "Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land-Use Change." *Science* 319(5687): 1238-1240.
- Small, K., and K. Van Dender. 2007. "Long Run Trends in Transport Demand, Fuel Price Elasticities and Implications of the Oil Outlook for Transport Policy." OECD-International Transport Forum Joint Transport Research Centre Discussion Paper No. 2007-16. December.
- UN ESCAP. 2008. *Energy Security and Sustainable Development in Asia and the Pacific*. Bangkok.

Macroeconomic effects of high oil prices

Introduction

The world price of crude oil, which has risen continually since 2003, increased still faster in 2007 and early 2008, to become a source of great concern. Although the upward price pressures have eased in recent weeks since hitting an all-time high of over \$140 per barrel in July, oil prices are likely to remain elevated at well above \$100 in real terms until the end of next decade (see the chapter, also in Part 2, *Are high oil prices here to stay?*). A prolonged period of high oil prices is bound to have tangible economic effects on developing Asia, one of the world's major oil-importing regions. Some of those effects will be microeconomic in nature. In particular, the markets for oil and energy will be affected by an increase in the price of oil, which is, after all, an increase in its relative price. For example, the rise in the price of oil will induce substitution from oil products to other energy sources.

In this chapter, however, the macroeconomic effects of high oil prices on developing Asia are examined. For example, the increase in transportation costs affects such large numbers of firms and individuals that it is bound to affect the performance of the economy as a whole. If producers cannot pass on their higher transportation costs to consumers, they have to lay off workers and reduce their investments. The higher unemployment rate and lower investment rate will have an adverse impact on aggregate output in the short run. In addition, for a region as highly dependent on imported oil as Asia, the escalation of oil prices on a sustained basis represents a long-term deterioration of the terms of trade. This loss of international purchasing power amounts to a loss of real aggregate income and output.

A central finding that emerges from this chapter's analysis is that the oil price shock is likely to have a bigger impact on inflation than growth in both the short run and the long run. Given that crude oil is a universal input used in the production of virtually everything, it would be surprising if oil prices did *not* have a tangible effect on consumer price index (CPI) inflation in developing Asia. Indeed, inflation has already risen sharply throughout the region such that regional inflation is projected to rise from 4.3% in 2007 to 7.8% in 2008. The biggest challenge

for Asian policy makers arising from higher oil prices is therefore to rein in inflation before it goes out of control and harms the region's long-run growth prospects. This means that a radical shift of the monetary policy stance is required since monetary policy has been too lax for too long across the region, as evident in generally negative real interest rates.

The rest of this chapter is organized as follows. The next section, *Effects on import costs*, looks at the direct effect of higher oil prices on developing Asia's import costs. *Effects on transportation costs* then examines the impact of the oil price surge on transportation costs in the region. The potential implications of higher international transportation costs for the region's export prospects are explored in the section, *Effects on exports*. The following section, *Quantitative estimates of the macroeconomic effects*, reports and discusses the results of Oxford Economics global model simulations for evaluating the short- and long-run effects of the oil price surge on growth, inflation, and the current account balance in eight Asian economies. The section also explores the macroeconomic effects of raising interest rates in response to the oil price shock. The central findings and messages that emerge from the analysis are given in *Concluding observations*.

Effects on import costs

For oil-importing Asia, an increase in the price of oil worsens the terms of trade, or increases the amount of goods and services it must sell abroad to buy one barrel of oil. The loss of purchasing power is analytically equivalent to a loss of real income or output. The magnitude of the real output loss depends partly on the price elasticity of the demand for oil, or the responsiveness of oil demand to changes in oil price. If the demand for oil is highly price elastic, a reduction in demand will largely offset the higher price. Conversely, relatively price-inelastic oil demand implies a much larger loss of income. The balance of empirical evidence overwhelmingly indicates that the demand for oil is highly price *inelastic*. Even in the long run, the evidence indicates that price-elasticity is quite low, although higher than in the short run. (See Edelstein and Kilian 2007 and Cooper 2003.)

Additionally, in the case of developing Asia, income effects are likely to further dilute the deterrent effect of higher oil prices on oil consumption. In general, the evidence indicates that the income elasticity of oil demand tends to be higher than the price elasticity, and higher for developing countries than for Organisation for Economic Co-operation and Development (OECD) countries. (See Hamilton 2008 and Gately and Huntington 2002.) Regardless of income elasticity, the sheer speed of developing Asia's economic growth helps to boost the growth in its demand for oil. For the same income elasticity, the oil demand of an economy growing at 8% will grow much faster than another growing at 2%. The combination of low price elasticity and rapid income growth means that the oil price surge is unlikely to substantially dent Asia's demand for oil.

The increase in import costs due to higher oil costs also depends on the degree of dependence on imported oil. Although Asia accounts for only a small share of global oil reserves, the region produces some oil

and a few countries even export it. As a result, Asian countries show considerable differences in terms of their dependence on imported oil (Figure 2.2.1). For example, the Republic of Korea, which does not produce a single barrel of oil, is more vulnerable to higher oil prices than the People's Republic of China (PRC), which produces around half its oil. In addition to oil self-sufficiency, the relative importance of oil in a country's energy mix will also influence the degree of its vulnerability to oil shocks. An additional determinant of economic vulnerability to oil shocks is the oil intensity of economic activity, or the amount of oil needed to produce a unit of economic output. Asian economies vary widely in this regard (Figure 2.2.2). Economic structure also influences the efficiency of oil use. The rise of India's information technology industry, which uses relatively little oil, is contributing to a fall in the economy's overall oil intensity.

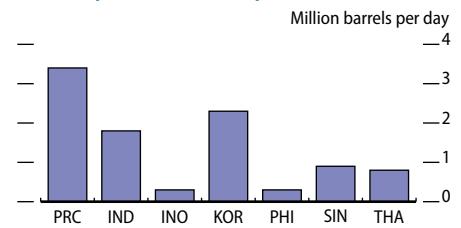
In light of the above considerations, it is reasonable to assume that in the short run Asian oil demand will remain quite stable in terms of estimating the increase in import costs. Low price elasticity and rapid income growth limits the short-run impact of higher prices on demand. Dependence on imported oil and oil intensity of economic activity will change substantially only in the long run. The average price of crude oil was about \$70 in 2007 and is expected to rise to about \$120 in 2008. (See *Are high oil prices here to stay?*) Figure 2.2.3, which assumes that the level of oil imports remains the same in both years, shows the increase in the value of oil imports in seven Asian countries. The increase shows the additional amount of resources that Asian countries have to spend to secure the same amount of oil. Figure 2.2.4 shows the increase in oil imports as a share of 2007 GDP. Those numbers capture, in effect, the direct loss of GDP due to the higher cost of imported oil.

Effects on transportation costs

Transportation is a universal input that is required for the production of virtually all goods and services. In theory, an increase in the cost of transportation due to an increase in crude oil prices will reverberate throughout the economy. In practice, the pass-through of higher crude prices to higher transportation costs is often incomplete. This is largely because the pass-through from world crude prices to domestic fuel prices is limited. (See the chapter, *Inflation in developing Asia: Demand-pull or cost-push?*, also in Part 2). For example, many Asian governments used to subsidize the price of gasoline and diesel although such subsidies are now being phased out. Although subsidies may temporarily prevent the pass-through of crude prices to fuel prices, the build-up of unsustainable fiscal liabilities will eventually lead to even sharper fuel price rises in the future. Even if there were complete pass-through of crude oil prices to gasoline and diesel prices, there would be incomplete pass-through to transportation costs. For example, consumers may shift from larger fuel-inefficient cars to smaller fuel-efficient cars or from private transportation to public transportation.

Transportation is not only an input used for producing goods but is itself a final consumption good. The line between the two is often blurred. Commuting is as much consumption good as movement of

2.2.1 Dependence on imported oil

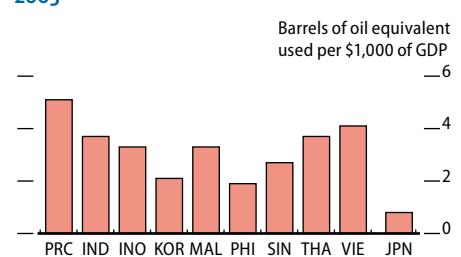


PRC = People's Republic of China; IND = India;
INO = Indonesia; KOR = Republic of Korea;

PHI = Philippines; SIN = Singapore; THA = Thailand.
Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

2.2.2 Energy intensity of economic activity, 2005

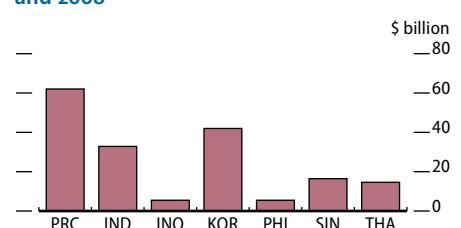


PRC = People's Republic of China; IND = India;
INO = Indonesia; JPN = Japan; KOR = Republic of Korea;
MAL = Malaysia; PHI = Philippines; SIN = Singapore;
THA = Thailand; VIE = Viet Nam.

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

2.2.3 Increase in oil imports between 2007 and 2008



PRC = People's Republic of China; IND = India;
INO = Indonesia; KOR = Republic of Korea;
PHI = Philippines; SIN = Singapore; THA = Thailand.

Note: It is assumed that the average price of oil rises from \$70 (actual) in 2007 to \$120 (forecast) in 2008, and the amount of oil imports is the actual 2007 amount for both years.

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

labor to workplace. The increase in transportation costs—e.g. taking a bus to work—has a direct impact on CPI inflation since transportation is an integral part of the consumption basket. Higher transportation costs also discourage consumption by reducing the amount of income available for spending on other goods. In addition, since transportation is a universal input, higher transportation costs will raise the price of everything. Therefore, in addition to directly raising the CPI, higher transportation costs will entail second-round price effects which further increase overall prices and erode the purchasing power of consumers. The basic-necessity nature of transportation suggests that higher fuel prices will have an adverse effect on poverty rates in developing Asia. Empirical evidence, which generally indicates that the elasticity of demand for transportation with respect to fuel prices is low, lends some support to the notion that transportation is a necessity. (See Small and van Dender 2007.)

Unsurprisingly, the absolute amount of spending on transportation fuels tends to be higher in the richer developing Asian countries (Figure 2.2.5). The impact of higher gasoline and diesel prices on CPI depends not on the absolute amount spent on fuel but on the share of fuel spending in total household expenditures. The larger this share, the more pronounced will be the impact of higher fuel prices on the CPI. For Asian countries, this share ranges from less than 4% in Singapore to about 16% in Viet Nam, with most of the countries in the 4–10% range (Figure 2.2.6). For example, in the case of the Republic of Korea, gasoline and diesel accounted for 6.3% of household expenditures in 2007. This means that the direct impact of a 70% increase in crude price, as is projected to happen between 2007 and 2008, will increase CPI by 4.4%. This almost certainly overestimates CPI inflation since it assumes a 100% pass-through of crude prices to domestic fuel prices. In summary, the main macroeconomic effect of higher transportation costs is a rise in inflation, and this effect is substantial.

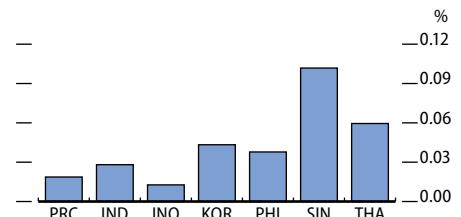
Effects on exports

Looking further ahead, there is a possibility that high oil prices will harm developing Asia's export prospects. This matters a lot because despite growing intraregional trade, the region's economic performance is still heavily influenced by its exports to the rest of the world, in particular the G3 economies of the United States (US), eurozone, and Japan.

Transportation costs are the critical link between oil prices and export performance. Transporting goods across large distances requires large amounts of fuel. Therefore, a sharp jump in the price of transportation fuel is, in effect, a sharp increase in trade costs. (See Anderson and van Wincoop 2004.) The explosive growth of international trade since the Second World War has been driven as much by trade liberalization as by reduction in transportation costs. Conversely, an extended period of high oil prices could seriously jeopardize Asia's export and growth prospects.

The evidence to date unambiguously indicates that shipping costs have already gone up substantially. A much-cited example from a study by Rubin and Tal (2008) reveals that the cost of shipping a standard 40-foot container from Shanghai to New York has soared from \$3,000

2.2.4 Increase in oil imports between 2007 and 2008, as share of 2007 GDP



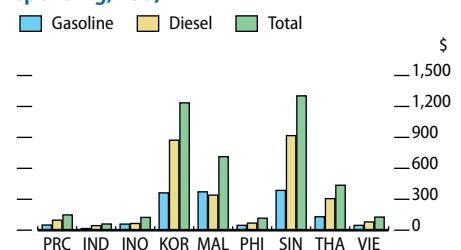
PRC = People's Republic of China; IND = India;
INO = Indonesia; KOR = Republic of Korea;
PHI = Philippines; SIN = Singapore; THA = Thailand.

Note: It is assumed that the average price of oil rises from \$70 (actual) in 2007 to \$120 (forecast) in 2008, and the amount of oil imports is the actual 2007 amount for both years.

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

2.2.5 Per capita transportation fuel spending, 2007

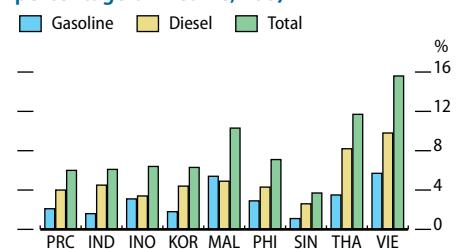


PRC = People's Republic of China; IND = India;
INO = Indonesia; KOR = Republic of Korea; MAL = Malaysia;
PHI = Philippines; SIN = Singapore; THA = Thailand;
VIE = Viet Nam.

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

2.2.6 Transportation fuel spending as percentage of income, 2007



PRC = People's Republic of China; IND = India;
INO = Indonesia; KOR = Republic of Korea; MAL = Malaysia;
PHI = Philippines; SIN = Singapore; THA = Thailand;
VIE = Viet Nam.

Source: FACTS Global Energy Group, *Oil Price Outlook*, August 2008.

[Click here for figure data](#)

in 2000 to \$8,000 in late May 2008. In the same period, the inflation-adjusted price of crude has soared from \$20 to \$130 per barrel. It is conceptually helpful to think of higher shipping costs as higher tariff rates since both discourage international trade. The increase in shipping costs due to an increase in the crude oil price from \$20 to \$130 is analytically equivalent to an increase in the tariff rate from 3% to 9%.

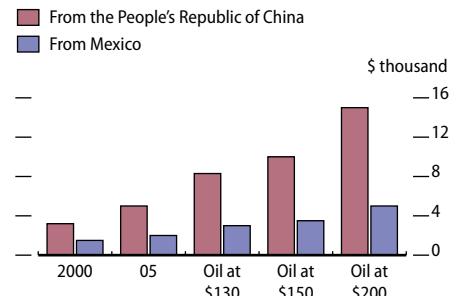
Some anecdotal evidence indicates that producers are already beginning to relocate their production closer to home. According to the *International Herald Tribune* (“Shipping Costs Start to Crimp Globalization,” 2 August 2008), electronics companies that left Mexico in recent years to take advantage of the PRC’s lower production costs are returning home, mainly to avoid skyrocketing shipping costs and to take advantage of Mexico’s proximity to the United States (US) market (Figure 2.2.7). There is already some evidence that soaring shipping costs have started to bite into PRC exports. According to the *Economist* (“High Seas, High Prices,” 9 August 2008), growth of exports from Guangdong province, the epicenter of the PRC’s export-oriented manufacturing, slumped to 13% in the first half of 2008 from 26.5% a year earlier.

Given the continued importance of distant markets such as the US and European Union for Asian exporters, the escalation of shipping costs is bound to have at least some adverse impact on Asian export and growth performance. Intra-Asian trade, which is often trade of parts and components that are assembled for export to outside Asia, will also suffer. However, while higher shipping costs entail clear risks for Asian exports, these risks should not be overstated. After all, even in the face of the highly unfavorable current export environment, including the yuan appreciation and a G3 slowdown, PRC exports are continuing to grow albeit at a slower pace. Talk of deglobalization may make good soundbites but in reality the adverse effects of higher shipping costs on trade will be much more limited. The implication for Asian exporters is that higher shipping costs give them one more disadvantage in long-distance markets and hence one more incentive to improve their efficiency and productivity.

Quantitative estimates of the macroeconomic effects

The preceding sections have shown that high oil prices can adversely affect developing Asia’s macroeconomic performance through various channels. The two more concrete channels—higher import costs and transportation costs—are both incorporated into the Oxford Economics global model. In this section, this model is used to quantitatively estimate the effects of higher oil prices on two key macroeconomic variables—GDP growth and CPI inflation—in eight regional economies—PRC, India, Indonesia, Republic of Korea, Malaysia, Philippines, Singapore, and Thailand. While those simulations do not generate precise projections, they do provide some indications of the magnitudes involved. Both the short- and long-run macroeconomic effects of higher oil prices are examined. In addition, the effects of monetary policy tightening triggered by the oil price surge are explored.

2.2.7 Relative shipping costs to the United States east coast



Source: Rubin and Tal (2008).

[Click here for figure data](#)

Short-run macroeconomic effects

In this section, quantitative estimates are derived of the short-run impact of higher oil prices on GDP growth, CPI inflation, and the current account balance. It is assumed that the average annual price of crude oil is \$120 per barrel in 2008. Five different crude oil price scenarios for 2009 are also assumed—\$70, \$90, \$110, \$130, and \$150—to assess the impact of crude prices on macroeconomic outcomes in 2009. The wide range of price scenarios also helps to incorporate the pronounced price volatility in the global oil market.

In terms of the impact on GDP growth, the simulation results indicate that higher oil prices will damp developing Asia's growth in the short run but will not choke it off (Table 2.2.1). The average 2009 growth rate of the eight countries falls from 7.42% to 4.88% as the price rises from \$70, as it was in 2007, to \$150, which is close to the all-time peak reached in July this year. The average growth rate falls from 7.42% to 6.87% to 6.18% to 5.51% to 4.88% when the oil price rises from \$70 to \$90 to \$110 to \$130 to \$150. Of particular interest are the effects of oil prices on the growth rates of the two regional giants: the PRC's growth rate falls from 11.05% to 8.7% and India's growth rate falls from 9.00% to 6.63% when the oil price rises from \$70 to \$150. At a broader level, the simulation results, which indicate that even relatively sharp jumps in oil prices will crimp but not destroy the region's growth, are consistent with the stylized facts. The region's output growth has been robust throughout the post-2003 oil price surge, and is projected to fall by 1.5%, from 9% in 2007 to 7.5% in 2008, despite the 70% increase in oil price between the 2 years.

2.2.1 GDP growth rate, 2009, under various 2009 oil price scenarios

| Country\Scenario | \$150 | \$130 | \$110 | \$90 | \$70 |
|-------------------------|-------------|-------------|-------------|-------------|-------------|
| China, People's Rep. of | 8.70 | 9.21 | 9.77 | 10.39 | 11.05 |
| India | 6.63 | 7.20 | 7.79 | 8.42 | 9.00 |
| Indonesia | 4.54 | 5.21 | 5.90 | 6.62 | 7.30 |
| Korea, Rep. of | 3.75 | 3.78 | 3.84 | 3.90 | 3.96 |
| Malaysia | 4.57 | 5.18 | 5.83 | 6.53 | 7.10 |
| Philippines | 4.08 | 4.99 | 5.98 | 6.86 | 7.44 |
| Singapore | 2.91 | 3.76 | 4.68 | 5.63 | 6.26 |
| Thailand | 3.87 | 4.71 | 5.61 | 6.57 | 7.24 |
| Average | 4.88 | 5.51 | 6.18 | 6.87 | 7.42 |

Source: Oxford Economics global model.

With respect to CPI inflation, the simulation results suggest that the oil price has a much bigger short-run impact on developing Asia's prices than on its output (Table 2.2.2). The average CPI inflation rate rises from 1.85% to 6.54% as the oil price rises from \$70 to \$150. The average inflation rises from 1.85% to 3.15% to 4.34% to 5.47% to 6.54% when the oil price rises from \$70 to \$90 to \$110 to \$130 to \$150. The PRC's inflation rate rises from 3.89% to 5.18% and India's inflation rises sharply from 1.5% to 8.53% when the oil price rises from \$70 to \$150. As was the case for output growth, the simulation results for CPI inflation are broadly consistent with the stylized facts. In particular, the acceleration of oil prices in 2007 and 2008 has had a much more pronounced impact on inflation—which is set to rise from 4.3% in 2007 to 7.8% in 2008—than on growth.

2.2.2 Consumer price inflation, 2009, under various 2009 oil price scenarios

| Country\Scenario | \$150 | \$130 | \$110 | \$90 | \$70 |
|-------------------------|-------------|-------------|-------------|-------------|-------------|
| China, People's Rep. of | 5.18 | 4.90 | 4.60 | 4.26 | 3.89 |
| India | 8.53 | 6.92 | 5.23 | 3.44 | 1.50 |
| Indonesia | 10.65 | 9.59 | 8.50 | 7.36 | 6.16 |
| Korea, Rep. of | 4.52 | 3.98 | 3.40 | 2.76 | 2.04 |
| Malaysia | 6.81 | 5.57 | 4.26 | 2.85 | 1.29 |
| Philippines | 6.79 | 5.48 | 4.08 | 2.59 | 0.95 |
| Singapore | 4.20 | 3.08 | 1.92 | 0.71 | -0.60 |
| Thailand | 5.60 | 4.22 | 2.76 | 1.22 | -0.47 |
| Average | 6.54 | 5.47 | 4.34 | 3.15 | 1.85 |

Source: Oxford Economics global model.

In the context of the current account balance, the simulation results imply that the oil price surge will substantially dent (but not remove) developing Asia's current account surplus (Table 2.2.3). The average surplus falls from 6.68% to 3.01%. The average current account surplus falls from 6.68% to 5.71% to 4.81% to 3.91% to 3.01% when the oil price rises from \$70 to \$90 to \$110 to \$130 to \$150. The PRC's surplus shrinks from 7.80% to 5.47% while India's deficit widens from 1.51% to 5.15%. The simulation results are consistent with actual recent trends in the region's current account balance. For example, as a result of the 2007 and 2008 oil price surge, the region's current account surplus is projected to fall from 6.7% in 2007 to 4.3% in 2008.

2.2.3 Current account balance, 2009 (% of GDP), under various 2009 oil price scenarios

| Country\Scenario | \$150 | \$130 | \$110 | \$90 | \$70 |
|-------------------------|-------------|-------------|-------------|-------------|-------------|
| China, People's Rep. of | 5.47 | 6.07 | 6.66 | 7.24 | 7.80 |
| India | -5.15 | -4.26 | -3.37 | -2.47 | -1.51 |
| Indonesia | 0.93 | 1.23 | 1.56 | 1.90 | 2.26 |
| Korea, Rep. of | -2.16 | 0.11 | 2.34 | 4.55 | 6.82 |
| Malaysia | 7.34 | 7.05 | 6.80 | 6.57 | 6.42 |
| Philippines | -0.44 | 0.29 | 1.00 | 1.76 | 2.61 |
| Singapore | 18.03 | 19.20 | 20.35 | 21.48 | 22.76 |
| Thailand | 0.05 | 1.62 | 3.15 | 4.66 | 6.27 |
| Average | 3.01 | 3.91 | 4.81 | 5.71 | 6.68 |

Source: Oxford Economics global model.

Effects of monetary policy tightening on GDP growth and CPI inflation

This section examines the effects of a central bank's tightening of monetary policy in response to the inflation pressures released by soaring oil prices. Since a key objective of monetary policy is price stability, it can be expected that developing Asia's central banks will raise interest rates and pursue other contractionary measures such as raising reserve requirements and discouraging bank lending. But in fact, much of the region has pursued a lax monetary policy. The cost of lower inflation due to weaker aggregate demand is lower growth and higher unemployment. Therefore, the size of the interest rate hike will be determined by the central bank's growth-inflation tradeoff. Many economists argue that the standard prescription of raising interest rates to tame inflation will

not work when inflation is triggered by supply-side shocks—such as the oil shock now engulfing Asia. The idea is that if inflation is due to rising costs rather than excessive demand, cooling off demand by raising interest rates will not rein in inflation.

To assess the impact of monetary policy tightening on GDP growth and CPI inflation, it is assumed that oil prices rise from \$70 in both 2008 and 2009 to \$120 in both 2008 and 2009. This is quite similar to the oil scenarios that are most likely to materialize. (See *Are high oil prices here to stay?*) The Oxford Economics global model allows one either to keep the interest rate fixed or to allow the interest rate to adjust in response to shocks. In the case of the oil price shock, the model allows for an increase in the interest rate to fight the resulting inflation pressures. The simulations were carried out to compare the 2009 macroeconomic outcomes under a fixed interest regime versus a flexible interest rate regime. A flexible interest rate regime implies a more activist anti-inflation central bank than a fixed regime.

The simulation results indicate that contractionary monetary policy would adversely affect GDP growth in developing Asian countries (Table 2.2.4). The average 2008 growth rates are quite similar with fixed and flexible interest rates—6.2% (fixed) and 6.0% (flexible). Monetary tightening thus has some adverse effect on 2008 growth but the effect is limited. However, for 2009, monetary tightening exerts a more substantial impact. This is because it usually takes some time before the contractionary effects of higher interest rates work their way through the economy. The average 2009 GDP growth rate is 6.15% with fixed interest rates but only 4.99% with flexible interest rates. The corresponding figures for the PRC are 9.91% and 8.66%, and for India 7.87% and 6.69%. The broader point is that the region's growth is likely to slow rather than halt abruptly in the face of interest rate hikes induced by the oil shock. This suggests that the main cost of monetary tightening—i.e. slower GDP growth—would be manageable.

2.2.4 GDP growth rate under alternative monetary policy scenarios

| Country\ Scenario | 2008 | | 2009 | |
|-------------------------|---------------------|------------------------|---------------------|------------------------|
| | Fixed interest rate | Flexible interest rate | Fixed interest rate | Flexible interest rate |
| China, People's Rep. of | 10.25 | 10.18 | 9.91 | 8.66 |
| India | 8.10 | 7.96 | 7.87 | 6.69 |
| Indonesia | 6.04 | 5.73 | 6.16 | 4.65 |
| Korea, Rep. of | 4.63 | 4.43 | 4.62 | 3.36 |
| Malaysia | 5.59 | 5.45 | 5.30 | 4.68 |
| Philippines | 4.99 | 4.73 | 5.63 | 4.31 |
| Singapore | 4.85 | 4.65 | 4.39 | 3.44 |
| Thailand | 5.11 | 4.85 | 5.29 | 4.12 |
| Average | 6.20 | 6.00 | 6.15 | 4.99 |

Source: Oxford Economics global model.

The simulation results indicate that higher interest rates would help damp the inflation pressures released by the oil price shock on developing Asia (Table 2.2.5). The average 2008 CPI inflation rates are almost identical with fixed and flexible interest rates—7.55% and

2.2.5 Consumer price inflation under alternative monetary policy scenarios

| Country\ Scenario | 2008 | | 2009 | |
|-------------------------|---------------------|------------------------|---------------------|------------------------|
| | Fixed interest rate | Flexible interest rate | Fixed interest rate | Flexible interest rate |
| China, People's Rep. of | 7.44 | 7.44 | 5.26 | 5.16 |
| India | 7.41 | 7.33 | 9.37 | 8.02 |
| Indonesia | 10.86 | 10.84 | 10.46 | 10.35 |
| Korea, Rep. of | 4.93 | 4.93 | 4.35 | 4.25 |
| Malaysia | 5.28 | 5.26 | 6.41 | 6.18 |
| Philippines | 9.91 | 9.88 | 6.85 | 6.66 |
| Singapore | 6.65 | 6.63 | 3.85 | 3.75 |
| Thailand | 7.88 | 7.84 | 5.52 | 5.22 |
| Average | 7.55 | 7.52 | 6.51 | 6.20 |

Source: Oxford Global simulations.

7.52%, respectively. Contractionary monetary policy thus has the expected effect but the size of the effect is limited. However, the effect increases somewhat in 2009. The average 2009 CPI inflation rate is 6.51% with fixed interest rates but is 6.2% with flexible interest rates. The corresponding figures for the PRC are 5.26% and 5.16%, and 9.37% and 8.02% for India. Other than for India, the anti-inflation impact of monetary tightening in 2009, while larger than in 2008, remains generally muted throughout the region.

The overall picture is therefore one of a limited impact of interest rates on inflation. This implies that the main benefit of monetary tightening may be smaller than expected.

In the context of the growth-inflation trade-off, the results suggest that the cost of higher interest rates—slower growth—would be substantially higher than the benefit—lower inflation. It may be tempting to interpret this as evidence against the need to pursue contractionary monetary policy in order to rein in inflation. Such temptation is not only misguided but outright dangerous for several reasons.

First, higher oil prices have yet to fully work their way through domestic prices of goods and services. There is a time lag between the initial impact of an oil price shock and the propagation of its effects on the input costs and prices of goods and services. Second, if the inflation expectations of the general public become entrenched as a result of central bank inaction against the oil price shock, the likely result is a vicious wage-price spiral compounded by higher wage demands. The region may suffer a similar fate as the industrial countries in the 1970s—an extended period of high inflation—if it makes the same policy mistake of failing to decisively stamp out incipient inflation expectations early on. Third, inflation has already begun to surge throughout developing Asia and has emerged as the region's top macroeconomic concern. Whether oil-driven or not, inflation is already upon the region. Fourth, it is not at all clear that the current surge of inflation is entirely due to higher oil prices. In fact the chapter, *Inflation in developing Asia: Demand-pull or cost-push?*, also in Part 2, brings to light some intriguing evidence that excess aggregate demand still explains a large part of the region's inflation. This lends support to using traditional anti-inflation monetary policies that curb inflation by curbing aggregate demand.

Long-run macroeconomic effects

According to the analysis of the oil market presented in *Are high oil prices here to stay?* the long-run oil price scenario is a prolonged period of high oil prices. More specifically, the analysis indicates that the real or inflation-adjusted price of oil is likely to remain well above \$100 until at least the end of next decade. The sharp runup of oil prices in 2007 and 2008 seems to have taken oil prices to a new higher plateau. While there is inevitably a great deal of uncertainty about the future trajectory of oil prices, the probability that the oil price environment has fundamentally changed is quite high. In view of this, a meaningful simulation exercise is to look at how developing Asia's GDP, CPI, and current account balance may respond to an extended period of higher oil prices. The Oxford Economics global model is used to assess the impact of an elevation of oil price from \$70, which was the average price in 2007, to \$120, which is the average projected price for the period 2008–2018 in *Are high oil prices here to stay?* Macroeconomic outcomes in the oil price scenario of \$70 throughout 2008–2018 are compared to the alternative oil price scenario of \$120 for the same period. Given the length of the period, allowance is made for the interest rate to change.

The simulation results indicate that the rise in oil prices from \$70 to \$120 will adversely affect output levels throughout 2008–2018. Table 2.2.6 shows the change in GDP under the oil price scenario of \$120 relative to the base-case oil price scenario of \$70. For example, according to the results, the PRC's GDP is 0.3% lower in 2008 if the oil price is \$120 rather than \$70 in 2008. Likewise, the PRC's GDP is 2.4% lower in 2018 if the oil price rises from \$70 to \$120 throughout 2008–2018. For all countries other than Singapore, GDP levels fall when the oil price rises and the fall generally grows larger in the latter part of the period. The positive output impact on Singapore may be due to its special position as a major international oil-refining center.

Turning to the bigger picture, the negative impact of higher oil prices on the region's output is relatively small even in the long run. GDP falls by 2–4% even after a decade of a \$50 increase in oil price. To illustrate,

2.2.6 Difference in GDP levels between two long-run oil price scenarios (%)

| Year | China, People's Rep. of | India | Indonesia | Korea, Rep. of | Malaysia | Philippines | Singapore | Thailand |
|------|-------------------------------|-------|-----------|-------------------|----------|-------------|-----------|----------|
| 2008 | -0.3 | -0.7 | -0.3 | -0.1 | -0.6 | -0.2 | -0.5 | -0.3 |
| 2009 | -1.2 | -2.1 | -2.3 | -0.7 | -2.2 | -1.4 | -0.9 | -1.9 |
| 2010 | -1.3 | -1.3 | -2.3 | -0.5 | -2.5 | -1.9 | 0.4 | -1.4 |
| 2011 | -0.7 | -1.6 | -2.0 | -0.5 | -2.5 | -2.0 | 0.9 | -1.0 |
| 2012 | -0.6 | -2.4 | -1.8 | -0.9 | -2.7 | -2.6 | 1.0 | -1.8 |
| 2013 | -1.3 | -2.7 | -1.7 | -1.8 | -2.9 | -2.9 | 0.8 | -2.2 |
| 2014 | -2.1 | -2.9 | -1.8 | -2.2 | -3.2 | -3.0 | 0.3 | -2.6 |
| 2015 | -2.7 | -3.2 | -2.3 | -2.8 | -3.8 | -3.3 | -0.3 | -3.3 |
| 2016 | -3.1 | -3.5 | -2.8 | -2.9 | -4.5 | -3.8 | -0.9 | -4.0 |
| 2017 | -2.8 | -3.4 | -2.6 | -2.5 | -4.8 | -3.9 | 0.2 | -3.9 |
| 2018 | -2.4 | -3.2 | -2.1 | -2.1 | -4.2 | -3.5 | 1.3 | -3.3 |

Note: Oil price scenario 1 assumes an oil price of \$120, and oil price scenario 2 an oil price of \$70, throughout 2008–2018.

Source: Oxford Economics global model.

GDP would be \$96 billion–\$98 billion in 2018 rather than \$100 billion in 2018 if the oil price were \$120 rather than \$70 throughout 2008–2018. Intuitively, even though a decade-long increase in the oil price is a big external shock for a region as highly dependent on imported oil as developing Asia, it is nevertheless a one-time shock to which the region will adjust over time. A useful analogy is the oil crisis of the early 1970s in which oil prices quadrupled. The East Asian “miracle” economies in East and Southeast Asia were initially hit hard but eventually recovered strongly, and the oil crisis did not derail their long-run growth momentum.

In the context of the overall price level, in all eight countries the rise in oil prices from \$70 to \$120 in 2008–2018 raises the CPI (Table 2.2.7). The long-run increase in the CPI is quite large for some countries. For example, the CPI would rise by 46.3% in India and 28.5% in Indonesia after a decade in the high oil-price scenario relative to the low oil-price scenario. For other countries such as PRC, Republic of Korea, and Malaysia, the increase in the CPI is much smaller.

2.2.7 Difference in consumer price index levels between two long-run oil price scenarios (%)

| Year | China, People's Rep. of | India | Indonesia | Korea, Rep. of | Malaysia | Philippines | Singapore | Thailand |
|------|-------------------------------|-------|-----------|-------------------|----------|-------------|-----------|----------|
| 2008 | 0.5 | 2.7 | 0.7 | 0.4 | 2.2 | 0.6 | 1.9 | 0.6 |
| 2009 | 1.8 | 8.4 | 3.9 | 1.6 | 5.4 | 3.5 | 4.8 | 3.9 |
| 2010 | 2.4 | 12.3 | 7.0 | 2.2 | 7.1 | 6.0 | 6.0 | 6.7 |
| 2011 | 3.2 | 16.3 | 10.1 | 3.2 | 8.7 | 8.3 | 7.5 | 9.0 |
| 2012 | 4.2 | 21.0 | 12.7 | 4.4 | 9.9 | 10.6 | 9.0 | 11.1 |
| 2013 | 5.2 | 25.6 | 15.3 | 5.3 | 10.5 | 12.9 | 10.5 | 13.5 |
| 2014 | 6.2 | 29.8 | 17.7 | 6.1 | 10.7 | 15.0 | 11.9 | 15.7 |
| 2015 | 7.0 | 34.0 | 20.1 | 6.6 | 10.3 | 16.7 | 13.1 | 17.5 |
| 2016 | 7.4 | 38.1 | 22.9 | 7.0 | 9.5 | 18.2 | 14.1 | 19.3 |
| 2017 | 7.6 | 42.2 | 25.9 | 7.3 | 8.4 | 19.6 | 14.6 | 21.0 |
| 2018 | 7.4 | 46.3 | 28.5 | 7.6 | 6.9 | 20.7 | 14.8 | 22.2 |

Note: Oil price scenario 1 assumes an oil price of \$120 and oil price scenario 2 an oil price of \$70 throughout 2008–2018.

Source: Oxford Economics global model.

More generally, throughout the region, the prolonged period of high oil prices seems to have a substantially bigger impact on the CPI than on GDP. This suggests that, in the long run, taming inflation may be the biggest macroeconomic policy challenge arising from the oil price shock. This implies that failure of monetary authorities to rein in inflation at an early stage may lead to far higher inflation in the future.

With respect to the current account balance, the escalation of oil prices to a higher plateau will substantially worsen the current account balances of all developing Asian countries except Malaysia, which experiences an improvement (Table 2.2.8). This is not surprising since Malaysia is the only net exporter of crude oil among the eight countries. The impact is also negligible for Indonesia, which only recently turned from a net oil exporter to a net importer. Higher oil prices will lower the PRC's surplus but the reduction will be relatively small and the

2.2.8 Difference in current account balance (% of GDP) between two long-run oil price scenarios

| Year | China, People's Rep. of | India | Indonesia | Korea, Rep. of | Malaysia | Philippines | Singapore | Thailand |
|------|-------------------------------|-------|-----------|-------------------|----------|-------------|-----------|----------|
| 2008 | -1.2 | -1.5 | -0.8 | -2.5 | 0.6 | -1.6 | -1.7 | -2.9 |
| 2009 | -1.4 | -1.9 | -0.6 | -4.5 | 1.7 | -2.0 | -2.3 | -3.4 |
| 2010 | -1.2 | -2.4 | -0.3 | -3.9 | 1.4 | -1.6 | -3.2 | -2.9 |
| 2011 | -0.9 | -2.3 | -0.2 | -3.1 | 1.6 | -1.4 | -3.2 | -2.9 |
| 2012 | -1.1 | -1.9 | -0.3 | -2.0 | 1.5 | -1.2 | -3.7 | -2.7 |
| 2013 | -1.1 | -2.0 | -0.5 | -1.6 | 1.3 | -1.0 | -4.1 | -2.6 |
| 2014 | -1.1 | -2.4 | -0.6 | -1.4 | 1.2 | -1.0 | -4.5 | -2.8 |
| 2015 | -1.1 | -2.8 | -0.7 | -1.4 | 1.2 | -1.1 | -4.8 | -2.9 |
| 2016 | -1.0 | -3.1 | -0.7 | -1.4 | 1.2 | -1.1 | -5.0 | -3.2 |
| 2017 | -0.8 | -3.5 | -0.5 | -2.0 | 1.0 | -0.9 | -4.9 | -3.0 |
| 2018 | -0.8 | -4.0 | -0.5 | -2.5 | 1.1 | -0.8 | -4.9 | -3.1 |

Note: Oil price scenario 1 assumes an oil price of \$120 and oil price scenario 2 an oil price of \$70 throughout 2008–2018.

Source: Oxford Global simulations.

country will continue to enjoy a healthy surplus. However, the long-run deterioration of India's current account deficit should be a cause for concern given that the country already runs a sizable deficit.

Concluding observations

The surge of oil prices since 2003 has had remarkably little adverse impact on the macroeconomic performance of developing Asia so far. The PRC, India, and the rest of the region have grown rapidly without an appreciable acceleration of inflation in the past 5 years. It is a puzzle that developing Asia, a major importer of oil, has seemingly defied the economic law of gravity and has continued to grow rapidly. In fact, Asia's robust growth, which has contributed significantly to broader global growth, has been a key driver of global oil demand growth. Given that Asia's rapid growth has been a major underlying cause of higher oil prices, it is not surprising that higher oil prices have had little tangible impact on Asia's rapid growth.

The big risk from the region's compelling macroeconomic performance in the face of higher oil prices is that it may give policy makers a false sense of security and of immunity from the consequences of higher oil prices. However, a region as dependent as developing Asia on imported oil for its energy needs is bound to feel some adverse effects of the oil price surge sooner or later. This is especially true since the gentle escalation of oil prices since 2003 has turned into a steep ascent since the second half of 2007. Higher oil prices will reduce the region's real income by worsening its terms of trade and by raising the cost of producing virtually everything. In fact, simulation results of the Oxford Economics global model indicate that the oil price shock will reduce GDP growth and raise CPI inflation throughout the region in both the short and long run.

These simulation results also suggest that the oil price surge will have a more pronounced impact on the region's prices and inflation than on

its output and growth. Therefore, it is of use to examine the pass-through of higher oil prices to domestic prices in greater detail (as in the chapter, *Inflation in developing Asia: Demand-pull or cost-push?*, also in Part 2). The impact on GDP growth will be relatively small, and has been the case so far. Tightening monetary policy to tame inflation may thus come at a relatively small cost in terms of growth forgone. However, the Oxford Economics global model results also indicate that higher interest rates will have only limited effect in curbing inflation. In themselves, those results support the views of a large and growing school of thought, which holds that the region's central banks are powerless to fight inflation driven by supply-side shocks.

This argument may be tempting because it gives central banks an excuse for doing nothing and thus implicitly promoting the politically attractive option of slightly higher short-run growth. But the painful stagflation experience of the industrial countries in the 1970s should disabuse the region from any delusions about the irrelevance of monetary policy in the face of supply shocks. Unlike the industrial countries back then, today's Asian countries are not in any serious danger of falling into recession any time soon. Indeed, it would take a leap of imagination to suggest that Asia is at risk of stagflation.

However, the broader lesson from that experience is that failure to rein in incipient inflation pressures at an early stage will result in much higher and prolonged inflation later on. The failure to firmly anchor the general public's inflation expectations will result in higher wage demands, price hikes, and a vicious wage-price spiral that would be difficult to contain. In fact, it took industrial-country central banks the better part of a decade to sort out the mess. That broader lesson, stagflation or not, is most definitely relevant for Asian central banks today. The region's robust growth prospects provide a rare golden opportunity to preemptively hit inflation hard at manageable cost.

Even if inflation is entirely driven by supply shocks, monetary policy has a critical role to play in anchoring inflation expectations so as to prevent second-round inflation triggered by wage-price spirals. However, it is not at all clear whether Asia's current bout of inflation is driven entirely by the surge in oil prices. Intuitively, it is more than plausible that the robust domestic demand that has contributed to healthy economic growth has helped stoke inflation pressures. The oil price shock may have added fuel to the fire but the fire may already have been burning quite strongly. To the extent that regional inflation is driven by overheating domestic demand, an interest rate hike stands a better chance of achieving its usual anti-inflation effect by damping demand and hence inflation pressures. In fact, monetary policy itself has been a key factor behind buoyant demand in the region so far. The real or inflation-adjusted interest rate has been negative in most of the region for some months. It is thus difficult to characterize the region's recent monetary policy stance as anything other than expansionary.

References

- Anderson, J., and E. van Wincoop. 2004. "Trade Costs." *Journal of Economic Literature* 42(3): 691-751.

- Cooper, J. 2003. "Price Elasticity of Demand for Crude Oil: Estimates for 23 Countries." *OPEC Review* 27: 1-8.
- Edelstein, P., and L. Kilian. 2007. "Retail Energy Prices and Consumer Expenditures," working paper, University of Michigan, Ann Arbor, Michigan.
- FACTS Global Energy. 2008. "Oil Price Outlook." Background paper for *Asian Development Outlook Update 2008*. Singapore.
- Fesharaki, F., K. Wu, and W. Prawiraatmadja. 2007. "Policy Priorities," in K. Wu and F. Fesharaki, eds. *Asia's Energy Future: Regional Dynamics and Global Implications*, Honolulu: East-West Center, pp. 87-105.
- Gately, D., and H. Huntington. 2002. "The Asymmetric Effects of Changes in Price and Income on Energy and Oil Demand," *Energy Journal* 23(1): 19-55.
- Hamilton, J. 2008. "Understanding Crude Oil Prices." University of California, San Diego. 4 June.
- Rubin, J., and B. Tal. 2008. "Will Soaring Transport Costs Reverse Globalization?" *StrategEcon*, 27 May. CIBC World Markets Inc., New York, NY, pp. 4-7.
- Small, K., and K. van Dender. 2007. "Long Run Trends in Transport Demand, Fuel Price Elasticities and Implications of the Oil Outlook for Transport Policy," OECD-International Transport Forum (ITF) Joint Transport Research Centre Discussion Paper No. 2007-16. December. OECD, Paris.

Causes of high food prices

Introduction

Are food grain prices high? The answer depends on the commodity, the period of comparison, and whether the prices are in nominal or real terms. Even from the perspective of just two decades, deflated prices are not exceptionally high for corn (maize) and wheat—only rice seems to be going off the top end of the scale (Figure 2.3.1).

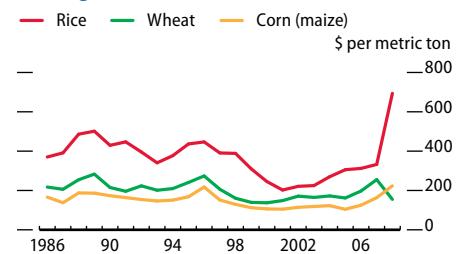
A longer-run view, from 1950 to the present, is even more surprising. Price trends over more than half a century reveal that even the highest price levels experienced in 2007 and 2008 are substantially below the peaks in the previous world food crisis in 1973–74. Indeed, real prices in mid-2008 for corn, wheat, and rice remain well below what was considered “normal” until the full impact of the green revolution was felt after 1980 (Figure 2.3.2).

But most policy makers, consumers, and producers have shorter memories than implied by Figure 2.3.2. Recent price movements have been very sharp and disruptive, with an especially heavy impact on poor consumers and low-income food-importing countries. Rapid increases in food prices are adding to inflationary pressures in most of developing Asia, bringing into prospect monetary tightening and slower economic growth. After several decades of stability in world grain markets, and even steady price declines, the world looks very different in mid-2008 (Figure 2.3.3). Scarcity is back, hunger is growing, and rapid economic growth is threatened (ADB 2008). These are difficult times.

These high food prices have attracted a great deal of attention in policy, media, and academic circles. The runup in corn prices since mid-2007 has fueled a sharp debate over the ethanol subsidy program in the United States (US). High vegetable oil prices have raised similar questions over biodiesel mandates in Europe. High wheat and rice prices may significantly undermine the gains in poverty reduction in the past two decades. The world community has mobilized new resources to feed the poor, including a doubling of the budget for the World Food Program, from \$3 billion a year to over \$6 billion for 2008.

A combination of decent weather in most growing regions, vigorous response from farmers, and announcement of a small but timely release

2.3.1 Short-run movements in real prices of world grains

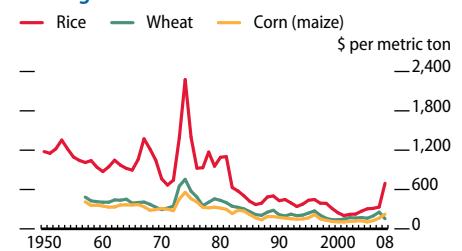


Notes: 2008 represents data for the first 5 months. The world prices of corn (maize), rice, and wheat are based on US No. 2 yellow, free on board Gulf of Mexico; Thailand white milled 5% broken, free on board Bangkok; and No. 1 hard red winter, ordinary protein, free on board Gulf of Mexico, respectively. Prices were deflated by the US consumer price index, with 2007 prices as base.

Source: International Monetary Fund, available: <http://www.imf.org/external/np/res/commod/index.asp>, downloaded 15 August 2008.

[Click here for figure data](#)

2.3.2 Long-run movements in real prices of world grains



Notes: 2008 represents data for the first 5 months. The world prices of corn (maize), rice, and wheat are based on US No. 2 yellow, free on board Gulf of Mexico; Thailand white milled 5% broken, free on board Bangkok; and No. 1 hard red winter, ordinary protein, free on board Gulf of Mexico, respectively. Prices were deflated by the US consumer price index, with 2007 prices as base.

Source: International Monetary Fund, available: <http://www.imf.org/external/np/res/commod/index.asp>, downloaded 15 August 2008.

[Click here for figure data](#)

in May of imported rice stocks by Japan seem to have stopped the price panics seen early in 2008.¹ Market psychology has clearly turned negative (and Viet Nam has aggressively cut export prices for rice in an effort to regain market share from Thailand). But price levels remain well above long-run trends and significant micro- and macroeconomic adjustments are in the works. To understand these adjustments, and to assess their impact, it is necessary to understand the causes of high food prices and their likely duration. That is the purpose of this chapter.

The new price environment has now existed long enough to move beyond journalistic coverage (some of it quite insightful) and to have generated a preliminary flow of analysis and policy perspectives. These range from thoughtful essays that reflect on previous world food crises and the distinguishing features of this one (Naylor and Falcon 2008), to urgent appeals to ramp up food aid funding and support for agricultural research (von Braun 2008). The most useful and balanced assessment appeared in the Farm Foundation Issue Report (FFIR) in July 2008. Authored by three distinguished agricultural economists based at Purdue University, the issue report, “What’s driving food prices,” concludes that falling grain stocks since 2000 have gradually changed world commodity markets from surplus to deficit and have provided the supply–demand fundamentals for sharply higher prices (Abbot, Hurt, and Tyner 2008).

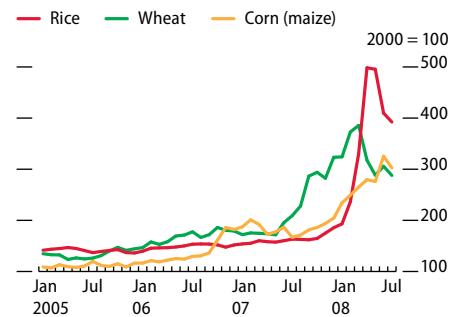
These changing fundamentals can be seen in an especially compelling way when one compares rates of population growth in Asia with rates of growth in rice yields (Figure 2.3.4). The green revolution produced a surge in rice production, and rice surpluses, but the rate of growth has been on a falling trend for the last two decades.

The trigger for the higher prices depends on individual commodities, but significant depreciation of the US dollar, high oil prices, and demand for biofuels have been the main drivers, although even these basic forces are interrelated. Because the FFIR covers the drivers of high food prices in detail, from both a macroeconomic and a commodity-specific perspective, it provides the basic foundation for the more specialized analysis here (Abbot, Hurt, and Tyner 2008). In particular, the FFIR stresses the distinction between short- and long-term responses of supply and demand to a new price environment, and the pervasive impact of changes in exchange rates on commodity prices. Both these factors are investigated in some detail in this chapter.

A major policy issue has been the extent to which “outside” financial speculation—by pension and hedge funds, or newly created commodity index funds available to small investors—has been driving up prices for key staple foods (and petroleum). India, for example, has banned futures trading in important food staples. Nearly all economists and market analysts agree that financial speculation cannot drive up prices in the long run—over a decade or longer. Only the fundamentals of supply and demand can do that.

But there is much more controversy over the role of new speculative activity on price formation in the short run, and especially the potential for such speculation to create “spikes” in prices, or bubbles, that disconnect the market price from underlying fundamentals (OECD 2008). It is very difficult to explain the creation of such spikes across a wide range of commodities without a significant role for financial speculation based on expectations of higher prices. Indeed, the sharp sell-off in

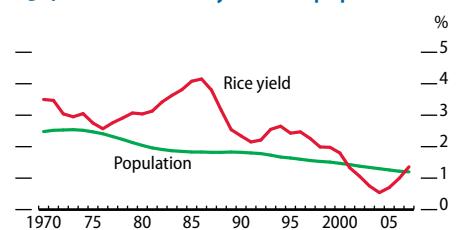
2.3.3 Grain price indexes



Note: The world prices of corn (maize), rice, and wheat are based on US No. 2 yellow, free on board Gulf of Mexico; Thailand white milled 5% broken, free on board Bangkok; and No. 1 hard red winter, ordinary protein, free on board Gulf of Mexico, respectively.

Source: International Monetary Fund, *International Financial Statistics* online, downloaded 1 September 2008.
[Click here for figure data](#)

2.3.4 Growth of rice yield and population



Note: Growth is calculated using successive rolling 5-year period data on rice yield and population in 24 rice-producing developing Asian economies. For example, growth for 1970 is the change between 1966–1970 and 1961–1965.

Sources: Food and Agriculture Organization of the United Nations Statistics (FAOSTAT), available: <http://faostat.fao.org/site/291/default.aspx>; *World Development Indicators* online; both downloaded 3 September 2008.
[Click here for figure data](#)

many commodity markets since mid-July 2008 has convinced many doubters that financial speculation played a significant role in the rapid price runups seen since mid-2007. This chapter also brings to bear new empirical analysis that sheds light on this role.

The key results are as follows. First, the distinction between short-run responses of supply and demand to price changes and longer-run responses is crucial. This is a result familiar to agricultural economists, who have used Nerlovian-type distributed lag models of farmer and consumer behavior for half a century (Nerlove 1958). A simple model developed here that captures this distinction suggests that much of the recent gradual increase in the prices of food commodities—from 2002 to 2007—is a direct result of sharply declining prices a decade ago. We are paying a high price, literally, for the destocking of grains since the mid-1990s, a process that pushed down prices.

Simultaneously, this destocking was a rational response to falling grain prices. The simultaneity between stock levels and price expectations—emphasized in the theory of the supply of storage (Brennan 1958; Williams and Wright 1991)—is another neglected aspect of most analyses of current high food prices. Considerable insight comes from remedying that neglect, simply by recognizing that in market economies stock changes do not happen “exogenously” from price formation.

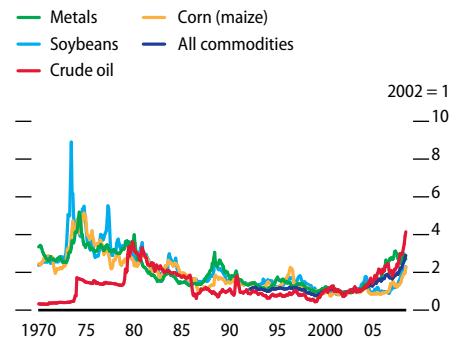
Second, the pervasive impact of exchange rates on commodity prices is confirmed even in the very short run (a result compatible with the FFIR perspective but additional to it). It is important to remember, as the report stresses, that exchange rates are financial variables conditioned by their macroeconomic and trade context. Almost inherently, then, commodity prices will be linked to financial markets, even in the long run (Frankel 2006). Price formation in organized commodity markets depends on financial factors as well as “real” supply and demand factors.

Finally, the short-run price linkages among exchange rates, oil prices, and the prices of important food commodities are tested with Granger causality techniques. These linkages are almost certainly driven by the intermediation of financial markets, i.e., speculators engaged in commodity futures (and other derivatives) markets who have no physical connection to the commodity businesses themselves. These results provide tantalizing, but preliminary, evidence of the role of financial speculation in short-run price behavior, but the role is not nearly as uniform and pervasive as most critics seem to think. Speculative pressures come and go, for reasons not yet apparent from the data. Understanding these reasons—which are perhaps no more than “animal spirits”—is the next goal of the research reported here. Any progress in such understanding will move the discussion forward a great deal.

What has caused commodity prices to increase since 2000?

When compared with the long-run decline in most commodity prices visible in Figure 2.3.5, the runup in prices since 2000 appears to be a reversal of historical trends. The timing of the rise varies by commodity, so some commodity-specific stories will be needed to explain the

2.3.5 Long-run real commodity price movements since 1970



Notes: The commodity price index includes both fuel and nonfuel price indexes. The oil price index is the simple average of the spot prices of dated Brent, West Texas Intermediate, and Dubai. Corn (maize) and soybeans, respectively, refer to US No. 2 yellow, free on board Gulf of Mexico, and US No. 2 yellow, Chicago soybean futures contract (first contract forward). The metals price index comprises copper, aluminum, iron ore, tin, nickel, zinc, lead, and uranium prices. Prices were deflated using the US consumer price index, with 2000 prices as base.

Source: International Monetary Fund, *International Financial Statistics* online, downloaded 1 September 2008.

[Click here for figure data](#)

patterns. But there seem to be common elements to the rise as well. This section will attempt to assess the role both of the general drivers and of the commodity-specific dimensions of the commodity price boom.

The general patterns since 2000 are clear enough in Figure 2.3.6. From 2000 to 2004 all the tracked commodities moved more or less in tandem, and by relatively small amounts. Soybean prices spurted in 2004 after production problems in the US, but returned to normal levels in 2005. From then until early 2007 prices of wheat, corn, and soybeans remained flat, but rice prices had already started a steady rise from their historical low in 2001. Crude oil prices and metals—which together make up a large share of the International Monetary Fund (IMF) commodity price index—had also started a steady rise by 2004. Clearly, by the mid-2000s, commodity prices were beginning to show signs of life not seen for a decade. Something had changed.

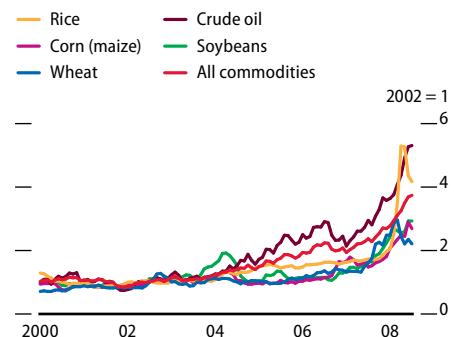
The change is most apparent in crude oil and the metals-heavy IMF index. Food staples, except rice, remained stable until 2007. Such a pattern is best explained by the accelerating demands for industrial raw materials and energy as the economies of the People's Republic of China (PRC) and India consolidated their momentum of very rapid growth after the turn of the millennium. As the authors of FFIR point out, however, the PRC and India are not large factors in global grain markets, and their rapid economic growth did not spill over directly into higher prices for wheat, corn, and soybeans. The rising prices for rice need a special explanation, detailed below. By 2006, however, it was clear that rapid growth in the developing world, especially the PRC and India, could move global commodity markets. This realization set the stage for new expectations among commodity traders in particular and the broader investment community in general. By 2006, expectations of higher commodity prices were well established.

Layers of causation

It is useful to think about the factors causing high food prices in terms of cumulative layers of causation (Timmer 2008a). Five basic drivers seem to be stimulating rapid growth in demand for food commodities:

- Rising living standards in the PRC, India, and other rapidly growing developing countries lead to increased demand for improved diets, especially greater consumption of vegetable oils and livestock products (and the feedstuffs to produce them). The PRC is a major importer of soybeans for both meal and oil and India is a significant importer of vegetable oils. However, wheat and rice consumption in the PRC and India are not rising significantly and both countries are largely self-sufficient in both commodities;
- The rapid depreciation of the dollar against the euro and some other important currencies drives up the price of commodities quoted in dollars for both supply and demand reasons (see below). The depreciation of the dollar also causes investors “long” in dollars (i.e., most US-based investors, but holders of dollars globally as well) to seek hedges against this loss of value, with commodities being one attractive option;
- Mandates for corn-based ethanol in the US (and biodiesel fuels from vegetable oils in Europe) cause ripple effects beyond the corn

2.3.6 Short-run nominal commodity price movements since 2000



Notes: The commodity price index includes both fuel and nonfuel price indexes. The oil price index is the simple average of the spot prices of dated Brent, West Texas Intermediate, and Dubai. The bases for the price of corn (maize), rice, soybeans, and wheat, respectively, are as follows: US No. 2 yellow, free on board Gulf of Mexico; Thailand white milled 5% broken, free on board Bangkok; US No. 2 yellow, Chicago soybean futures contract (first contract forward); and No. 1 hard red winter, ordinary protein, free on board Gulf of Mexico.

Source: International Monetary Fund, *International Financial Statistics* online, downloaded on 29 August 2008.

[Click here for figure data](#)

economy, which are stimulated by inter-commodity linkages (Naylor et al. 2007; Timmer, Falcon, and Pearson 1983). There is active debate about whether legislative mandates or high oil prices are driving investments in biofuel capacity (Abbot, Hurt, and Tyner 2008), but no doubt about the increasing quantities of corn and vegetable oil being used as biofuel feedstocks (Elliott 2008);

- Massive speculation from new financial players searching for better returns than in stocks or real estate has flooded into commodity markets. The economics and finance communities are unable to say with any confidence what the price impact of this speculation has been, but virtually all of it has been a bet on higher prices; and
- Underneath all these demand drivers is the high price of petroleum and other fossil fuels.

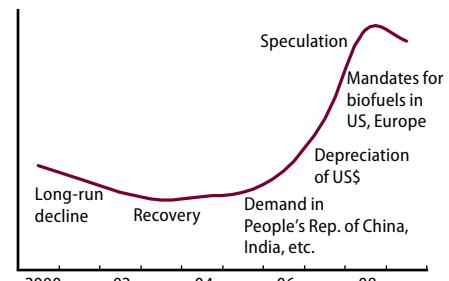
Figure 2.3.7 provides a graphical representation of how the first four factors listed above have contributed to the recent escalation in food prices. The figure also illustrates the tail end of the long-run declining trend in prices that prevailed over the last 200 years or so. A moderate recovery from the trough earlier in this decade was motivated by long-run demand and supply responses to the protracted period of falling prices (i.e., a huge expansion in demand and limited additions in supply in reaction to declining prices gradually bid prices back up again). Nevertheless, the sharp acceleration in food prices generally began in late 2006, but the appeal of food commodities to speculative investors seems to have begun only toward the middle of 2007 (Timmer 2008a).

Each of the four demand-driven causes is a little different for each basic commodity, but the “structural” forces—rapid demand growth in developing countries and depreciation of the dollar—are similar for all the commodities of interest here (again, with rising oil prices as a foundation). These factors have been in play for years and have been fairly predictable, driven as they are by macroeconomic fundamentals. The two “top” layers, however, have come on the scene much more recently and have the potential to change the price formation equation rapidly and unexpectedly. Table 2.3.1 summarizes this perspective for supply and demand drivers according to their “predictability,” i.e., whether the drivers are low variance (and easy to predict) or high variance (and very difficult to predict).

The biofuel debate

Biofuels are enormously controversial, and this chapter is not the place to review the debate over their full economic and environmental impact—see Elliott (2008), Collins (2008), and Runge and Johnson (2008) for useful, if sobering, reviews. Very senior and experienced commodity analysts place the share of biofuels’ contribution to the runup in grain prices since mid-2007 at between 60% (Collins, the former chief economist for the United States Department of Agriculture, analyzing only corn), and 75% (Mitchell [2008], the senior commodity economist at the World Bank, analyzing all grain markets). More academic analysts relying on large-scale models tend to place the share at between 25% and 35%—the latter figure from Rosegrant’s (2008) use of the International Model for Policy Analysis of Agricultural Commodities and Trade

2.3.7 Factors contributing to food price formation since 2000



Source: Based on Timmer (2008a).

2.3.1 External drivers of food prices

| | Supply | Demand |
|---------------|---------------------------------|---|
| Low variance | Seed technology | Population growth |
| | Irrigation | Income growth |
| | Total harvested area | Dietary changes and tastes |
| | Climate change | Meat and livestock economy |
| | Knowledge and management skills | |
| High variance | Weather | Exchange rates |
| | Diseases | Speculation |
| | Crop-specific harvested area | Biofuels (but predictable from mandates; not predictable from oil prices) |
| | Fuel costs | Panic or hoarding |
| | Fertilizer costs | Government trade and inventory policies |

Source: Author.

(IMPACT) developed by the International Food Policy Research Institute. FFIR agrees that biofuel demand for corn was a main driver of higher corn prices, but argues that most of this demand was driven by high oil prices, not Congressional mandates.

The problem is that none of the formal models fully capture the cross-commodity supply and demand linkages between corn—the primary grain used to make ethanol—and other commodities such as soybeans, wheat, and other feed grains. As a simple example, increased planting of corn led to reductions in soybean acreage in 2007 in the US. The reduced output of soybeans meant that soy oil production was also lower, which caused increased demand for palm oil in Asia, and a spike in prices.

Although the PRC is not a significant importer of corn, it is a huge importer of soybeans to crush for both soymeal and soyoil. With reduced supplies of soybeans available—a ripple effect of the increased acreage devoted to corn—the PRC turned to Asian-produced palm oil to meet its growing demand for vegetable oils (Naylor et al. 2007). India, too, is a substantial importer of vegetable oils and of palm oil, in particular.

Corn is the quintessential “multi-end-use” commodity, and the economics of which end use is “driving” market prices depends on the supply and demand structure of all the alternative commodities, as well as on macroeconomic conditions and trade policies in importing and exporting countries. Modeling this is difficult. In the precise language of Chen, Rogoff, and Rossi (2008), the multiple end uses lead to “parameter instability” in the relationship between supply, demand, and price.

It is entirely possible that in one month demand for corn to make ethanol is driving up the price of corn, soybeans, and palm oil, whereas in another month price formation across these commodities can be completely delinked, depending simply on each commodity’s own supply and demand situation (or on other forces). Thus not only would the parameters of a “multi-end-use commodity price model” vary from period to period, so too would the entire structure of the model. Perhaps it is not surprising that different analysts and different models produce very different estimates of what is causing high food prices. Parameter instability is the fundamental reason that careful analysts, such as Abbot, Hurt, and Tyner (2008), argue that it is impossible to place quantitative

weights on the causes of higher food prices, or at least weights that would have continuing validity over time and across commodities.

It is possible actually to “see” this parameter instability and changing structure if price data are available with sufficiently high frequency. As one example of such data, Figure 2.3.8 plots daily prices of palm oil for 31 December 1999 to 2 July 2008. The sudden take-off around mid-2006, when corn prices also started to take off, suggests a new set of drivers in the formation of palm oil prices.

Not all the action has been on the demand side. Supplies of some food commodities have generally been marked by shocks from adverse weather conditions and crop disease. Wheat is a clear example. A shock on wheat supplies would usually trigger some price increase, but would be quickly addressed by stock drawdowns and increased production that would damp the upward price movements. However, the bad harvest in 2007 happened at a time of extremely low wheat stocks (Figure 2.3.9). As a result, the price response was exaggerated. In the same vein, the rebound in Australia’s wheat harvest in 2008 brought about a marked drop in wheat prices after April (Figure 2.3.3 above).

Declining stock-to-use ratios for corn since the late 1990s are the main rationale offered by analysts who see corn-based ethanol demand as the main driver of higher prices for staple food grains (Figure 2.3.10). Because corn has multiple end uses that are economically efficient at normal prices, a shift in demand from one of the end uses (e.g., biofuels) can create ripple effects throughout many other commodity markets. Corn is a primary feedstuff for livestock, but competes in this end use with wheat. But wheat and rice are consumption substitutes in many parts of Asia. In another direction, corn oil competes with soybean oil and palm oil. Rapid growth in vegetable oil demand in Asia can indirectly stimulate corn production in the US.

The competition and substitution can also take place on the supply side. Corn and soybeans compete directly for acreage in much of the US. Increased demand for corn for biofuel production can reduce soybean acreage, causing soybean and soybean oil prices to rise. Thus there are many mechanisms by which higher demand for corn to convert into ethanol might have an impact on a wide range of food commodity prices around the world. With stock-to-use levels for corn so low in the mid-2000s (Figure 2.3.10), it was these mechanisms that led analysts such as Mitchell (2008) and Collins (2008) to single out rising demand for ethanol in the US as the trigger for higher food prices across the board.

Whether the demand was from Congressional mandates or from high gasoline prices, establishing a direct link between energy prices and food prices is a “game changer” in global commodity markets. The outlook for continued high crude oil prices (see the chapter, *Are high oil prices here to stay?* also in Part 2) thus has direct implications for the outlook for staple food prices. Most knowledgeable analysts of the US biofuel industry feel that corn-based ethanol will be economically competitive if crude oil stays above \$80 a barrel (in 2008 prices) and if corn is available to local refiners at less than \$5–6 a bushel. As noted, because of its multiple end uses in consumption, and area competition with soybeans (and to a lesser extent, with wheat) in the US, high-priced corn (specifically) means high-priced food (generally), including even rice in the long run.

2.3.8 Palm oil price movements

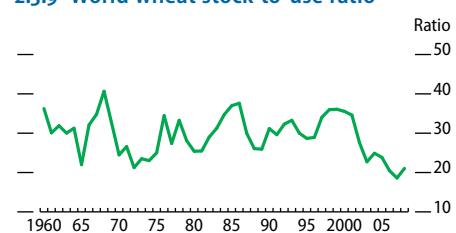


Note: Prices refer to Malaysian oil palm (Rotterdam).

Source: Datastream, downloaded on 28 August 2008.

[Click here for figure data](#)

2.3.9 World wheat stock-to-use ratio

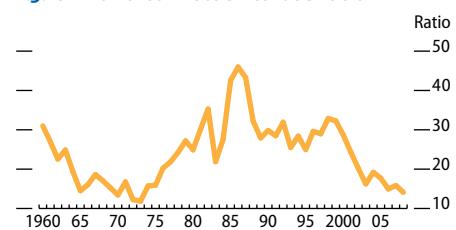


Note: The stock-to-use ratio indicates the level of stocks held at the end of the period as a share of total use.

Source: Foreign Agricultural Service, United States Department of Agriculture, *Production, Supply and Distribution* online, available <http://www.fas.usda.gov/psonline/psdHome.aspx>, downloaded 2 September 2008.

[Click here for figure data](#)

2.3.10 World corn stock-to-use ratio



Note: The stock-to-use ratio indicates the level of stocks held at the end of the period as a share of total use.

Source: Foreign Agricultural Service, United States Department of Agriculture, *Production, Supply and Distribution* online, available <http://www.fas.usda.gov/psonline/psdHome.aspx>, downloaded 2 September 2008.

[Click here for figure data](#)

The price trajectory for vegetable oils is similar to the basic path for staple food grains (see Figure 2.3.8 for palm oil prices since 2000). The connections are established from both their food uses and their industrial uses. Figure 2.3.11 shows food uses of vegetable oils on an exponentially increasing path, led especially by rapid growth in demand in the developing world. But industrial use, after growing very slowly for decades, has also started an exponential increase since 2000. This growth is almost entirely due to the use of vegetable oils to make biodiesel fuels. Rapeseed oil and palm oil are used for this purpose in Europe and some soyoil is used for biodiesel in the US (Figure 2.3.12). Again, once a price connection is established between vegetable oils and liquid fuels, the price dynamics for vegetable oils will be driven largely by the world market for petroleum. All the evidence suggests that these connections are well established at petroleum prices over \$80 per barrel and thus are likely to be permanent features of vegetable oil price dynamics for the foreseeable future, whatever happens to legislative mandates (Elliott 2008; Abbot, Hurt, and Tyner 2008).

The rice difference

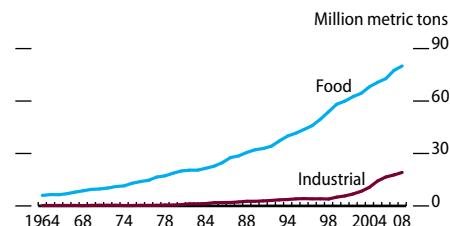
For rice, the story is more complicated. The actual production-consumption balance for rice has been relatively favorable since 2005, with rice stock-to-use ratios improving slightly. This stock buildup was a rational response to the very low stocks seen in the middle of the decade and to gradually rising rice prices. Short-run substitutions in both production and consumption between rice and other food commodities are limited, and until late 2007 it seemed that the rice market might “dodge the bullet” of price spikes seen in the wheat, corn, and vegetable oil markets. The lack of a deeply traded futures market for rice also made financial speculation less attractive.

But the world rice market is very thin, trading just 6–7% of global production. While this is a significant improvement over the 4–5% traded in the 1960s and 1970s, it still leaves the global market subject to large price moves from relatively small quantity moves.

The global rice market is also relatively concentrated, with Thailand, Viet Nam, India, US, and Pakistan (in order of their share of rice exports) routinely providing nearly four fifths of available supplies. Only in the US is rice not a political commodity from a consumer’s perspective (although it certainly is a political commodity for producers there). All Asian countries show understandable concern over access of their citizens to daily rice supplies. Both importing and exporting countries watch the world market carefully for signals about changing scarcity, while simultaneously trying to keep their domestic rice economy stable.

As concerns grew in 2007 that world food supplies were limited and prices for wheat, corn, and vegetable oils were rising, several Asian countries reconsidered the wisdom of maintaining low domestic stocks of rice. The Philippines, in particular, tried to build up stocks to protect itself against shortages in the future. If every other country, household, or individual does the same thing, panic will grip the market. This will lead to commodity shortages and subsequent price surges. Such price panics have been fairly common over the past 50 years, but the hope was that deeper markets, more open trading regimes, and wealthier consumers

2.3.11 World vegetables oils: Food versus industrial uses

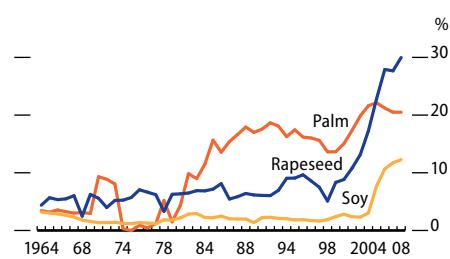


Note: Vegetable oil refers to soy, palm, and rapeseed oil.

Source: Foreign Agricultural Service, United States Department of Agriculture, *Production, Supply and Distribution* online, available: <http://www.fas.usda.gov/psonline/psdHome.aspx>, downloaded 2 September 2008.

[Click here for figure data](#)

2.3.12 World vegetable oils: Industrial use as share of total



Notes: Vegetable oil refers to soy, palm, and rapeseed oil. Total use is the sum of industrial, food, and feedwaste uses.

Source: Foreign Agricultural Service, United States Department of Agriculture, *Production, Supply and Distribution* online, available: <http://www.fas.usda.gov/psonline/psdHome.aspx>, downloaded 2 September 2008.

[Click here for figure data](#)

able to adjust more flexibly to price changes had made markets more stable. This was wishful thinking, as the price record for rice shows (Figures 2.3.1–2.3.3 above).

After the acceleration in the gradual price increases that had been seen for half a decade started in September 2007, concern over the impact of higher rice prices in exporting countries, especially India, Thailand, and Viet Nam, started to translate into talk, and then action, on export controls.² Importing countries, especially the Philippines, started to scramble for supplies. Fears of shortages spread and a cumulative price spiral started that fed on the fear itself.

The panic was set off by the complex interlinkages among certain commodities. In 2007, wheat harvests in India, as in other parts of the globe, were damaged by drought and disease. This left the Food Corporation of India with inadequate wheat supplies for its public distribution system. The Government could have imported as much wheat as it did in 2006 (about 7 million metric tons) to meet the shortfall, but while importing was an option, it would have been too costly (both economically and politically), as wheat prices were already elevated at the time. The Food Corporation of India instead decided to substitute rice for wheat and announced increased procurement of rice from domestic producers. Restrictions were imposed on rice exports in September 2007, and by February 2008, an outright ban on non-basmati rice exports was in place. (India is the world's third-largest rice exporter, supplying 4.1 million metric tons in 2007.)

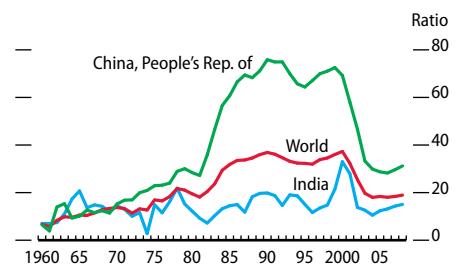
As rice prices picked up, other rice-exporting countries followed India's actions. Thailand's newly elected populist Government, for instance, openly discussed similar export restraints on rice to avoid a sharp increase in domestic retail prices. (Thailand is the world's top rice exporter, supplying 10.0 million tons in 2007.)

These actions by two large rice exporters caused rice prices to jump to \$750 per metric ton on 28 March 2008. Prices continued to surge, breaching \$1,100 per metric ton in April. All because of panic.

Dwindling global stocks have generally been recognized as the major trigger for the rise in prices, and indeed rice consumption has been significantly outstripping production since 2000 (Figure 2.3.13). Over the past decade, rice stocks in the PRC have been shrinking in response to declining world prices and to increased reliance on trade for a ready supply. However, in the rest of the world, there has been relatively little change in rice stocks—just small increases in the stock-to-use ratio since 2005. Since holding large stocks of rice in tropical conditions is extremely costly, a dependable flow of rice in international trade can sharply reduce outlays. With the recent experience of exporting countries readily putting bans on rice exports to protect their own consumers, importing countries will now be forced to accumulate significant domestic stockpiles. That is a tragedy for poor consumers and takes a toll on economic growth, since capital is used to fund large inventories rather than being allocated to investment that would foster productivity and growth.

The psychology of hoarding behavior is important in explaining why rice prices suddenly shot up from late 2007. Financial speculation seems to have played only a small role (partly because futures markets for rice are very thinly traded). Instead, decisions by millions of households,

2.3.13 Rice stock-to-use ratio



Note: The stock-to-use ratio indicates the level of stocks held at the end of the period as a share of total use.

Source: Foreign Agricultural Service, United States Department of Agriculture, *Production, Supply and Distribution* online, available <http://www.fas.usda.gov/psdonline/psdHome.aspx>, downloaded 2 September 2008.

[Click here for figure data](#)

farmers, traders, and some governments sparked a sudden surge in demand for rice and changed the gradual increase in rice prices from 2002 to 2007 into an explosion: this was “precautionary” demand even if not “speculative” demand.

A rough calculation of the effect of household hoarding of rice shows the potential. Assume that 1 billion households each consumes 1 kilogram of rice a day (for a total consumption of 365 million metric tons, for the year, which is the right order of magnitude).

Assume that they keep a 1-week supply in their pantry, or 7 kilograms per household, which is 7 million metric tons of household stocks in total. This quantity probably varies by income class, with the very poor buying hand to mouth, and better off households storing more just for convenience. When prices start to rise, or the media start talking about shortages of rice, each household, acting independently, decides to double its own storage, thus buying an additional 7 kilograms. This means that the world rice market—the source of marginal supplies (and demand) for many countries—needs to supply an additional 7 million metric tons of rice over a short period (perhaps a few weeks). But this quantity is about one quarter of total annual international trade in rice (recent levels have been 27–30 million metric tons per year).

And this is just the added demand from households. Farmers, traders, rice millers, and even governments will also want to hold more stocks in these circumstances. As an example, the Government of Malaysia announced in July that it was doubling the size of the national buffer stock held by Padiberas Nasional Berhad, even though it had to pay extremely high prices to do so. The Philippines is seeking to increase its government-held stocks. Indonesia has announced plans to triple its level of buffer stocks to 3 million metric tons.

Now, put realistic short-run supply and demand parameters into the price determination mechanism: -0.1 for demand and 0.05 for supply. With a 25% (sudden) increase in short-run demand on the world market, the world price will have to rise by 167% to get a new equilibrium. That is close to what happened—panicked hoarding caused the rice price spike.

Fortunately, a speculative run can be ended by “pricking the bubble” and deflating expectations. Once the price starts to drop, the psychology reverses on hoarding behavior by households, farmers, traders, and even governments. When the Government of Japan announced in May, after considerable international urging, that it would sell 300,000 tons of its surplus “World Trade Organization” rice stocks to the Philippines, prices in world rice markets started to fall immediately (Slayton and Timmer 2008; Mallaby 2008). By late August, medium-quality rice for export from Viet Nam was available for half what it sold for in late April.

Summing up the factors causing high food prices

Three fundamental factors, all interrelated, combined to drive up food prices. First, rapid economic growth, especially in the PRC and India, put pressure on a variety of natural resources such as oil, metals, timber, and fertilizers. Demand simply increased faster than supply for these commodities.

Second, a sustained decline in the dollar since mid-decade added to the upward price pressure on dollar-denominated commodity prices

directly, and indirectly fueled a search for speculative hedges against the declining dollar. Increasingly from 2006, these hedges were found first in petroleum, then in other widely traded commodities, including wheat, corn, and vegetable oils.

Third, the combination of high fuel prices and legislative mandates to increase production of biofuels established a price link between fuel prices and ethanol/biodiesel feed stocks—corn in the US and vegetable oils in Europe. Because of inter-commodity linkages in both supply and demand, food prices now have a floor established by their potential conversion into biofuel. These linkages are not always tight or effective in the short run—rice and corn prices can be disconnected for some time, as the discussion above indicated. But the long-run forces for substitution in both production and consumption are very powerful. If high fuel prices are here to stay, high food prices are, too.

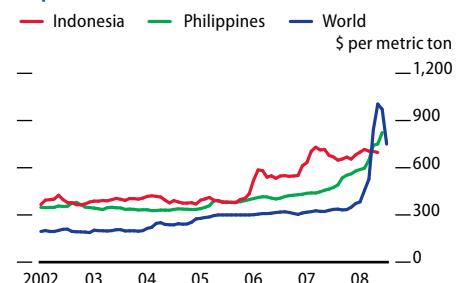
To complicate matters, in the short to medium run the specifics of individual commodity dynamics can produce divergent price paths. Rice is the clearest example, as large Asian countries act for their own short-run political interests with little or no regard to consequences for the international market or traditional trading partners. Without significant hope for binding international agreements between rice exporters and importers, this source of unique instability seems likely to last a long time.

Transmission of world commodity prices into domestic economies³

A key question is the extent to which changes in world market prices have been transmitted to domestic economies in recent years, especially for cereals. The extent of transmission is important for two reasons. First, domestic prices affect the *welfare* of poor consumers and farmers, not world prices. Second, the magnitude of price transmission will influence the extent to which *adjustments* by producers and consumers help stabilize world price movements. These adjustments (reduced consumption, increased production) will only take place if world prices are transmitted to domestic prices (see also Imai, Gaiha, and Thapa 2008). It is obvious from Figure 2.3.14 that world rice prices are not immediately transmitted into the Philippines and Indonesia, two important rice importers. Figure 2.3.15, however, shows that price transmission for exporters is quicker and more complete, despite Viet Nam's efforts to insulate domestic rice prices from the runup in world prices.

The extent of price transmission is a function of three key variables: the exchange rate at which dollar prices are converted to domestic currency prices; trade policy barriers at the border, which restrict (or enhance) the flow of commodities across the border; and the time horizon of adjustment. Normal marketing lags as well as policy interventions delay the immediate transmittal of international prices into domestic economies, but the longer there is a substantial difference between the two prices, the more pressure there is for convergence. Accordingly, Imai, Gaiha, and Thapa use an error-correction model (to allow for lags in price convergence) to test for price transmission of important foodstuffs into the PRC and India. They summarize their findings as follows:

2.3.14 World vs domestic rice prices of importers

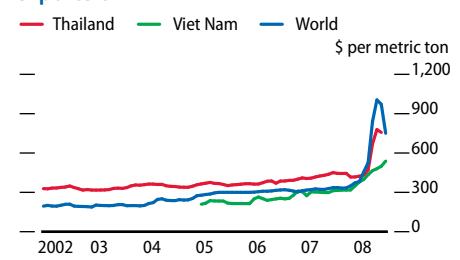


Note: World rice refers to Thailand 100% grade B; Indonesian rice refers to the retail price in Jakarta; and Philippine rice refers to ordinary (C4) rice.

Sources: CEIC Data Company Ltd.; International Monetary Fund, *International Financial Statistics* online; both downloaded 22 August 2008.

[Click here for figure data](#)

2.3.15 World vs domestic rice prices of exporters



Note: World rice refers to Thailand 100% grade B; Thailand rice refers to the retail price of white rice 5%; and Viet Nam rice refers to the retail price of ordinary rice in An Giang province.

Sources: CEIC Data Company Ltd.; International Monetary Fund, *International Financial Statistics* online; both downloaded 22 August 2008; Information Center for Agricultural and Rural development, Institute of Policy and Strategy for Agricultural and Rural Development, available: www.agro.gov.vn.

[Click here for figure data](#)

This paper examines the extent to which changes in global agricultural commodity price[s] are transmitted to domestic prices in India and PRC. The focus is on short and medium-run adjustment processes using an error correction specification. In particular, we show that the extent of adjustment in the short and medium-run (from 0 to 3 years) is generally larger in PRC than in India. Second, the adjustment is larger for wheat, maize and rice than for fruits and vegetables in both India and PRC. In fact, the adjustment is the weakest for vegetables in both countries. Third, while most of the domestic commodity prices co-move with global prices, the transmission is *incomplete* presumably because of distortionary government interventions (e.g. subsidies for agricultural commodities) and failure to exploit spatial arbitrage. So potential benefits to farmers of higher food prices – especially in India – may be restricted, as also the supply response (Imai, Gaiha and Thapa, 2008 p. 1).

Figure 2.3.16 shows that Thai wholesale prices for rice adjust very quickly to world prices. The core of the analysis carried out by Dawe (2008) is a very basic calculation of cumulative changes in international and domestic prices in real (inflation-adjusted) terms between various points in time. A base year of 2003 is used because international oil, cereal, and fertilizer prices were relatively stable during the course of that year.

Exchange rates

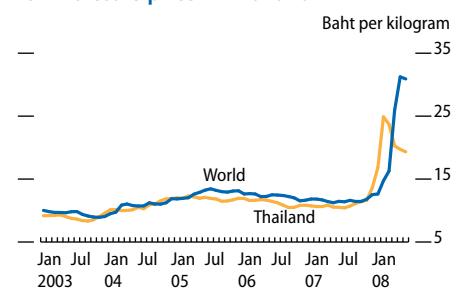
Even before the dramatic surge in prices in 2008, world market prices had increased substantially in real dollar terms in recent years. Comparing Q4 2007 with Q4 2003, world market prices increased by 56% for rice, 91% for wheat, 40% for corn, and 107% for urea (a source of nitrogen and the main fertilizer used by Asian farmers). During that time, however, the dollar depreciated substantially against many currencies;⁴ Figure 2.3.17 shows the percentage appreciation of the real exchange rate for the seven countries included in the analysis.

Real exchange rate appreciation vis-à-vis the dollar, to the extent that it occurs, will neutralize some of the impact of increased prices in dollar terms. Because the magnitude of real exchange rate appreciation varies from country to country, changes in world market prices in *real domestic currency (DC) terms* will also vary from country to country, even for the same commodity. A comparison of columns (1) and (2) of Table 2.3.2 shows that, for a substantial group of Asian countries, world market rice prices did not in effect increase by as much as was commonly believed (the figure in column 1). For some countries, however, such as Bangladesh, world price increases were substantial because the real exchange rate was approximately constant.⁵

Transmission to domestic economies

The extent to which international prices of rice have been transmitted into domestic markets in developing Asia has been influenced by movements of exchange rates. This can readily be seen by comparing columns (1) and (2) in Table 2.3.2. The appreciation of Asian currencies against the US dollar (the currency in which international prices are set) means that, in domestic currency terms, the percentage increase is less than in US dollar terms.

2.3.16 Real price movements of rice: World vs wholesale price in Thailand

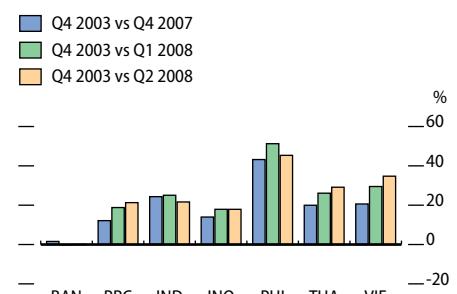


Notes: World rice refers to Thailand 100% grade B; the wholesale price of rice for Thailand refers to white rice 5% new. Prices were deflated by the US consumer price index, with December 2007 prices as base.

Sources: CEIC Data Company Ltd; International Monetary Fund, *International Financial Statistics* online; both downloaded 28 August 2008.

[Click here for figure data](#)

2.3.17 Real exchange rate appreciation of domestic currencies vs US dollar



BAN = Bangladesh; PRC = China, People's Republic of; IND = India; INO = Indonesia; PHI = Philippines; THA = Thailand; VIE = Viet Nam.

Sources: CEIC Data Company Ltd.; International Monetary Fund, *International Financial Statistics* online; both downloaded 29 August 2008.

[Click here for figure data](#)

2.3.2 Cumulative changes in real rice prices, Q4 2003 to Q4 2007 (%)

| Country | World price (\$) (1) | World price (DC) (2) | Domestic price (DC) (3) | DC pass-through (%) = (3)/(2) (4) |
|-------------------------|-------------------------|-------------------------|----------------------------|---|
| Bangladesh | 56 | 55 | 24 | 44 ^a |
| China, People's Rep. of | 56 | 34 | 30 | 88 ^b |
| India | 56 | 25 | 5 | 20 ^a |
| Indonesia | 56 | 36 | 23 | 64 |
| Philippines | 56 | 10 | 3 | 30 ^a |
| Thailand | 56 | 30 | 30 | 100 ^b |
| Viet Nam | 56 | 25 | 3 | 12 ^a |

DC = domestic currency. ^a "Stabilizers." ^b "Free traders."

Sources: Dawe (2008); author's calculations.

Consumer prices of rice: Pass-through is incomplete

Column (3) shows that not all the change in the international price of rice measured in domestic currency was passed through to domestic markets. Dawe (2008) uses wholesale prices rather than retail prices to measure pass-through. This seems a valid procedure because rice at the wholesale level is milled and packaged and is quite close to that sold in the retail market.

There is quite a range of pass-through shown in column (4) of Table 2.3.2, and this indicates that some countries made a major effort to shield consumers from the spike in prices. The countries (indicated by "a" in column 4) with the low pass-through percentages are referred to by Dawe (2008) as "stabilizers" while those for which pass-through exceeds 75% are called "free traders." Thus Bangladesh, India, Philippines, and Viet Nam are classified as "stabilizers" and the PRC and Thailand as "free traders." Implicitly this classification excludes the exchange rate policies of the countries and only considers commodity-specific policies, such as procurement, public distribution and subsidies, and international trade restrictions.

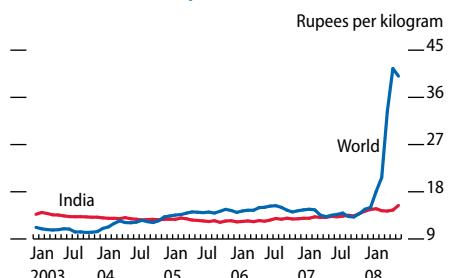
For "stabilizers," domestic prices should move with less volatility and variance than international prices. This turns out to be the case for Bangladesh, India, Philippines, and Viet Nam but not for Indonesia. Rice prices in India are representative of "stabilizer" behavior (Figure 2.3.18). Price signals from the international market are not getting through to consumers and farmers in these countries, but are being muted. This is likely to have costs in terms of supply responses and consumer behavior.

In contrast, the PRC's and Thailand's rice prices have moved closely with international prices and although there are some trade restrictions and government interventions, this means that consumers and producers are getting full price signals from the international market.

Indonesia has traditionally tried to stabilize domestic rice prices (Timmer 1986, 1996) but this policy was abandoned in 2004 when imports were curtailed and domestic prices rose well above global prices. Since then, Indonesian rice prices have tended to be more volatile than international prices and thus the country cannot be classified as a "stabilizer."

The conclusion that emerges from the above discussion is that the real increase in domestic rice prices has averaged only about one third of the increase in international prices in real dollar terms. This indicates

2.3.18 Real price movements of rice: World vs domestic retail price in India



Notes: World rice refers to Thailand 100% grade B; the domestic price for India is the average retail price of rice in four large cities: Bangalore, Calcutta, Delhi, and Mumbai. Prices were deflated by the US consumer price index, with December 2007 prices as base.

Sources: CEIC Data Company Ltd.; International Monetary Fund, *International Financial Statistics* online; both downloaded 28 August 2008.

[Click here for figure data](#)

that the pass-through of international to domestic rice prices was muted though the end of 2007. Have things changed in 2008?

Price movements in early 2008

World market rice prices rose from 2003 to end-2007, but this increase was relatively steady and gradual. Thus in October 2007, prices were \$335 per ton for Thai 100% grade B, just 5% higher in real terms than in October 2006. Prices began to increase more rapidly in November and December, but it was not until 2008 that prices surged, reaching a peak of more than \$1,000 per ton in April and May (more than triple the level seen in the previous October). To what extent were these large price increases transmitted to domestic economies?

Table 2.3.3 shows that, again, less than half of these most recent price increases on world markets were transmitted to domestic economies, with the exception of Thailand and, barely, Viet Nam. The simple average pass-through of dollar prices to domestic prices, excluding Thailand and Viet Nam, was lower, at about 17%, than the average of 49% from Q4 2003 to Q4 2007. Given the much larger price increase on the world market, however, domestic prices increased substantially in several countries. In Bangladesh, Philippines, Thailand, and Viet Nam, real prices increased by nearly 50% or more in the span of 1 year, whereas prices did not increase more than 30% in any country in the 4 years between Q4 2003 and Q4 2007. Such large rises have serious repercussions for household food security, and often for domestic politics as well.

There have been substantial differences across countries during the past year with respect to the extent of price transmission, just as there were in 2003–2007. The obvious question is: Why did prices increase so much in some countries, but much less in others? There is no general answer: individual country analyses are required.

Summary of price transmission results

There are two important reasons for wanting to understand the extent of price transmission from world to domestic markets. First is to understand the impact on consumers, especially those who must buy most of or all their staple foods from the market. Second is to understand the impact on incentives facing farmers. If high world prices are passed through to domestic producers, a more vigorous production result will be forthcoming than otherwise.

Working against a supply response, however, are increases in input prices, especially for fertilizer, fuel, and seeds (prices of the last input are likely to follow the same trend as output prices). Before the recent surge in prices, the value of these inputs accounted for perhaps one sixth of the value of gross output in Asian rice farming (labor, land, and returns to management usually account for well over half the gross value of production). The ratio of one sixth suggests that the negative effect on farmer incentives of a 60% increase in fertilizer prices will be offset by just a 10% increase in output prices.

If fuel and fertilizer are the only inputs whose prices have increased in real terms, even if they have doubled, it seems likely that incentives for farmers have improved on balance. Especially in rice-exporting countries where world prices have been transmitted to a substantial extent, even

2.3.3 Cumulative changes in real rice prices, "early" 2007 to "early" 2008 (%)

| Country | World price (\$) (1) | World price (DC) (2) | Domestic price (DC) (3) | DC pass-through (%) = (3)/(2) (4) |
|-------------------------|----------------------------|----------------------------|-------------------------------|---|
| Bangladesh | 203 | 171 | 54 | 32 |
| China, People's Rep. of | 144 | 115 | 5 | 4 |
| India | 203 | 178 | 15 | 8 |
| Indonesia | 203 | 174 | -5 | -3 |
| Philippines | 144 | 104 | 46 | 44 |
| Thailand | 203 | 169 | 131 | 78 |
| Viet Nam | 202 | 158 | 85 | 54 |

DC = domestic currency.

Notes: With regard to "early," all calculations compare a month in the first half of 2008 with the same month in 2007 to control for seasonality, although the months are different across countries. The chosen month for a given country is that month between April and June for which data are available and column (3) is largest (to capture different peak months in different countries). For Bangladesh, India, Indonesia, and Thailand, that month is April. For Viet Nam it is May, and for the PRC and the Philippines it is June.

Source: Author's calculations.

after the depressing effect of higher fertilizer prices is taken into account, farmers will have substantially enhanced incentives to expand production. If wages and land rents have also increased, incentives from higher output prices could be muted (although land-owning farmers providing most of their own labor will see these higher factor prices as higher incomes). Unfortunately, up-to-date data on prices for labor and land are not easily available. Early evidence from Asian rice harvests through August 2008—especially in India, Indonesia, Thailand, and Viet Nam—suggests that farmers are responding quite enthusiastically to higher rice prices.

Still, the magnitude of the improved incentives is much less than the price increases reported on world markets due to less than perfect transmission of world prices to domestic markets, and to increases in input prices. Thus, the ultimate supply response is still subject to a great deal of uncertainty in both the short run and the long run.

Country results: Contrasting experiences of rice importers and exporters

Policies are complex and differ from one country to another. The recent experiences of two exporters—Thailand and Viet Nam—and two importers—Indonesia and the Philippines—are discussed in this section to show the dramatic impact of diverse policy approaches.

In the broadest terms, there were three alternative policy approaches pursued by these four countries. Despite much internal political discussion after the new Government was elected in early 2008, Thailand kept its border open and did not restrict rice exports. It did not release any of the 2.1 million metric tons of government-owned rice stocks that had accumulated since a farm-price support program began in 2005 (despite strong internal and external pressures), but it did not prevent private traders from selling into the world market.

At the other extreme, Indonesia stayed resolutely out of the world rice market. It had maintained very high rice prices since 2004, with sharp

price runups late in 2005 and again in 2006 (Figure 2.3.19). These high prices were tolerated in the name of “food security,” and the implied political support from rice farmers.

The Philippines and Viet Nam seem to be tied at the waist by their mutual export-import relationship. Both countries sought to stabilize their domestic rice prices, and they engaged in very extensive rice trade with each other, on government account. Figure 2.3.14 above has already shown that rice prices increased rapidly in the Philippines, and Table 2.3.3 above has shown that domestic rice prices increased by 44% between early 2007 and early 2008.

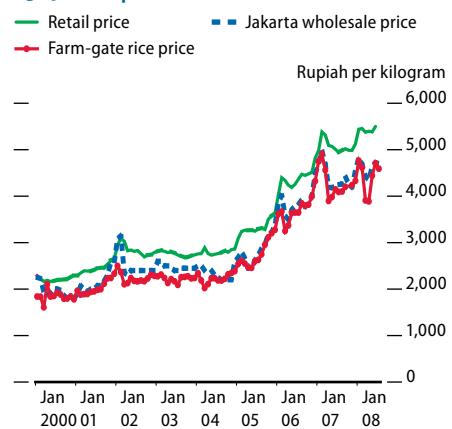
Similarly, despite a ban on rice exports initiated early in 2008 and not lifted until July, Vietnamese rice prices shot up by 85% over the same period (Table 2.3.3 and Figure 2.3.15 above). What can explain such bizarrely unstable prices in the face of such active, and expensive, efforts to stabilize them? The only credible explanation is that price expectations changed on the part of key participants in the rice economy of both countries, partly because the two countries were so actively, and publicly, engaged with each other in the rice trade.⁶ These changed expectations then led to precautionary hoarding on the part of farmers, traders, and consumers. (A “run” on retail rice supplies in Ho Chi Minh City supermarkets in May showed how powerful this hoarding mentality could be.)

Neither the Philippines nor Viet Nam were short of supplies during this time. While government rice stocks were a bit on the low side in the Philippines, private sector stocks account for most of total stocks, and these stocks were ample. Domestic production in 2008 was forecast to be substantially above that in 2007, and there were no adverse climatic shocks at the time. Large import contracts were being negotiated, so domestic supplies were adequate in quantity terms. Viet Nam typically exports about 20% of domestic production and the export bans it put in place should have ensured ample local supplies.

Supplies were adequate in both countries and neither allows the private sector to arbitrage prices between domestic and international markets.⁷ Thus the most likely explanation for the surge in domestic prices was speculation and panic on the part of domestic farmers, traders, and consumers in those two countries, who were well informed about the trades on the international market between the Philippines and Viet Nam in early 2008. Of course, once retail prices started to rise, this behavior became self-reinforcing.

The contrast with Indonesia and Thailand is striking. In the end, after much political debate—even talk of establishing an OPEC-like rice exporters’ cartel—Thailand allowed exports to continue and domestic prices to follow world prices. For several months Thailand was the only country with significant exportable supplies, and it picked up customers from India and Viet Nam. Although domestic rice prices shot up—by 131% from early 2007 to early 2008—the overall impact on the rate of inflation in Thailand was modest, as food and beverages make up only 36.1% of the overall consumer price index (Figure 2.3.20), and rice is a relatively small part of that. As Figure 2.3.21a shows, food price inflation surged to more than 10% early in 2008, but nonfood inflation also rose sharply. Inflation was more of a macroeconomic phenomenon than a food phenomenon in Thailand.

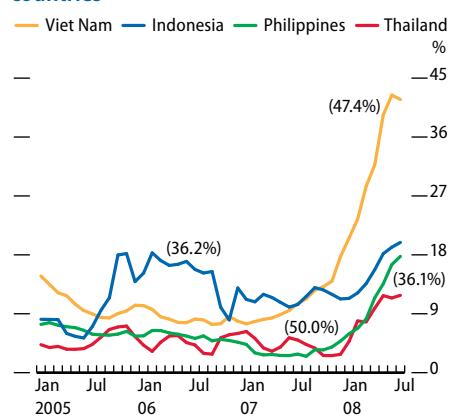
2.3.19 Rice prices in Indonesia



Notes: Farm-gate rice prices are quoted in terms of wet paddy. After drying and milling, 100 kilograms of wet paddy produce roughly 55 kilograms of rice. Rp 2,500 per kilogram of wet paddy is therefore equivalent to Rp 4,545 per kilogram of rice.

Sources: Retail price from Ministry of Trade of the Republic of Indonesia; wholesale price from PT Food Station; farm-gate price from Badan Pusat Statistik, Republic of Indonesia (adapted from P. Rosner 2008).

2.3.20 Food price inflation, selected countries



Note: Figures in parentheses indicate weights for food in overall inflation.

Sources: CEIC Data Company Ltd.; International Monetary Fund, *International Financial Statistics* online; both downloaded 28 August 2008; various national statistical offices.

[Click here for figure data](#)

Partly because rice prices were already so high in Indonesia, none of the runup in world prices was passed into domestic prices (indeed, Indonesian rice prices actually fell slightly between early 2007 and early 2008 in the wake of an excellent harvest, stimulated by high producer prices and very good rains from La Niña weather pattern—see Table 2.3.3 and Figure 2.3.19 above). Much of the food price inflation seen in Figure 2.3.21b was due to rising palm oil prices (despite efforts to stabilize domestic palm oil prices through higher export taxes) and the cost of *tahu* and *tempe*, both derived mostly from imported soybeans, and a staple of Indonesian diets. However, food price inflation in early 2008 in Indonesia was roughly double the rate of that in Thailand, despite the radically different pass-through of rice prices from the world market to domestic consumers.

The parallels between Viet Nam and the Philippines can be seen in Figures 2.3.21c and 2.3.21d. In contrast to Thailand, both countries showed more than threefold increases in the rate of food price inflation (although from a much lower base in the Philippines than in Viet Nam). Efforts at food price stabilization in both countries clearly failed. By contrast, Indonesia managed to stabilize rice prices—at extremely high levels—but failed to contain food price inflation in other important commodities. Thailand, with the most open border and the biggest runup in rice prices, did best in overall food price stability. What a paradox, and also what a guideline to current and future trade policy makers!

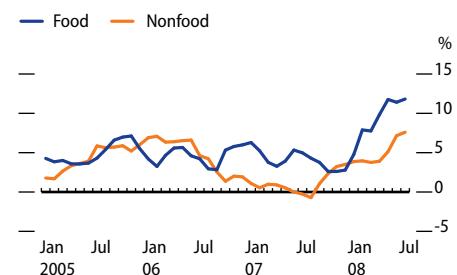
Can anything be done about high food prices?

The main explanatory factors behind the *gradual* runup in food prices from the early 2000s to mid-2007 were spillover from the broad resource demands generated by rapid demand growth, the declining dollar, and the lagged effect of earlier declines in real food prices and their (endogenous) impact on stock-to-use ratios. But these factors do not explain the *sharp* runup in many staple food prices from mid-2007 to mid-2008. The explanation for this varies by commodity and period, but in addition to the broad factors affecting all commodity markets just noted—especially high oil prices and the declining dollar—new end uses for food grains and vegetable oils as biofuels, bad weather and diseases, and political decisions by food exporters to insulate their consumers from world prices led to the sharp increases in food prices. Panicked hoarding on the part of countries and individuals clearly played a role in the spike in rice prices, and financial speculation may have contributed to spikes in other commodities, especially oil, wheat, corn, and vegetable oils.

The longer-term issue is whether supply responses can meet the outlook for the rapid growth in demand. In the past, when food prices spiked and talk of an impending Malthusian crisis arose, output responded to bring world food prices to their long-run downward trend, though with a lag (Figure 2.3.2 above). This time, however, expectations are that such a benign output response may not be forthcoming, for the following reasons:

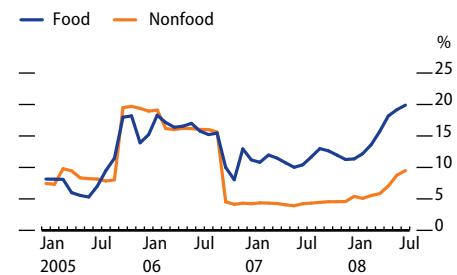
- little high-quality agricultural land is now available for farming;
- yields of existing agricultural technologies have essentially been unchanged for decades because of the paucity of investment in

2.3.21a Food vs nonfood price inflation, Thailand



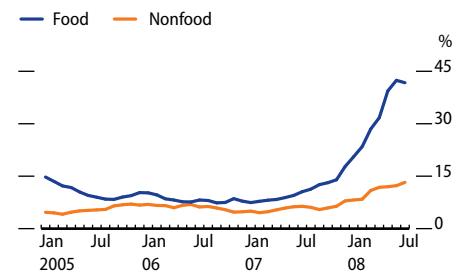
[Click here for figure data](#)

2.3.21b Food vs nonfood price inflation, Indonesia



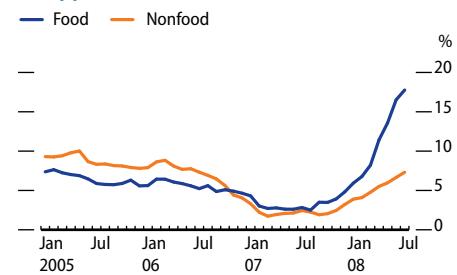
[Click here for figure data](#)

2.3.21c Food vs nonfood price inflation, Viet Nam



[Click here for figure data](#)

2.3.21d Food vs nonfood price inflation, Philippines



Sources: CEIC Data Company Ltd.; International Monetary Fund, *International Financial Statistics* online; both downloaded 28 August 2008.
[Click here for figure data](#)

research during this time. Thus raising yields from actual farmer practices to the present technology potential is the only source of increased output until new agricultural technologies are developed. New technologies, however, are at least a decade away. Moreover, the yield gap to full potential has largely been closed except for Africa; and

- the costs of essential inputs—fuel, fertilizer, and water—to obtain greater yields are both high and growing rapidly. In addition, prolonged periods of high grain prices could raise land rents and rural labor costs.

In view of these difficulties, it seems unlikely that basic food prices will return to their real long-run downward trend, seen so clearly in Figure 2.3.2 above. Instead, a return to the real average prices seen in 2007 would be considered a major accomplishment from the perspective of late August 2008. That is, when the panic subsides and the financial speculators move on to “greener pastures,” the new equilibrium price for rice, for example, is likely to be in the \$500–600 range, not in the \$300–400 range (in 2007 prices). Other basic food commodities are likely to exhibit similar patterns.

Should policy makers try to do anything about this new equilibrium? Clearly, it was appropriate to do everything possible to prick the speculative price bubbles, especially for rice, since reversing the dynamics of rising price expectations, and the private hoarding that exacerbated them, brought dramatic price relief in just a few months. It is unfortunate that the world does not have any internationally-mandated mechanism for stabilizing grain prices, or for keeping large countries from destabilizing them. But that is the world we live in. Domestic policies will trump international cooperation whenever politicians see a short-run advantage in closing borders or subsidizing trade. The world was lucky that Japan had 1.5 million metric tons of unwanted rice imports in storage and received a World Trade Organization waiver from the US to reexport some of it to the Philippines. The deal marked the turning point in world rice prices (even though the rice has yet to be shipped, as of early September—thus emphasizing again the importance of expectations in short-run price formation).

Equally, it was also appropriate for the international community to rally resources on behalf of increased food aid to the most affected populations. Safety nets for poor consumers are essential in a world of highly unstable food prices. But no one should be fooled into thinking that such safety nets are a solution to poverty, or even high food prices, in more than a transitory way. The only sustainable solution for these households is inclusive, or pro-poor, economic growth that provides reliable real incomes and stable access to food from home production or in local markets.

The appropriate policy response to high food prices, then, is to find ways to stimulate such growth. Much of the action is likely to be in the agriculture sector, especially in investments to raise productivity of basic food crops. High food prices now provide plenty of incentives to make those investments, but many of those investments—especially in research and extension—would have paid off at the prices of a decade ago if donors and governments had recognized the full social value of

rising agricultural productivity (Timmer 1995, 2008b). These are political decisions that are driven only indirectly by market realities. Perhaps it is good news that the market is sending very clear signals on what to do.

Endnotes

- 1 Interestingly, as of end-August, the rice had not actually been shipped from Japan to the Philippines, although the Japanese Ministry of Agriculture insists that it will be when all the details are agreed to by the Philippines. Obviously, what was important to the market in May was the signal that additional supplies would become available, at which point market psychology reversed.
- 2 It is almost amusing that Indonesia announced a ban on rice exports early in 2008, before its main rice harvest started in March. Historically, Indonesia has been the world's largest rice importer, surpassed only recently by the Philippines, and no one in the world rice trade was looking to Indonesia for export supplies. But there was a rationale to the announcement by the Minister of Trade—it signaled that Indonesia would not be needing imports and was thus not vulnerable to the skyrocketing prices in world markets. The calming effect on domestic rice market participants meant that little of the hoarding behavior seen in Viet Nam and the Philippines was evident in Indonesia.
- 3 This section relies heavily on Dawe (2008).
- 4 In fact, this depreciation is one cause of the recent high commodity prices.
- 5 In some countries, the exchange rate may be partially determined by world commodity price movements when the commodity in question is a major share of that country's international trade, as is the case for oil in some African countries. The value of international cereal trade in the Asian countries analyzed here is relatively small, however, compared with the size of their foreign exchange markets and compared with total exports and imports (this is true even at current high price levels). Thus, exchange rate changes in these countries are taken as exogenous for the purposes of discussing commodity price transmission.
- 6 The President's Office in the Philippines routinely made public statements on the extent of necessary imports and the need to obtain them from Viet Nam.
- 7 While the private sector does participate in international rice trade in both countries, it is the government that decides the quantities of imports or exports; private traders are not free to make this decision.

References

- Abbott, Philip C., Christopher Hurt, and Wallace E. Tyner. 2008. "What's Driving Food Prices?" Farm Foundation Issue Report (FFIR), Oak Brook, IL. Available: <http://www.farmfoundation.org/news/articlefiles/404-FINAL WDFP REPORT 7-28-08.pdf>.
- Asian Development Bank (ADB). 2008. "Special Report: Food Prices and Inflation in Developing Asia: Is Poverty Reduction Coming to an End?" Economics and Research Department, Asian Development Bank, Manila, Philippines. Available: <http://www.adb.org/Documents/reports/food-prices-inflation/food-prices-inflation.pdf>.
- Brennan, Michael J. 1958. "The Supply of Storage." *American Economic Review*. Vol. 48, No. 1, pp. 50-72. Available: <http://www.econ.kuleuven.be/public/NDBAE55/Brennan%201958.pdf>.
- Chen, Yu-Chin, Kenneth Rogoff, and Barbara Rossi. 2008. "Can Exchange Rates Forecast Commodity Prices?" NBER Working Paper 13901, National Bureau of Economic Research, Cambridge, MA. March. Available: <http://www.nber.org/papers/w13901.pdf>.

- Collins, Keith J. 2008. "The Role of Biofuels and Other Factors in Increasing Farm and Food Prices: A Review of Recent Developments with a Focus on Feed Grain Markets and Market Prospects." Supporting material for a review conducted by Kraft Foods Global, Inc., pp. 1-32, 19 June.
- Dawe, David. 2008. "Have Recent Increases in International Cereal Prices been Transmitted to Domestic Economies? The Experience in Seven Large Asian Countries." Paper presented at the Asian Agricultural Economics Association 6th Annual Meetings in Manila, Philippines, 28 August. Food and Agriculture Organization of the United Nations, Rome. Available: <ftp://ftp.fao.org/docrep/fao/010/ai506e/ai506e00.pdf>.
- Elliott, Kimberly Ann. 2008. "Biofuels and the Food Price Crisis: A Survey of the Issues." Working Paper No. 151, Center for Global Development, Washington, DC. August. Available: http://www.cgdev.org/files/16499_file_Elliott_Biofuels_Food_Crisis.pdf.
- Frankel, Jeffrey. 2006. "The Effect of Monetary Policy on Real Commodity Prices." NBER Working Paper No. 12713. National Bureau of Economic Research, Cambridge, MA. December. Available: <http://www.nber.org/papers/w12713>.
- Imai, Katsushi, Raghav Gaiha, and Ganesh Thapa. 2008. "Transmission of World Commodity Prices to Domestic Commodity Prices in India and China." BWPI Working Paper 45, Brooks World Poverty Institute, School of Social Sciences (Economics), University of Manchester, United Kingdom. June. Available: <http://www.bwpi.manchester.ac.uk/resources/Working-Papers/45-imai-et-al-international-price-transmission.pdf>.
- Mallaby, Sebastian. 2008. "Rice and Baloney: Irrational Policies the World Over are Making the Food Crisis Worse." *The Washington Post*, p. A-17, 18 May. Available: <http://www.washingtonpost.com/wp-dyn/content/article/2008/05/18/AR2008051801917.html>.
- Mitchell, Donald. 2008. "A Note on Rising Food Prices." Policy Research Working Paper WPS 4682, World Bank, Washington, DC. Available: http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2008/07/28/000020439_20080728103002/Rendered/PDF/WP4682.pdf.
- Naylor, Rosamond L., Adam Liska, Marshall B. Burke, Walter P. Falcon, Joanne C. Gaskell, Scott D. Rozelle, and Kenneth G. Cassman. 2007. "The Ripple Effect: Biofuels, Food Security and the Environment." *Environment*, Vol. 49, No. 9, pp. 30-43. November. Available: <http://www.environmentmagazine.org/Editorials/Naylor-Nov07-full.html>.
- Naylor, Rosamond, and Walter P. Falcon. 2008. "Our Daily Bread." *The Boston Review*, pp. 13-18. September/October.
- Nerlove, Marc. 1958. *The Dynamics of Supply: Estimation of Farmers' Response to Price*. Baltimore, MD: Johns Hopkins University Press.
- Organisation for Economic Co-operation and Development (OECD). 2008. "The Relative Impact on World Commodity Prices of Temporal and Longer Term Structural Changes in Agricultural Markets: A Note on the Role of Investment Capital in the US Agricultural Futures Markets and the Possible Effect on Cash Prices." TAD/CA/APM/CFS/MD(2008)6. Trade and Agriculture Directorate, Committee for Agriculture. Paris, France. March.
- Rosegrant, Mark W. 2008. "Biofuels and Grain Prices: Impacts and Policy Responses," International Food Policy Research Institute, Washington, DC. Available: <http://www.ifpri.org/pubs/testimony/rosegrant20080507.pdf>.
- Rosner, L. Peter. 2008. "Rice Market Update." World Bank, Jakarta, Indonesia. August.

- Runge, C. Ford, and Robbin Johnson. 2008. "The Browning of Biofuels: Environment and Food Security at Risk." Woodrow Wilson Center for Scholars, Washington, DC, p. 23. May.
- Slayton, Tom, and C. Peter Timmer. 2008. "Japan, China and Thailand Can Solve the Rice Crisis—But U.S. Leadership is Needed." CGD Notes, Center for Global Development, Washington, DC., pp. 1-6. May. Available: http://www.cgdev.org/files/16028_file_Solve_the_Rice_Crisis_UPDATED.pdf.
- Timmer, C. Peter. 1986. *Getting Prices Right: The Scope and Limits of Agricultural Price Policy*. Ithaca: Cornell University Press.
- _____. 1995. "Getting Agriculture Moving: Do Markets Provide the Right Signals?" *Food Policy*, Vol. 20, No. 5, pp. 455-72. October.
- _____. 1996. "Does BULOG Stabilize Rice Prices in Indonesia? Should It Try?" *Bulletin of Indonesian Economic Studies*, 32, pp. 45-74.
- _____. 2008a. "The Threat of Global Food Shortages—Part 1: Hoarding by Countries and Speculative Bidding on Food Exacerbate Scarcity and Cause Prices to Climb." YaleGlobal Online, 5 May. Available: <http://yaleglobal.yale.edu/article.print?id=10749>.
- _____. 2008b. "A World Without Agriculture: The Structural Transformation in Historical Perspective." Henry Wendt Memorial Lecture, American Enterprise Institute, Washington, DC.
- Timmer, C. Peter, Walter P. Falcon, and Scott R. Pearson. 1983. *Food Policy Analysis*. Baltimore, MD: Johns Hopkins University Press for the World Bank.
- von Braun, Joachim. 2008. "Rising Food Prices: What Should be Done?" IFPRI Policy Brief, International Food Policy Research Institute, Washington, DC. Available: <http://www.ifpri.org/pubs/bp001.asp>.
- Williams, Jeffrey C., and Brian D. Wright. 1991. *Storage and Commodity Markets*. Cambridge, United Kingdom: Cambridge University Press.

Inflation in developing Asia: Demand-pull or cost-push?

Introduction

Rising inflation has emerged as by far the biggest macroeconomic challenge confronting developing Asia in 2008 and will remain a challenge in the near future (see the chapter, also in Part 2, *Macroeconomic effects of high oil prices*). In fact, inflation, as measured by consumer price indexes, gathered pace in 2007 and accelerated sharply in the first half of 2008 throughout the region. Increased inflation is affecting virtually all developing Asia, although the exact magnitude differs across countries and subregions. For the region as a whole, inflation is projected to rise to 7.8% in 2008, up sharply from 4.3% in 2007 and 3.3% in 2006. The benign paradigm of strong growth and subdued inflation seems to have ended.

The obvious question to ask is: What has happened? The equally obvious answer is the spike in international commodity prices, particularly food and oil prices (see the other Part 2 chapters, *Causes of high food prices* and *Are high oil prices here to stay?*). Indeed, according to an increasingly popular diagnosis for the new inflation problem, the region is suffering from a bout of cost-push inflation. The sheer speed of the recent rise in commodity prices and hence input costs gives a great deal of credibility to this diagnosis. If higher food and oil prices are indeed what underlie Asia's inflation, the scope for anti-inflationary monetary tightening, which works by damping aggregate demand, would come at a steep cost in terms of forgone growth. There is a very real risk that the cost-push diagnosis will influence regional monetary authorities and become an excuse for inaction against inflation.

The central objective of this chapter is to examine the validity of the cost-push diagnosis of inflation through rigorous empirical analysis. The fundamental questions addressed here are: Is developing Asia's inflation really a case of cost-push inflation about which monetary authorities can do very little? Or: Are there other factors at play behind the region's current episode of inflation? The impressive economic growth in developing Asia over the past decade and the growth acceleration from 2005 to 2007 took place with low inflation. This allowed monetary policy to be accommodative and may have lulled monetary authorities

into complacency. Is it possible that developing Asia's inflation may be of the demand-pull variety in which excess aggregate demand leads to rising prices? The answer to that question has enormous implications for monetary policy in the region.

The answer uncovered through econometric analysis is that developing Asia's inflation is largely homegrown and due to excess aggregate demand and inflation expectations. This is the central finding of the chapter. Surging aggregate demand, which consists of domestic demand—consumption, investment, and government spending—as well as net exports, has generated relentless upward price pressures. Aggregate supply, or the economy's productive capacity, has not been able to meet the incremental demand in many Asian countries. Although external food and oil price shocks have contributed to inflation pressures, the empirical evidence presented in this chapter firmly rules out the widely held view that Asia's rising inflation is mostly due to exogenous external shocks beyond the region's control. For example, in the case of the People's Republic of China (PRC), excess aggregate demand explains about 64% of consumer price inflation. For the region as a whole, excess aggregate demand and inflation expectations jointly account for about 60% of consumer price inflation. The evidence in this chapter is consistent with the stylized fact of accelerating growth accommodated by easy monetary policy in the region in the past year and at present. In particular, the region's recent robust growth makes it entirely conceivable that overheating of the economy due to unsustainable demand growth fueled by cheap credit and expansionary monetary policies, coupled with exchange rate policy favoring undervaluation, may have helped bring about the current rash of high inflation.

The inescapable policy implication that flows from this key finding is that monetary policy will remain effective and relevant in fighting inflation in developing Asia. Since the evidence here indicates that excess aggregate demand explains a major part of the region's inflation, raising policy interest rates and changing the stance of monetary policy toward tightening are necessary to damp demand and anchor inflation expectations. Although the global food and oil shocks are exogenous external shocks largely beyond the region's control, decisively and preemptively diffusing the risk of deeply entrenched long-term inflation is well within the control of the region's central banks. Furthermore, monetary policy itself is likely to have contributed to the formation of inflation pressures. More precisely, loose monetary policies throughout the region, evident in the negative real interest rates that have appeared since late 2007 in most of the nine developing Asian countries considered in this chapter, have stoked aggregate demand to unsustainable levels.

In addition to the central objective of determining the relative importance of demand-pull versus cost-push inflation, an additional objective of the chapter is to evaluate the extent to which the oil and food shocks have actually translated into cost-push inflation. While the evidence speaks out loudly and clearly against the popular belief that external shocks are solely to blame for the region's current inflation woes, it also reveals that those shocks have played a supportive role. Excess aggregate demand growth may have kindled the flames in the first place, but commodity shocks are adding fuel to the fire. They are likely to add

even more fuel in the future since global oil and food shocks typically affect domestic prices after a time lag. The analysis of this chapter indicates that limited pass-through of external shocks to domestic prices is partly due to government subsidies, which are expected to be lifted in the future. It is, therefore, important to evaluate empirically the degree of pass-through of global oil and food prices to domestic prices.

The rest of this chapter is organized as follows. The following section, *Methodology for estimating sources of inflation and pass-through*, lays out the empirical methodology that was used to estimate the sources of inflation and extent of pass-through. It also discusses the transmission mechanism that transforms external shocks into domestic inflation.

Cost-push versus demand-pull factors in Asia's inflation then lays out and discusses the central empirical findings of this chapter, which pertain to assessing the relative importance of external oil and food price shocks in explaining Asia's inflation. The main finding is that excess aggregate demand and inflation expectations overshadow the two external shocks as sources of Asia's inflation. The section also tracks the recent evolution of the output gap, a measure of excess aggregate demand, in the region. The penultimate section, *Pass-through of oil and food price shocks to Asia's inflation*, reviews additional empirical results, which relate to the pass-through of global food and oil prices to domestic prices. *Conclusion and policy inferences* highlights the chapter's key findings along with their implications for the region's policy makers.

Methodology for estimating sources of inflation and pass-through

The empirical analysis of this chapter seeks to identify the sources underlying developing Asia's inflation, in particular the relative importance of demand-pull factors versus cost-push factors. An additional objective is to examine empirically the pass-through of food and oil price shocks to domestic prices. This section briefly lays out the model used to carry out the two analyses. The sample consists of nine regional economies, namely PRC, India, Indonesia, Republic of Korea (henceforth Korea), Malaysia, Philippines, Singapore, Thailand, and Viet Nam. (Box 2.4.1 explains the technical details of the model and the econometric procedure in greater detail.) The statistical model used to decompose the sources of inflation assumes that domestic prices are set along a distribution chain. That is, prices are revised at three different stages—imports at the border, production, and consumption behind the border—which together make up a stylized distribution chain of goods and services. The model has two exogenous variables, namely oil and food price inflation (hereafter referred to as cost-push factors or international supply shocks), and five endogenous variables (or demand-pull factors), namely excess aggregate demand,¹ the exchange rate, import prices, producer price inflation, and consumer price inflation.

In this chapter, aggregate demand is proxied by output gap, which is the gap between actual and potential output (the level of output consistent with non-accelerating inflation). Potential output is an exogenous variable in the model. Therefore, changes in the output gap purely reflect

2.4.1 The model, econometric procedure, and notes

To examine the pass-through of external shocks—fuel and food—into inflation, a vector autoregression (VAR) model is estimated and a recursive Cholesky orthogonalization is applied to identify the primitive shock in the VAR model. This approach is taken to model the dynamic interrelationship between the price variables in the distribution chain. The ordering and choice of variables is motivated by the idea that prices are revised at each of three different stages—import, production, and consumption—which constitute a stylized goods and services distribution chain. The model controls for international supply shocks and domestic demand pressure. The model applied here is based on McCarthy (1999), Bhundia (2002), and Duma (2008) but is extended to include food prices.

In this model, inflation at each of the three stages is composed of seven components. The first two components—oil (π_t^{oil}) and food (π_t^{food}) price inflation—are the effects of international supply shocks on inflation. The third component—aggregate demand (y)—is to proxy the demand shock. The effect of the exchange rate shock (e) on inflation is captured in the fourth component. The fifth and sixth are the effects of shocks on inflation at the previous stage of the chain and the effect of shocks at that stage of the distribution chain. In the model, import price inflation (π_t^{im}) affects consumer price inflation (π_t^c) directly, and indirectly through its effects on producer/wholesale price inflation (π_t^p). The last component is the expected inflation at each stage, which is based on information available at period $t-1$. The seven components can be written as follows:

$$\begin{aligned}\pi_t^{oil} &= E_{t-1}(\pi_t^{oil}) + \varepsilon_t^{oil} \\ \pi_t^{food} &= E_{t-1}(\pi_t^{food}) + a_1 \varepsilon_t^{oil} + \varepsilon_t^{food} \\ y_t &= E_{t-1}(y_t) + b_1 \varepsilon_t^{oil} + b_2 \varepsilon_t^{food} + \varepsilon_t^y \\ \Delta e_t &= E_{t-1}(\Delta e_t) + c_1 \varepsilon_t^{oil} + c_2 \varepsilon_t^{food} + c_3 \varepsilon_t^y + \varepsilon_t^{\Delta e} \\ \pi_t^{im} &= E_{t-1}(\pi_t^{im}) + d_1 \varepsilon_t^{oil} + d_2 \varepsilon_t^{food} + d_3 \varepsilon_t^y + d_4 \varepsilon_t^{\Delta e} + \varepsilon_t^{im} \\ \pi_t^p &= E_{t-1}(\pi_t^p) + e_1 \varepsilon_t^{oil} + e_2 \varepsilon_t^{food} + e_3 \varepsilon_t^y + e_4 \varepsilon_t^{\Delta e} + e_5 \varepsilon_t^{im} + \varepsilon_t^p \\ \pi_t^c &= E_{t-1}(\pi_t^c) + f_1 \varepsilon_t^{oil} + f_2 \varepsilon_t^{food} + f_3 \varepsilon_t^y + f_4 \varepsilon_t^{\Delta e} + f_5 \varepsilon_t^{im} + f_6 \varepsilon_t^p + \varepsilon_t^c\end{aligned}$$

where ε_t^{oil} , ε_t^{food} , ε_t^y , and $\varepsilon_t^{\Delta e}$ are the shocks corresponding to supply, demand, and exchange rate shocks. ε_t^{im} , ε_t^p , and ε_t^c are the shocks emerging from import, producer, and consumer price inflation. E is the expectation.

In this model, the degree of endogeneity increases as one moves down the order. This may create the drawback of the recursive structure because prices can feed back

into the exchange rate within a period of one quarter, the frequency of the dataset. Thus, alternative orderings of variables need to be estimated in order to check for robustness of the results. Both bilateral and nominal effective exchange rates (trade-weighted) are used to check the sensitivity of the results.

Based on the augmented Dickey-Fuller test, all variables were found to be non-stationary I(1), with the exception of the output gap (y), which exhibits stationarity I(0). No cointegration was found between the variables, and the output gap enters as a stationary variable. Thus the VAR model was estimated for first differences to avoid the spurious regression problem. The standard diagnostic tests—consisting of an autoregressive root test (stability condition), auto-correlation Lagrange Multiplier test, normality test, and White heteroskedasticity test—were performed. A visual inspection of the residuals was also performed to ensure that there are no major outliers. The lag-length criteria provided by the Akaike and Schwarz Information criteria and diagnostic tests are applied to determine the appropriate lags in the model.

The relative importance of cost-push versus demand-pull factors in determining producer and consumer price inflation is explored through variance decomposition, which separates the variation in endogenous variables (producer and consumer price inflation) into the component shocks in the VAR model. In order to measure pass-through coefficients, impulse response functions are applied. These functions trace out the dynamic effects on prices originating from a one-time shock to the system, and account for disturbances to the other endogenous variables. Thus the pass-through coefficients of oil (or food) price shocks are obtained by dividing the cumulative impulse responses of each price index after j months by the cumulative response of the oil price after j months to the oil (or food) price shock.

Notes

The model is estimated for nine developing Asian countries, covering the period Q1 1996–Q1 2008. In the People's Republic of China (PRC) and Viet Nam, the estimation period is Q1 1999–Q1 2008 because of a lack of data for the quarterly producer price index and for quarterly GDP, respectively. For Indonesia and Malaysia, because of a lack of information on import prices, the estimation covers the period Q1 2000–Q1 2008.

Dubai, spot UK Brent, and average of Dubai, UK Brent, and West Texas Intermediate are used to proxy raw oil data. The free on board US Gulf Coast price for wheat; the free on board Bangkok price for rice; and the cost, insurance, freight northwest Europe price for palm oil are used to proxy international wheat, rice, and palm oil prices, respectively.

2.4.1 The model, econometric procedure, and notes (continued)

Aggregate demand (y) is measured by the deviation of quarterly GDP from its trend, which is derived from application of the Hodrick-Prescott filter. Other methods, such as exponential smoothing and the Kalman filter, provide virtually identical results but the Hodrick-Prescott filter is selected here since it has performed the best in terms of explanatory and predictable power and of diagnostic tests.

For the PRC, there are no quarterly GDP data, so the industrial production index (2000 = 100) is used as a proxy. The measure of import prices (measured in domestic currency) varies among countries. For Thailand, the unit value of imports is used while for Korea and Singapore the actual data of import prices are used. In India, Indonesia, and Malaysia, a deflator derived from imports

of goods and services in quarterly GDP is used. Import prices are excluded from the PRC and Viet Nam estimations. Producer prices are excluded from the latter because of data limitations. The exclusion of these variables may lead to underestimation of the pass-through of external shocks into inflation in these two countries.

Oil, wheat, rice, palm oil, consumer, and producer prices; bilateral exchange rates; nominal effective exchange rates of the PRC, Malaysia, Philippines, and Singapore; import prices of Korea, Thailand, and Singapore; and industrial production index of the PRC are obtained from *International Financial Statistics*, International Monetary Fund. GDP is from the CEIC database. The nominal effective exchange rates for India, Indonesia, Korea, Thailand, and Viet Nam are obtained from country sources.

movements of aggregate demand. An increase in this variable thus implies an upward aggregate demand pressure. In particular, a value of the output gap that is greater than one reflects excess aggregate demand.

Aggregate demand also adjusts in this model when there are changes in international oil and food prices. Changes in aggregate demand affect the exchange rate in addition to the balance-of-payments position, which adjusts in response to the international oil and food price shocks. These commodities' prices, in conjunction with the exchange rate, then immediately affect import prices. This would in turn quickly affect producer price inflation and finally (depending on pass through) consumer price inflation. Import prices affect consumer prices in two ways: directly (since some imported products are consumed directly) and indirectly through their effects on producer prices. In the next period, changes in consumer prices would feed back to aggregate demand, the exchange rate, import demand, and producer prices through their effect on expected inflation. This is, in short, the transmission mechanism used to determine the degree of oil and food price pass-through to domestic prices.

Cost-push versus demand-pull factors in Asia's inflation

In this section, domestic inflation in nine developing Asian economies is decomposed into cost-push and demand-pull factors. Cost-push factors consist of international oil and food prices, and demand-pull factors include mainly excess aggregate demand, as proxied by the output gap, and inflation expectations, which are a function of lagged domestic inflation. Whether inflation is the cost-push or demand-pull variety has important implications for policy responses. In the case of cost-push inflation—a situation where domestic inflation is driven by a substantial rise in input prices of goods and services—a marked economic slowdown and rising unemployment is expected along with an increase in domestic inflation. Tightening monetary policy in the face of such negative supply shocks would come at a steep cost since the tightening reduces aggregate demand, and exacerbates the economic slowdown. Therefore, the cure could be worse than the disease if indeed

the runup in the producer price and consumer price indexes is largely due to cost-push inflation.

In contrast, when inflation is driven by a substantial increase in aggregate demand that is beyond a country's production capacity (demand-pull inflation), a tightening in monetary policy could help reduce aggregate demand and tame increases in prices of goods and services, especially nontraded goods. Aggregate demand would then fall back below that country's production capacity and inflation would decline.

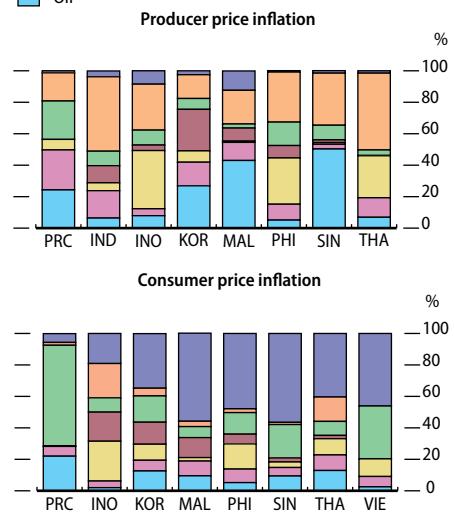
However, when inflation expectations are taken into account, monetary policy could play an important role in containing inflation pressure, regardless of the source of the inflation shock. There is always a risk that inflation expectations could become entrenched and lead to a cost-price spiral. The stagflation experience of industrial countries in the 1970s, kicked off by a supply-side shock—the first oil shock—shows that this is a very real risk. These observations imply that monetary policy could play a major role in curbing inflation pressure, even in the face of a negative supply shock. In short, decomposition of domestic inflation into its sources, including inflation expectations, would help monetary authorities in implementing appropriate monetary policy responses. The effectiveness of monetary policy would be more limited if the sources of inflation are mainly external cost-push factors rather than demand-pull factors, but even then monetary policy would not be completely impotent.

The results of the model estimation show that two factors unrelated to external price shocks—excess aggregate demand and inflation expectations (represented by the appropriately lagged dependent variable of consumer price inflation)—account for much of the consumer price inflation in the nine countries.² More than 60% of the consumer price inflation variation in the PRC results from demand pressure, and 34% and 21% in Viet Nam and Singapore. Inflation expectations explain more than 45% of consumer price variations in the latter two countries. For other countries, excess aggregate demand accounts for less than 17% of the variation in consumer price inflation; inflation expectations account for almost 40–50% of the variation. The two non-external factors thus jointly account for about 60% of the variation in consumer price inflation in the region as a whole.

External cost-push factors³ appear to be more important in explaining producer price inflation than consumer price inflation (Figure 2.4.1). These factors account for about 50% of the variation in producer price inflation in the PRC, Korea, Malaysia, and Singapore. In countries where exchange rates are relatively stable, such as Malaysia, and Singapore, international oil prices account for about one half of the total variation in producer price inflation. In Singapore, which has the highest oil dependency among the nine countries, oil prices explain 50% of the variation. In Indonesia, Philippines, and Thailand, the exchange rate explains much of the producer price inflation. In Indonesia, the exchange rate accounts for almost 40% of the total variation in producer price inflation. The corresponding figures for the Philippines and Thailand are 29% and 27%. In India, more than 50% of the variation in producer (wholesale) price inflation is explained by the two non-external factors, in particular inflation expectations (this time using the appropriately

2.4.1 Inflation variance decomposition

| | |
|------------------------------------|------------------------------------|
| Consumer price index (expectation) | Producer price index (expectation) |
| Aggregate demand | Import prices |
| Exchange rate | Food |
| Oil | |



PRC = China, People's Republic of; IND = India;
INO = Indonesia; KOR = Korea, Republic of; MAL = Malaysia;
PHI = Philippines; SIN = Singapore; THA = Thailand;
VIE = Viet Nam.

Source: Staff calculations.

[Click here for figure data](#)

lagged dependent variable—producer price inflation), and external shocks account for about 25% of the variation.

Overall, global price shocks account for less than 30% of the total variation in consumer price inflation. As was the case for producer prices, the international oil price is the main external determinant of consumer price inflation in the PRC, Korea, Singapore, and Thailand. In the PRC, oil price inflation explains 22% of the variation in consumer price inflation. Food prices are also important in explaining consumer price inflation in these countries, especially Malaysia and Thailand. Movements in the international food price index account for about 10% of the consumer price variation in both countries. In the PRC and Singapore, food price inflation shocks explain about 5–6% of the variation in consumer price inflation.

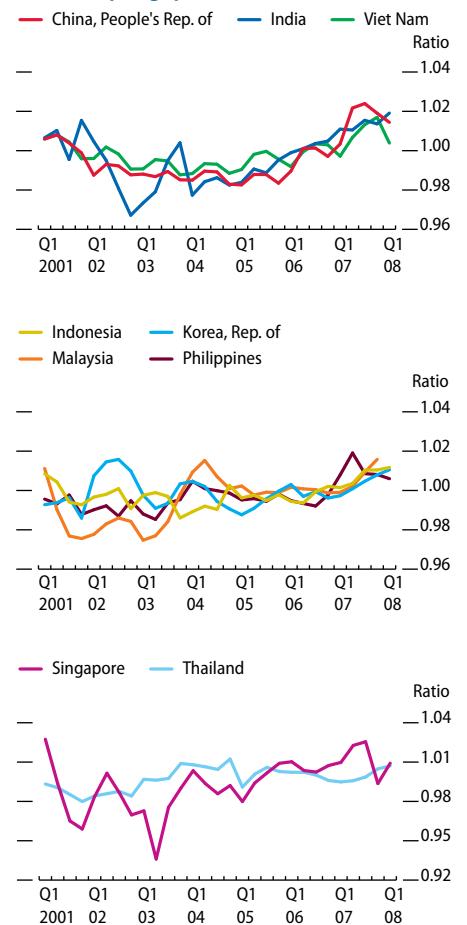
The variance decompositions amply demonstrate the importance of factors unrelated to external price shocks, such as excess aggregate demand and inflation expectations, in explaining the recent surge of inflation in developing Asia. The unsustainably high output growth that took place in 2005–2007 was, in part fueled by excessively expansionary monetary policy in many developing Asian countries. Figure 2.4.2 shows that the output gap has expanded since 2005 in many countries. In the PRC and India, the ratio of actual GDP to the trend of GDP increased from 0.98 in 2005 to almost 1.02 in 2008. The fact that the ratio exceeded 1 in the two countries since 2006 suggests that aggregate demand has exceeded the rate of utilization of production capacity that is consistent with non-accelerating inflation, putting significant upward demand pressure on producer and consumer price inflation. The easy monetary policy therefore contributed to the formation of higher inflation expectations.

Demand pressure also built up in Viet Nam in 2005–2007 and the ratio still exceeded 1 in the first quarter of 2008. This suggests that demand pressure was still responsible for inflation pressures there. Aggregate demand pressure increased, too, in Indonesia, Korea, Malaysia, Philippines, and Singapore after late 2006. The output gap ratio exceeded 1 in these five countries in 2006. However, in Singapore the rise in oil and food prices caused a decline in aggregate demand in late 2007 and brought down the output gap ratio toward 1.

In contrast to other countries, Thailand did not experience any significant demand pressures. This reflects the slow recovery of private investment and the overhang of political uncertainty. The ratio of actual GDP to the trend of GDP peaked in early 2005 above 1.1 but then fell back gradually to below 1 by the third quarter of 2006.

Expansionary monetary policies and sustained balance-of-payments surpluses in many Asian countries had leaked into domestic liquidity during the past few years. This helped fuel aggregate demand expansion and an increase in the output gap ratio. Figure 2.4.3 clearly shows that both nominal and real lending rates declined in the nine countries during 2001–2006. Even though countries such as the PRC, India, Korea, Singapore, Thailand, and Viet Nam have raised their nominal interest rates since 2007 in response to surging global oil and food prices, real interest rates still fell due to an even more significant increase in inflation. The real lending rate was negative in the PRC, Singapore, Thailand, and

2.4.2 Output gap

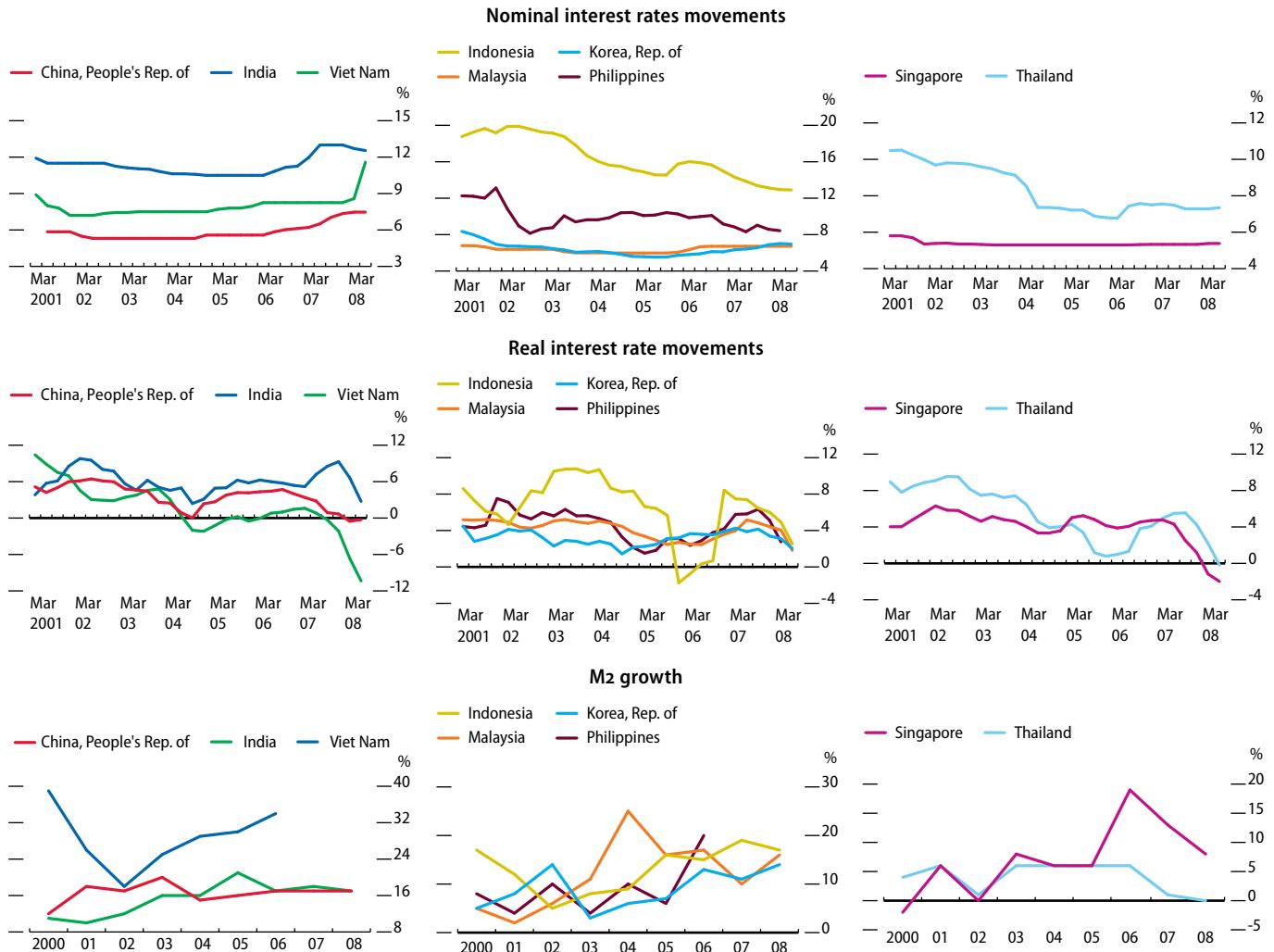


Notes: Output gap is measured by the deviation of quarterly GDP from its trend. Trend GDP is calculated using a Hodrick-Prescott filter.

Source: Staff calculations.

[Click here for figure data](#)

2.4.3 Nominal and real interest rates and money supply growth



Notes: Nominal interest rate is lending rate while real interest rate is lending rate adjusted by consumer price inflation. The direction of real policy rate and real lending rate is similar.

Source: CEIC Data Company, Ltd, downloaded 2 September 2008.

[Click here for figure data](#)

Viet Nam in 2007 and first half of 2008. This indicates that monetary policy responses have lagged behind price developments. Another sign of loose monetary policy that helped stoke demand is the growth of the broad money supply (M_2) in the early part of this decade. In Viet Nam, M_2 grew by around 30% while in the PRC and India it grew by more than 15%. The rise in oil and food prices provoked some tightening of monetary policy since 2007. As a result, money supply growth declined in 2007 and first half of 2008, resulting in a decline in the output gap ratio.

Pass-through of oil and food price shocks to Asia's inflation

In the preceding section, it was seen that excess aggregate demand and inflation expectations were the immediate catalysts for Asia's inflation. Nevertheless, the evidence also indicates that external factors still accounted for a substantial part of it. In this context, an important issue

is the extent to which two major external cost-push shocks—the recent runups in international oil and food prices—have actually passed through to domestic prices. The higher the pass-through, the greater the impact of the oil and food shocks on Asia's inflation. The key results that emerge from the empirical analysis of pass-through are now presented.

Pass-through of oil price shock to domestic prices

Oil price shocks appear to have an almost immediate impact on domestic prices and the impact tends to persist for a year in almost all countries—see Jongwanich and Park (2008). The level of oil intensity, oil efficiency, market structure and competition, as well as government policy measures, are all factors that determine the degree of oil price pass-through in each country. The empirical analysis yields three central results.

First, the pass-through of oil prices to producer prices tends to be higher in oil-exporting countries than in oil-importing countries, reflecting the sharp increase in the opportunity cost of home oil consumption relative to export. In Malaysia, the pass-through gradually increases from 0.08% in the first quarter to reach a cumulative total of 0.15% in the fourth. (Cumulative pass-through refers to the total pass-through after a specified time period. For example, if the pass-through after 1 quarter is -0.03 and the pass-through during the second quarter is 0.08, then the cumulative pass-through after two quarters is 0.05.) In the PRC and Indonesia, which produce substantial amounts of oil (Table 2.4.1), the cumulative pass-through increases to around 0.15% after 1 year, in response to a 1% increase in oil prices. For other oil-importing countries, the cumulative pass-through of oil prices to producer prices is around 0.07% after 1 year. Singapore is an exceptional case in the sense that the high pass-through to producer prices is due to high intensity of oil use in total energy consumption—almost 90% in Singapore, but less than 55% in all the other countries.

Second, the impact of crude oil price increases on domestic prices is diluted along the distribution chain. The pass-through coefficients, which measure the response to oil price shocks, tend to be lower for consumer than producer prices. The gap between them in each country stems from firms' ability to pass higher costs on to consumers. For example, with intense market competition, private producers may cut their profit margins instead of immediately charging higher prices to consumers. Government policy measures such as fuel subsidies, electricity subsidies, and others such as an administered price policy, aim to control living costs, or reduce or delay the pass-through of oil price increases to consumer price inflation. Figure 2.4.4 shows that the gap between pass-through to producer prices and pass-through to consumer prices is rather narrow in the Philippines and Thailand relative to the other countries.

Third, the degree of oil price pass-through to consumer prices is higher for countries with limited fuel subsidies. Within a group of four countries with comparable energy efficiency levels, pass-through to consumer prices is higher in the Philippines and Thailand (about 0.04% after 1 year) than in Indonesia and Malaysia (less than 0.02%). Although the level of energy efficiency is relatively low in PRC, India, and Viet Nam (total energy consumption relative to GDP in 2005 was 30%

2.4.1 Oil dependency and energy efficiency for selected economies, 1995, 2003, and 2005

| Region/Economy | Oil self-sufficiency | | | Intensity of oil use (%) | | | Energy efficiency | | |
|----------------------------------|----------------------|------|------|--------------------------|------|------|-------------------|------|------|
| | 1995 | 2003 | 2005 | 1995 | 2003 | 2005 | 1995 | 2003 | 2005 |
| United States | -0.6 | -0.7 | -0.8 | 37.8 | 39.5 | 40.1 | 12.4 | 9.0 | 8.1 |
| Eurozone | -0.6 | -0.6 | -0.6 | 43.5 | 41.3 | 40.8 | 6.9 | 6.2 | 5.3 |
| Japan | -1.0 | -1.0 | -1.0 | 55.7 | 49.8 | 48.2 | 3.9 | 5.2 | 5.0 |
| East Asia excluding Japan | -0.1 | -0.4 | -0.5 | 26.0 | 24.3 | 23.7 | 47.9 | 30.9 | 29.9 |
| China, People's Rep. of | -0.1 | -0.4 | -0.5 | 20.1 | 22.6 | 20.5 | 47.9 | 30.9 | 29.9 |
| Hong Kong, China | -1.0 | -1.0 | -1.0 | 62.7 | 61.4 | 60.2 | 4.4 | 6.0 | 5.8 |
| Korea, Rep. of | -1.0 | -1.0 | -1.0 | 66.0 | 51.6 | 48.6 | 12.3 | 14.3 | 11.7 |
| Taipei, China | -1.0 | -1.0 | -1.0 | 54.5 | 46.2 | 45.0 | 10.5 | 13.8 | 12.6 |
| Southeast Asia | 0.0 | -0.2 | -0.3 | 57.7 | 49.0 | 47.8 | 15.1 | 20.7 | 18.4 |
| Indonesia | 0.9 | 0.0 | -0.2 | 51.8 | 50.4 | 48.9 | 16.1 | 20.0 | 18.7 |
| Malaysia | 0.7 | 0.5 | 0.3 | 56.4 | 39.9 | 39.7 | 16.5 | 23.3 | 18.6 |
| Philippines | -1.0 | -1.0 | -0.9 | 72.1 | 54.4 | 52.5 | 13.0 | 15.8 | 13.5 |
| Singapore | -1.0 | -1.0 | -1.0 | 95.3 | 88.3 | 87.9 | 14.1 | 18.2 | 17.3 |
| Thailand | -0.9 | -0.8 | -0.8 | 67.2 | 53.2 | 52.8 | 12.6 | 22.6 | 20.6 |
| Viet Nam | 0.8 | 0.6 | 0.5 | 9.4 | 13.8 | 14.6 | 24.5 | 24.7 | 23.1 |
| South Asia | -0.6 | -0.7 | -0.8 | 30.6 | 34.5 | 31.5 | 28.8 | 22.4 | 19.2 |
| India | -0.6 | -0.7 | -0.7 | 28.7 | 33.7 | 30.8 | 32.1 | 23.7 | 20.1 |
| Sri Lanka | -1.0 | -1.0 | -1.0 | 68.9 | 81.9 | 82.6 | 11.2 | 11.0 | 9.0 |
| Pacific | 2.5 | 0.2 | 2.1 | 77.0 | 80.5 | 81.6 | 10.3 | 15.8 | 11.7 |
| Central Asia | 0.0 | 1.5 | 1.8 | 28.7 | 20.8 | 19.8 | 118.6 | 99.4 | 67.2 |
| World | -0.1 | -0.1 | -0.1 | 39.0 | 37.7 | 36.6 | 12.3 | 11.5 | 10.3 |

Notes: The oil self-sufficiency index is oil production less consumption, divided by consumption; a positive number indicates some degree of self-sufficiency. If there is no domestic oil production the index is equal to -1. Intensity of oil use in energy consumption is petroleum consumption divided by total energy consumption. Energy efficiency (the energy intensity of GDP) is total energy consumption in thousand British thermal units per US\$ of GDP (in 2000 prices). The shading indicates a decline in intensity of oil use and an increase in energy efficiency.

Source: Energy Information Administration, available: <http://www.eia.doe.gov/emeu/international/oilconsumption.html>.

in the PRC and around 20% in India and Viet Nam), fuel price subsidies limit the impact of oil price increases on consumer prices. In the PRC, the pass-through to consumer prices is negative after two quarters, and turns slightly positive in the third and fourth quarters. Controls and government intervention in decisions on pricing therefore have cushioned consumers from the full burden of rising fuel costs. Similarly, in India and Viet Nam, the pass-through coefficient is negative in the first quarter but turns slightly positive after 1 year. Korea is an exceptional case in the sense that the low pass-through to consumer prices is due to superior energy efficiency (total energy consumption relative to GDP in 2005 was 11%) rather than fuel subsidies.

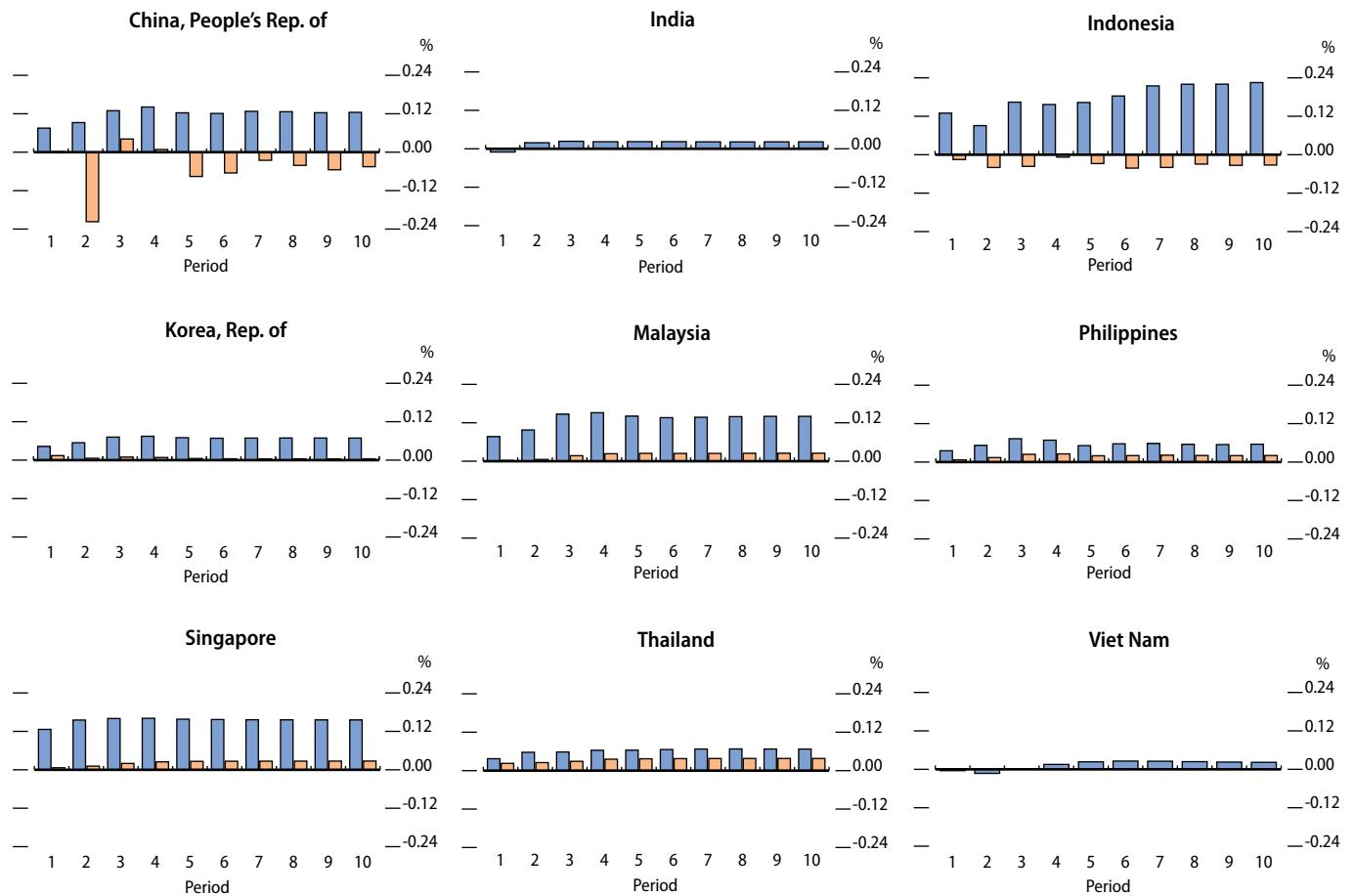
Pass-through of food price shock to domestic prices

This section examines the impact of the global food price shock on domestic prices in the nine Asian countries. Food is not a homogeneous product, so three specific food products that are particularly important for the region are analyzed—rice, wheat, and palm oil. Three key results emerge from the empirical analysis (Figure 2.4.5).

First, the pass-through to producer prices is higher in food-exporting countries than in food-importing countries. The higher pass-through will provide farmers in those countries with incentives to expand their production. This result is consistent with the findings of the chapter, *Causes of high food prices*, also in Part 2, which finds a substantial degree

2.4.4 Cumulative coefficients of oil price pass-through

Producer price index Consumer price index



Notes: Period is in quarterly terms. For India, the wholesale price index was used.

Source: Staff calculations.

[Click here for figure data](#)

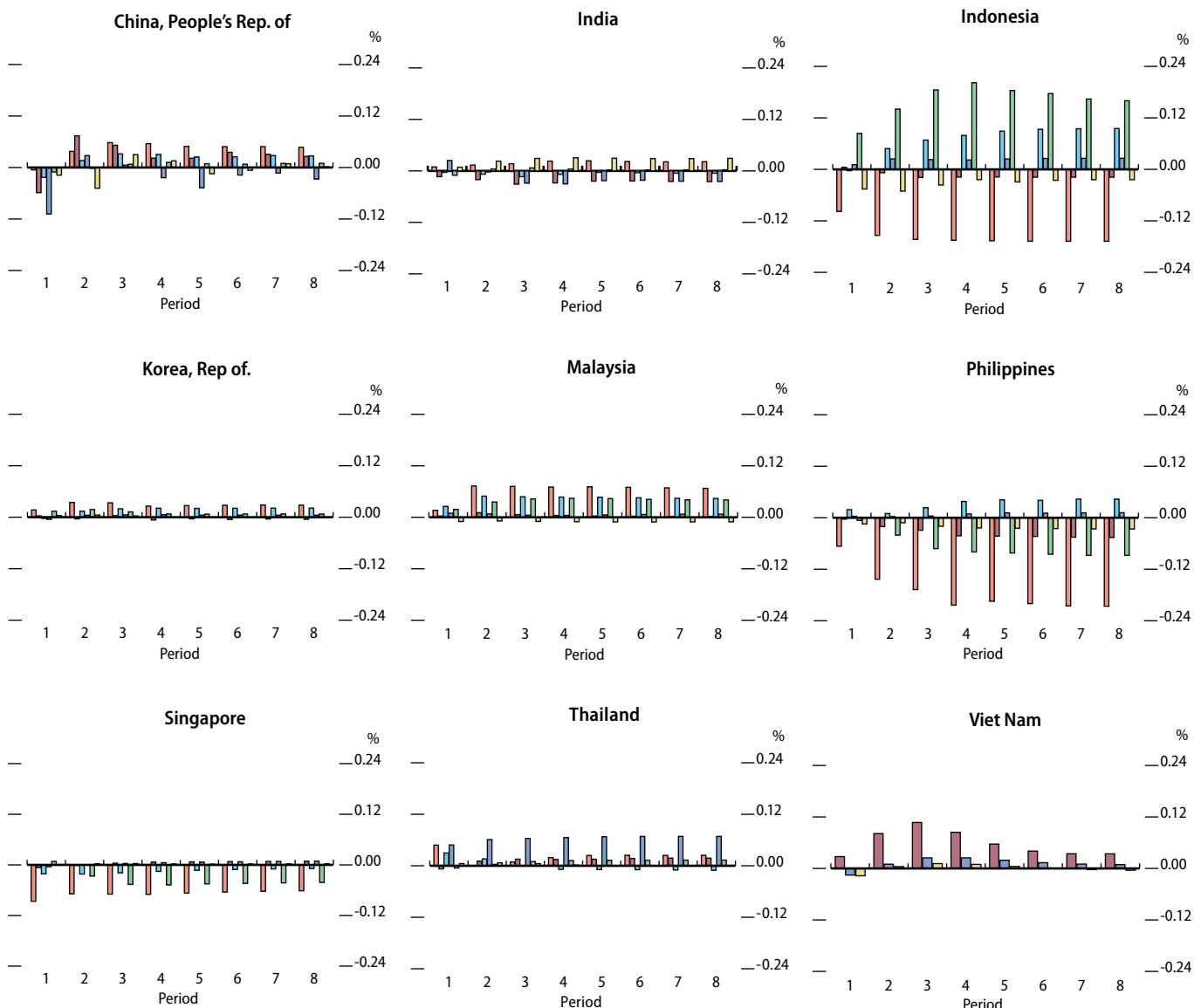
of transmission from world food prices (rice in particular) to domestic food prices. Among rice-exporting countries, such as Thailand (35% of global rice exports), India (17%), and the PRC (3%), producer prices increase by a cumulative total of 0.02–0.06% after 1 year in response to a 1% rise in the world rice price. In contrast, the pass-through coefficients are negative for Indonesia, Philippines, and Singapore.

The pass-through of palm oil prices to producer prices is higher in Indonesia and Malaysia than in the other countries. In Indonesia, producer prices rise by 0.08% in the first quarter and rise by a cumulative total of 0.2% after 1 year. In Malaysia, producer prices rise by 0.02% in the first quarter and a cumulative total of 0.04% after 1 year. For the other countries, producer prices increase by less than 0.03% after 1 year in response to a 1% rise in palm oil prices. The pass-through of wheat prices in India, a net wheat exporter, is an exception. The pass-through is limited by government subsidies. Note that a slight decline of the pass-through to producer prices in many countries results from a supply response to food price increases.

Second, palm oil pass-through coefficients tend to reflect the low share of vegetable oils in the consumption basket,⁴ and the pass-through coefficients to consumer prices for palm oil tend to be lower than for

2.4.5 Cumulative coefficients of food price pass-through


 Producer price index (rice) Consumer price index (rice)
 Producer price index (wheat) Consumer price index (wheat)
 Producer price index (palm oil) Consumer price index (palm oil)



Notes: Period is in quarterly terms. For India, the wholesale price index was used.

Source: Staff calculations.

[Click here for figure data](#)

rice or wheat. The exceptions are the PRC and India, where wheat has a lower pass-through. The average per capita consumption of palm oil and vegetable oils among the nine countries was 3.2 kilograms (kg) and 9.5 kg respectively, compared to 39 kg for wheat and 102 kg for rice (Table 2.4.2). In Viet Nam, for example, the cumulative pass-through of rice prices to consumer prices is 0.08% after 1 year, compared to 0.02% for wheat and 0.01% for palm oil. In Thailand, the cumulative pass-through of palm oil, wheat and rice prices to consumer prices after 1 year are 0.002%, 0.01% and 0.07%, respectively.

Third, food subsidies limit the degree of pass-through to consumer prices in many Asian countries. While the per capita rice consumption of Indonesia and the Philippines is relatively high at 141 kg and 111 kg,

2.4.2 Consumption per capita of key agricultural products for selected countries and regions, 1995–2003

| Region/Economy | Wheat | | | Rice | | | Palm oil | | |
|-------------------------|-------|------|------|-------|-------|-------|----------|------|------|
| | 1995 | 2000 | 2003 | 1995 | 2000 | 2003 | 1995 | 2000 | 2003 |
| China, People's Rep. of | 79.3 | 74.1 | 61.4 | 91.3 | 87.6 | 78.5 | 1.1 | 1.0 | 1.5 |
| India | 63.6 | 57.2 | 63.6 | 80.7 | 74.7 | 71.1 | 0.8 | 3.1 | 3.4 |
| Indonesia | 21.3 | 19.4 | 17.3 | 146.5 | 148.9 | 141.1 | 7.1 | 7.7 | 7.9 |
| Korea, Rep. of | 48.7 | 52.9 | 48.4 | 95.3 | 87.8 | 77.7 | 1.2 | 1.9 | 2.7 |
| Malaysia | 65.6 | 35.6 | 65.6 | 86.8 | 86.1 | 70.8 | 7.5 | 6.1 | 6.2 |
| Philippines | 31.5 | 27.0 | 29.7 | 94.3 | 106.4 | 110.6 | 0.8 | 1.6 | 1.0 |
| Singapore | - | - | - | - | - | - | - | - | - |
| Thailand | 9.2 | 10.5 | 11.5 | 105.6 | 106.3 | 104.4 | 2.5 | 2.7 | 2.6 |
| Viet Nam | 6.0 | 8.1 | 10.1 | 163.0 | 169.6 | 169.1 | 0.0 | 0.0 | 0.0 |
| Asia | 69.2 | 66.4 | 63.5 | 87.1 | 84.3 | 79.4 | 1.7 | 2.3 | 2.7 |
| Latin America | 51.5 | 49.0 | 52.5 | 22.8 | 26.2 | 26.0 | 1.5 | 1.6 | 1.9 |
| Developing countries | 62.3 | 60.2 | 58.6 | 71.4 | 69.4 | 65.7 | 1.9 | 2.3 | 2.7 |
| World | 71.0 | 68.4 | 67.0 | 57.6 | 56.8 | 54.2 | 1.6 | 2.0 | 2.2 |

- = data not available.

Note: The shading indicates a decline in consumption per capita.

Source: Food and Agriculture Organization of the United Nations, available: <http://faostat.fao.org>.

respectively, and comparable to the PRC, Thailand, and Viet Nam (Table 2.4.2), high subsidy levels limit the pass-through (see ADB 2008a; and *Causes of high food prices*, also in Part 2 of this publication).

The pass-through coefficient is also negative or very low for Korea and Malaysia. This is a result of both a small share of rice in the consumption basket and some rice subsidies. For wheat, there is negative pass-through to wholesale prices in India and a very limited pass-through to consumer prices in Malaysia. Since the two countries are relatively heavy wheat consumers (more than 60 kg per capita), it is likely that the limited pass-through is largely due to government policies that impede the adjustment of domestic prices to international wheat price rises. In Indonesia and Malaysia, government policies such as export taxes and price controls on cooking oils limit the pass-through of palm oil prices to consumer prices. The per capita consumption of palm oil in these two countries is around 6–8 kg, or higher than the average of 3.2 kg for the eight Asian countries.

Conclusion and policy inferences

The central finding that emerges from the empirical analysis of this chapter is that developing Asia's current inflation surge is largely due to two factors unrelated to the external oil and food price shocks, namely excess aggregate demand and inflation expectations. This finding stands in sharp contrast to the prevailing misconception that the region's rising inflation is beyond the control of monetary policy because it is mainly the result of recent global food and oil price shocks. The popularity of this view is partly due to the almost perfect coincidence of the spike in commodity prices and the spike in Asia's inflation. This provides regional policy makers with an excuse for not raising interest rates since monetary tightening tends to be much less effective against cost-push inflation as opposed to demand-pull inflation.

The specific evidence for the central finding is that external food and

oil price shocks explain less than 30% of Asia's consumer price inflation while excess aggregate demand and inflation expectations account for about 60%. At a minimum, such evidence implies that the region's current inflation is not entirely due to outside forces beyond the region's control. In light of the stylized facts of Asia's recent macroeconomic performance—years of uninterrupted rapid growth—it should come as no surprise that excess aggregated demand plays a role in the region's soaring inflation. The importance of overheating demand as a source of inflation is especially evident in the PRC. The recent evolution of the output gap indicates that excess aggregate demand has, in fact, been growing in many countries in the region. The influential role played by inflation expectations in Asian price increases should also come as no surprise. As noted earlier, years of lax monetary policies by Asian central banks have helped stoke aggregate demand and fueled inflation pressures. The generally accommodative stance of monetary policy has given rise to widespread expectations of higher prices.

The econometric analysis of the pass-through of global food and oil prices to domestic prices indicates that subsidies have limited the extent of pass-through in many countries. Nevertheless, there is a clear regionwide trend toward the reduction of subsidies, largely due to the fiscally unsustainable costs of subsidies in light of high international market prices. Those costs will eventually force those countries which still retain substantial subsidies to align their food and fuel prices more closely with international prices. Such prospective reduction of subsidies will significantly exacerbate inflation in many Asian countries. The finding that the pass-through of external price shocks has been substantially greater for producer prices than for consumer prices also implies greater pass-through in the coming months. Producers tend to pass on higher input costs to consumers only after a time lag. Therefore, both subsidy reduction and greater pass-through of producer costs to consumer prices imply that cost-push inflation pressures are set to intensify throughout Asia in the near future.

The central finding—that excess aggregate demand and inflation expectations are at least as important as external shocks as sources of Asian inflation—has vast implications for monetary policy in the region. In particular, it means that monetary tightening will continue to be a powerful tool for fighting inflation in Asia. Since domestic demand contributes substantially to aggregate demand and hence inflation, especially in the PRC, higher interest rates and other monetary contraction measures can exert their usual anti-inflation effect by cooling down demand. Monetary policy can also have a more direct and immediate impact on inflation expectations, which are to a large degree shaped by the basic stance of monetary policy. The prospects of greater cost-push inflation pressures in the near future further strengthen the case for firmly anchoring inflation expectations through preemptive and decisive tightening of monetary policy.

Effectiveness of monetary policy also depends on exchange rate policy. The movement of the exchange rate must be in line with tightening monetary policy, i.e. the exchange rate should be allowed to appreciate to reduce the domestic cost of imports. Intervention in the foreign exchange market to keep the exchange rate undervalued would limit

the effectiveness of tightening monetary policy in anchoring inflation expectations and clipping inflation pressures, especially in countries where the pass-through of exchange rate movements to domestic prices is relatively high.

Monetary tightening, while urgently needed to contain inflation before it gets out of control, is not without significant risks. In particular, the G3 slowdown will have adverse repercussions for the export and growth performance of developing Asia. Therefore, there is a downside risk that monetary policy may reinforce a contraction even after demand had already begun to slacken. However, it is important not to exaggerate those risks. The more urgent priority for monetary authorities right now is to contain inflation expectations rather than curb domestic demand. The region's growth prospects remain fundamentally strong even after fully factoring in the G3 slowdown. Therefore, such risks do not diminish or compromise the broader policy message that comes from this chapter—that there has to be a reshifting of the basic monetary policy stance toward tightening throughout developing Asia. For far too long, Asian monetary policy has been lax and accommodative of excessive aggregate demand.

One big reason for this is that since the end of the Asian crisis, priority has been to boost economic growth, all the more so since the region did not face an inflation problem. Loose monetary policy has fueled the backward-looking inflation expectations that the above analysis found to be such an important source of Asian inflation. Looking ahead, monetary policy accommodative of the food and oil price shocks will give rise to forward-looking inflation expectations, which will reinforce the already high backward-looking inflation expectations. This truly frightening prospect gives the region's central banks every reason to wake up to the importance of subduing inflation before it becomes entrenched and inflicts lasting damage on the economy.

In truth, the growth-inflation tradeoff facing Asian central banks today is an unusually favorable one. This is because the growth prospects of developing Asia remain fundamentally robust. The loss of output due to anti-inflationary tightening will somewhat dent the region's growth but is unlikely to push the region into recession. Central banks may come to rue not acting today as a rare missed opportunity to fight inflation at a manageable cost. However, given the enormous desire for growth in Asia, it would still take a great deal of political courage to decisively tighten policy. The central finding that external factors can at best account for only part of Asia's inflation should temper the collective regional tendency to blame uncontrollable outside forces and use them as an excuse for inaction. Instead, the region should view the homegrown nature of its inflation as an opportunity for effective action against a serious but controllable problem.

Endnotes

1 Aggregate demand includes both domestic demand and external demand for exports.

This complicates the argument since export demand is contingent on world income and relative prices, and is exogenous. However, authorities in Asia have tended to undervalue their currencies relative to those of major trading partners such as the G3 (United States, eurozone, and Japan), and this has propped up exports and limited imports in the past.

However, as inflation rises in Asia relative to the G3, there is real appreciation and export demand falls as a result of the relative price change. Demand is now being largely driven by internal domestic demand that is rising as a result of prolonged loose monetary policy and inappropriate exchange rate policies. See Jongwanich and Park (2008).

- 2 In fact, the formation of inflation expectations could have both backward- and forward-looking components (Mankiw et al. 2003; Ball 2000). However, previous studies such as McCarthy (1999), Bhundia (2002), and Duma (2008) found that backward-looking expectations better explain domestic prices in developing Asia. In addition, it needs to be recognized that developing Asia does not have reliable forward-looking indicators, as seen in industrial countries.
- 3 To capture the overall movements of food prices, the prices of rice, wheat, and palm oil are replaced by an overall international food price index, provided by the International Monetary Fund (International Financial Statistics, downloaded June 2008).
- 4 The share of food expenditure in the consumption basket in the consumer price index is a better indicator in explaining the degree of food pass-through to domestic prices. However, with data limitations, consumption per capita is used to proxy the importance of each food product in the consumption basket.

Bibliography

- Asian Development Bank (ADB). 2008a. *Food Prices and Inflation in Developing Asia: Is Poverty Reduction Coming to an End?* ADB Special Report. Manila.
- . 2008b. *Asian Development Outlook Update 2008*. Manila.
- Athukorala, P., and J. Menon. 1994. "Pricing to Market Behavior and Exchange Rate Pass-Through in Japanese Exports." *Economic Journal*, Vol. 104, pp. 271-81.
- Ball, L. 2000. "Near-rationality and Inflation in Two Monetary Regimes." NBER Working Paper 7988, National Bureau of Economic Research.
- Bhundia, A. 2002. "An Empirical Investigation of Exchange Rate Pass-Through in South Africa." IMF Working Paper WP/02/165, International Monetary Fund, Washington, DC.
- Choudhri, E., and D. Hakura. 2001. "Exchange Rate Pass-Through to Domestic Prices: Does the Inflationary Environment Matter?" IMF Working Paper 01/194, International Monetary Fund, Washington, DC.
- Duma, N. 2008. "Pass-Through of External Shocks to Inflation in Sri Lanka." IMF Working Paper WP/08/78, International Monetary Fund, Washington, DC.
- Hausman, R. 2000. "Why Do Countries Float the Way they Float?" BID Working Paper No. 418, Inter-American Development Bank, Washington, DC.
- Jongwanich, J., and D. Park. 2008. "Inflation in Developing Asia: Demand-Pull or Cost-Push?" ERD Working Paper Series No. 121, Economics and Research Department, Asian Development Bank, Manila.
- Mankiw, N.G., R. Reis, and J. Wolfers. 2003. "Disagreement about Inflation Expectations." NBER Working Paper 9796, National Bureau of Economic Research.
- McCarthy, J. 1999. "Pass-Through of Exchange Rates and Import Prices to Domestic Inflation In Some Industrialized Economies." BIS Working Paper No.79, Basel, Bank for International Settlements.



Part 3

Economic trends and prospects in developing Asia

Subregional summaries

Central Asia
East Asia
South Asia
Southeast Asia
The Pacific

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Subregional summaries

Central Asia

Subregional assessment and prospects

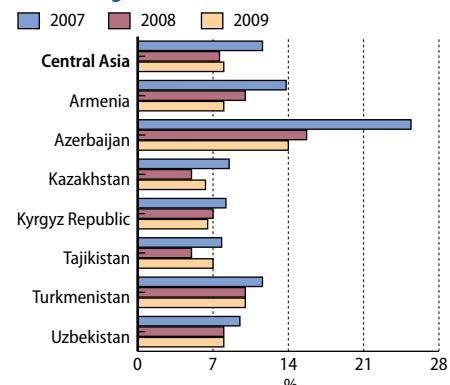
A slowdown is under way in the subregion in an external environment of global financial turmoil as well as rising fuel and food prices (Figure 3.1.1). Among individual countries, Kazakhstan is dealing with the effects of financial contagion from the global credit market turmoil, exacerbated by its past excessive borrowing. The Kyrgyz Republic is experiencing spillover effects of financial turbulence indirectly via its linkages with Kazakhstan's financial sector. For the other countries though, the risk of financial contagion is slight because their access to international capital markets is limited.

Rising fuel prices are having asymmetric effects on countries in the subregion. For the hydrocarbon exporters (Azerbaijan, Kazakhstan, Turkmenistan, and Uzbekistan), the price-driven surge in energy exports has boosted the contribution of net exports to GDP growth. For the hydrocarbon importers, higher costs of fuel imports are exerting downward pressure on their economies.

Increasing food prices, however, are having adverse consequences throughout the subregion. The net food importers (all countries except Kazakhstan and Uzbekistan), must tackle both a food price shock and a food supply problem. Higher food prices severely impact poorer households, which are consuming less and seeing an erosion in their purchasing power. There are also food supply shortages, largely because subregional food exporters have imposed export bans and shortfalls have occurred in domestic production. The two net food exporters are better off because food availability is not an issue. Yet the authorities in these two countries also have to deal with the impact of higher food prices falling disproportionately on poorer people.

In several countries, strong remittance inflows are helping sustain private consumption (Kyrgyz Republic, Tajikistan, and Uzbekistan). Foreign direct investment inflows (Armenia) and ramped-up public

3.1.1 GDP growth, Central Asia



Sources: Asian Development Outlook database; staff estimates.

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spending (Azerbaijan) are supporting investment activity. Nevertheless, across the subregion the expansion in domestic demand is weakening.

Growth in the subregion in 2008 is expected to moderate to 7.6% from 11.6% in 2007. The *Update* expects that the pickup in 2009 predicted in April's *Asian Development Outlook 2008 (ADO 2008)*, will be more muted—it revises downward the projection for 2009 from 8.4% to 8.0%. For the hydrocarbon exporters, Kazakhstan's weaker growth in 2008 will partially offset that group's strong performance in the context of a favorable external environment. In 2009, Kazakhstan's expected recovery will support a fillip in subregional growth, outweighing the likely moderation in Azerbaijan's oil boom. An immediate concern for Azerbaijan is the impact of the recent conflict between Georgia and the Russian Federation on transshipment of Azerbaijani oil exports through Georgia. High prices for natural gas are likely to keep contributing to buoyant growth prospects in Turkmenistan and Uzbekistan, the latter also expected to benefit from continuing high world prices for its other major exports, namely cotton and gold.

Among those economies not exporting hydrocarbons, Armenia, as a landlocked country dependent on land routes through Georgia to the Black Sea coast for its imports, is vulnerable to the fallout from the conflict in the Caucasus. Nevertheless, it is expected to see sustained growth of 8–10% over the forecast period that will likely be driven by construction and services, both partly financed by foreign direct investment. Prior to the outbreak of conflict with the Russian Federation, Georgia was poised to achieve strong growth in 2008. The situation has now changed but quantifying the fallout from the conflict will have to be predicated on a post-conflict needs assessment that is just getting under way. Weaker expansion in domestic demand in the Kyrgyz Republic and the spillover of Kazakhstan's financial problems are likely to result in growth easing there. Tajikistan is likely to see its economic situation improve by 2009 with a return to prudent macroeconomic management.

Inflation was in double digits in June 2008 year on year for all countries in the subregion except Armenia, and even there it was well above the central bank's target rate. It exceeded 32% in the Kyrgyz Republic and 20% in Azerbaijan, Kazakhstan, and Tajikistan. The main drivers were increases in food and fuel prices. Food prices, a category that has the largest weight in overall consumer price index baskets, have surged across the subregion, touching 48.2% in the Kyrgyz Republic and 33.1% in Tajikistan in June 2008. Wheat and wheat products, edible oils, meat, and dairy products have seen the largest price increases. Higher energy prices have also been a contributory factor to overall inflation and to higher food prices (through higher transport costs and fertilizer prices).

To address rising inflation expectations, some central banks are tightening monetary policy. Key policy rates have been raised this year in Armenia and Georgia. Also in these two countries, large foreign exchange inflows have put upward pressure on the currency. A relatively flexible exchange rate policy allowing currency appreciation has helped tamp down inflation pressures somewhat.

Kazakhstan and the Kyrgyz Republic, however, have opted not to raise interest rates out of concern that such a move may affect economic

growth, which has been subdued in part because of a credit crunch faced by banks in these countries. The authorities in Kazakhstan continue to maintain the tenge's peg to the dollar, adopted in late 2007 when the currency came under downward pressure, a strategy that will be in place until the current macrofinancial risks are resolved. The Kyrgyz Republic's authorities are now supporting its exchange rate, which has also come under downward pressure, through interventions in the foreign exchange market. Currently, foreign reserves cover is adequate but further oil price shocks may remove that cushion.

In Azerbaijan, the peg to a currency basket adopted this year is aimed at checking imported inflation. Inflation pressures have been exacerbated by rapid credit expansion and acceleration in manat base money.

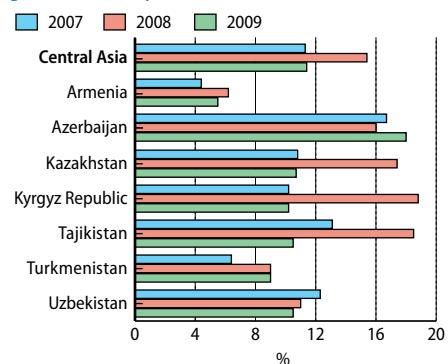
Subregional inflation is expected to remain high in 2008 before easing in 2009 (Figure 3.1.2), determined largely by supply factors. Available forecasts for food prices suggest that wheat prices are likely to fall with better harvests in the large grain-exporting countries of the subregion, but that edible-oil prices will remain high. Energy prices are expected to remain at elevated levels in 2008–2009, reflecting tight supply conditions. With few exceptions, monetary policy frameworks are not robust enough to act countercyclically. The *Update* revises upward the subregion's inflation forecasts for 2008 from 14.4% to 15.4% and for 2009 from 10.2% to 11.4%.

Some countries have introduced fiscal measures to address rising food prices. These include reduced taxes and duties on selected food grains (Azerbaijan, Kyrgyz Republic, and Tajikistan), targeted food subsidies for the poor (Kyrgyz Republic), cash transfers (Azerbaijan), and subsidies for agriculture (Azerbaijan, Kyrgyz Republic, Tajikistan, and Uzbekistan). Some countries have decided to allow a greater pass-through of higher fuel prices. In Armenia for example, a natural gas subsidy that was put in place in 2006 was abolished in May 2008, and partly because of this the fiscal deficit in Armenia is expected to narrow. The Kyrgyz Republic and Tajikistan are, by end-2008, likely to see a widening in their fiscal deficit, and Uzbekistan may see some reduction in its fiscal surplus. Non-oil fiscal deficits as a share of non-oil GDP for Azerbaijan and Kazakhstan are expected to widen.

The subregional current account surplus is climbing because higher prices are boosting the current account surpluses of the hydrocarbon exporters (Figure 3.1.3). Among them, Kazakhstan, which recorded a significant deficit in 2007, is likely to record a moderate surplus in 2008. Azerbaijan's surplus is, however, subject to downside risk because oil transshipments may continue to be affected by tensions in the area. Uzbekistan's surplus is expected to remain high, though decrease moderately.

Among the net importers of energy and food, while hydrocarbon and food prices have adversely affected their current account positions, developments in export performance and remittance inflows have mitigated the impact to varying degrees. Armenia and the Kyrgyz Republic are likely to see a deterioration in their trade and current account balances. Tajikistan's current account position is likely to remain largely unchanged, with a significant part of its imports related to projects financed by the People's Republic of China.

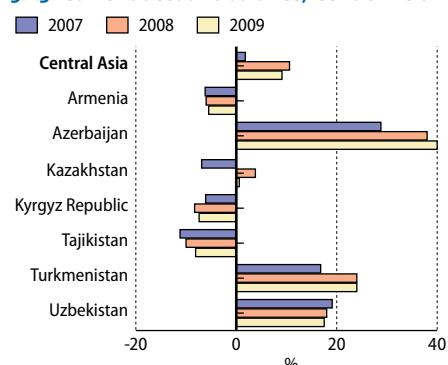
3.1.2 Inflation, Central Asia



Sources: Asian Development Outlook database; staff estimates.

[Click here for figure data](#)

3.1.3 Current account balance, Central Asia



Sources: Asian Development Outlook database; staff estimates.

[Click here for figure data](#)

For the fuel and food importers, the main risks are higher than anticipated price increases in these categories. The reserve positions of Georgia, Kyrgyz Republic, and Tajikistan are vulnerable to shocks in fuel and food prices. An oil price shock (Kyrgyz Republic), a food price shock (Tajikistan), or both types of price shock could see these countries' reserve position in terms of months of import cover fall to very low levels, according to recent simulations by the International Monetary Fund (IMF).

Country highlights

Armenia

At 10.3%, Armenia's GDP growth in the first half of 2008 remained robust, albeit somewhat slower than in the first half of 2007. The main drivers were private consumption and investment in the nontradable sectors. On the supply side, the sectors servicing domestic demand—in particular, construction and services—were the main contributors. Downside risks to Armenia's growth prospects have increased with the recent conflict between Georgia and the Russian Federation. Armenia's main trade route runs through Georgia where damage to rail transport infrastructure has disrupted freight traffic.

Inflation pressures have been building up in recent months because of higher international prices for basic foods, removal of the gas subsidy, higher wages and pensions, and rapid monetary growth. For July 2008, the 12-month inflation rate came in at 9.2%. The sources of monetary growth have been unsterilized foreign exchange interventions, cash dedollarization, and rapid credit growth. This has been mitigated to some extent by appreciation of the dram. The authorities have raised the refinancing rate several times this year. The preannounced 3-year inflation target of the Central Bank is $4\pm1.5\%$.

The *Update* revises upward the projection for inflation in 2008 to 6.2% and in 2009 to 5.5%. Fiscal policy remains prudent and supportive of monetary policy in controlling inflation. Slower export growth and a pickup in import growth contributed to the widening trade deficit in the first half of 2008. The *Update* revises the projections for the current account balance for 2008 from a deficit of 4.5% of GDP to 6.0% of GDP, and for 2009 from 4.9% to 5.5% of GDP. Areas of reform implementation include enhancing tax administration and developing the capital market, with tax incentives for firms listing on the stock exchange.

Azerbaijan

GDP growth in the first half of 2008 came in at 16.5%, with both oil and non-oil sectors performing strongly. Non-oil sector growth was led by expansion in construction, and by wholesale and retail trade. In the third quarter, the downside risk to the GDP growth forecast for 2008 (15.7%) increased suddenly because of the conflict in Georgia and the knock-on effect on oil transshipments from Azerbaijan. It remains to be seen whether the pumping of oil will be accelerated in the remaining months of the year when the situation normalizes.

The forecast for 2009 is revised downward from 18.0% to 14.0% because the expansion in oil production is expected to flatten and public

spending, previously sustaining non-oil growth, will begin losing steam. The *Update* also revises upward inflation forecasts for 2008 and 2009 from 13.0% and 12.0%, respectively, to 16.0% and 18.0%. Inflation picked up to 20.2% year on year in June 2008, due to acceleration in food prices (27.9%), very high public spending, and growth in money supply.

High public expenditure growth is increasing the demand for nontradable goods and putting upward pressure on the real exchange rate. Also of concern is the rapid credit growth financed from external borrowing by banks and expansion in manat base money. The authorities have recently introduced a currency basket arrangement to contain imported inflation.

Two opposing factors are in play as regards current account projections. One, hydrocarbon prices will remain at elevated levels. Two, oil exports may be at risk because of continuing tensions in the subregion. In this climate of uncertainty, the *Update* retains April's projections for the current account surplus for 2008 and 2009 of 38.0% and 40.0% of GDP, respectively.

Georgia

GDP growth in the first half of 2008 was strong, coming in at 9.3% year on year. The agriculture sector performed well. Industrial growth was sustained by mining and construction, offsetting subdued performance in manufacturing. Consumer price inflation remained in double digits (11.3% in June year on year), due to international food and energy price increases, utility tariff hikes, and growth in money supply stemming from expansion in credit and capital inflows. Food price inflation came in at 13.3% in June, year on year. Fuel price increases have been passed through and associated transportation costs have gone up.

Exchange rate management has become more flexible. Monetary growth acceleration on account of foreign exchange inflows has been contained through limited, sterilized interventions. The nominal effective exchange rate appreciated by 10.3% year on year in July. Fiscal sterilization was being undertaken by accumulating government deposits with the National Bank of Georgia. Early this year, a fiscal responsibility framework was put in place that committed to saving revenue “overperformance”—the Future Generations Fund and the Stable Development Fund have been established to absorb the surplus and privatization proceeds.

The situation has now changed because of the conflict with the Russian Federation in early August 2008. However, until an assessment of the economic fallout is made, meaningful numbers cannot be assigned to projections.

Kazakhstan

The *Update* maintains April's GDP growth forecasts for 2008 and 2009 at 5.0% and 6.3%. While high oil prices have paved the way for a strong contribution from net exports, the credit crunch has crimped domestic demand, with weakening investment and household demand. The credit crunch followed an episode of excessive external borrowing by private banks. This is reflected in the performance of industry subsectors (other than mining and quarrying) where growth has slowed markedly,

particularly in manufacturing and construction. Mining and quarrying grew strongly, led by crude oil, coal, and gas. Agricultural growth remains robust in contrast to that elsewhere in the subregion.

Soaring inflation is the paramount concern, with inflation touching 20% in June 2008 year on year, propelled by higher food prices and public sector wage increases. The authorities responded by banning wheat exports (but this ban was lifted by 1 September). The National Bank of Kazakhstan has had to maintain a balance between promoting growth in light of the credit crunch and checking monetary growth to rein in inflation. It has opted to lower the refinancing rate and the minimum reserve requirements.

The *Update* revises estimates for 2008 and 2009 of the current account from deficits of 5.6% and 4.1% of GDP, respectively, to surpluses of 3.8% and 0.6%, reflecting higher world prices for oil and metals. The trade and current account balances were in surplus in the first quarter. A part of oil revenue is being channeled to the National Fund, which is projected to grow substantially to \$32.8 billion by year-end. The structural reform agenda is focused on enhancing banking sector supervision to ensure that episodes of excessive private sector foreign currency borrowing that precipitated Kazakhstan's financial crisis last year do not recur.

Kyrgyz Republic

The *Update* revises downward the GDP growth projections for 2008 and 2009, from 7.6% to 7.0% for 2008, and from 7.6% to 6.5% for 2009. GDP growth slowed to 7.1% in the first half of 2008 from 8.8% in the same period the previous year, reflecting spillovers from neighboring Kazakhstan through the trade, investment, and remittance channels. Hydropower production in 2008 was cut back due to low water levels in Toktogul water reservoir. These factors are expected to bear down on the Kyrgyz Republic's growth prospects in the near term.

The *Update* revises upward the projections for inflation, from 12.0% and 10.0% in 2008 and 2009 to 18.8% and 10.2%, respectively. The first half of 2008 saw a strong acceleration in consumer price inflation (32.3% in June, year on year), with food price inflation running at 48.2%. The Government has responded by subsidizing bread and flour purchased by the poor. The authorities are also focused on ensuring that monetary and exchange rate policies help contain second-round effects of food and energy price increases, and are resisting downward pressure on the currency that emerged in late 2007.

The *Update* revises the current account deficits for 2008 and 2009, which are now projected at 8.3% and 7.4%, respectively. Differences with April's *ADO 2008* projections and time series arise because the National Bank now factors in reexports into its estimates and projections.

Tajikistan

Tajikistan is currently following a staff-monitored program of IMF that aims to provide a framework for macroeconomic stability. Following a poor harvest, growth of the agriculture sector for 2008 is expected to decline, and industrial production has been hit by winter electricity shortages. The *Update* has therefore lowered GDP growth projections for 2008 and 2009 to 5.0% and 7.0%, respectively. High inflation has reduced

purchasing power and adversely impacted private consumption, although stronger remittance inflows have had a mitigating effect. Inflation accelerated to 25.3% in June, year on year, with food price inflation reaching 33.1%. Prices of bread and wheat have doubled in the 12 months to June 2008. Meat prices are also up because of livestock deaths caused by the severe winter. The annual contract price of natural gas imports from Uzbekistan is up by 50%. Higher fuel prices have added to food transportation costs. The *Update* revises the inflation projections for 2008 and 2009 from 17.0% and 10.0% to 18.5% and 10.5%, respectively.

Food shortages and high prices have affected an estimated 2 million people, with those living in rural areas particularly hard hit. Targeted support for the poor will need to be combined with a prudent fiscal policy to restore macroeconomic stability in the short term.

The *Update* expects a somewhat better current account outturn than projected in April, as part of the authorities' strategy of winding down unsustainable imbalances. It forecasts the deficits to be narrower than earlier indicated, down from 15.3% and 11.1% of GDP in 2008 and 2009 at 10.0% and 8.1%, respectively.

Turkmenistan

A severe winter yielded a poor crop harvest and in turn led to supply shortages, offsetting the positive impact of higher hydrocarbon revenues. Inflation pressures are building up from increases in the prices of public transport, petroleum, and food—the prices of these items are controlled but have been adjusted upward in recent months. Monetary policy was loose in 2007 with a significant increase in directed credits contributing to a sharp increase in reserve money and broad money growth. In early 2008 however, greater access to foreign exchange in the lead-up to exchange rate unification and repayment of agricultural loans resulted in a deceleration of growth in money supply.

The *Update* substantially raises the projection for the current account balance for 2008 to 24% of GDP, on the basis of higher gas exports. An IMF mission has noted that hydrocarbon revenues are being treated as off-budget revenues and have urged reform of hydrocarbon revenue management to enhance fiscal discipline and transparency. Until recently, the dual exchange rate regime saw a parallel market exchange rate that was four to five times more depreciated than the official exchange rate. In a step toward currency reform, the exchange rate was unified in May 2008. For the benefits of exchange rate unification to be realized however, other linked reforms, including financial sector liberalization, will be necessary.

Uzbekistan

The *Update* raises projected GDP growth for 2008 from 7.8% to 8.0% and for 2009 from 7.2% to 8.0%. The main growth drivers in the first quarter of 2008 were a favorable external environment for commodity and non-commodity exports, acceleration in hydrocarbon-related foreign direct investment inflows, and strong remittance inflows from the Russian Federation. These drivers are expected to remain in place over the projection period. Inflation is forecast to moderate in 2008, with limited pass-through of higher world food prices, tight monetary and fiscal policies, and sterilization through accumulation of government deposits

at the central bank. Price controls of basic food items and restrictions on some food exports have resulted in lower food inflation than elsewhere in the subregion.

Fiscal tightening through scaling back public investment has helped offset the effects of exchange rate interventions to induce depreciation, but there is concern that this has been at the expense of public investment that could have helped improve public goods provision. Wage and salary increases will be a source of inflation pressures in 2008. More recently, the authorities have eased their efforts to induce nominal depreciation. In IMF's assessment, the sum continues to be undervalued and the authorities need to allow appreciation to check inflation. The current account surplus will remain buoyed by a large trade surplus. Export growth fueled by price and volume increases will outpace import growth over the forecast period, in part attributable to the trade policy regime.

East Asia

Subregional assessment

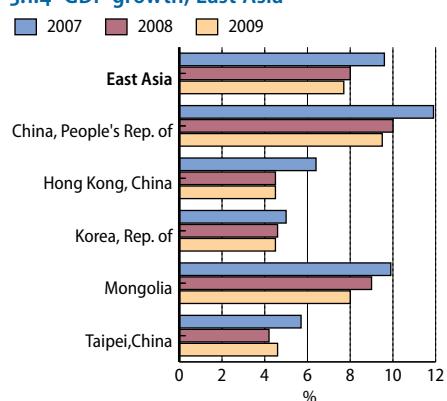
After expanding by more than 9% in 2006 and 2007, economic growth in East Asia is projected to decelerate to 8.0% this year (Figure 3.1.4), in line with the forecast made in *ADO 2008*. The growth projection for the People's Republic of China (PRC), the biggest economy in this subregion, is maintained at 10.0%. Softening demand for the PRC's exports and policy tightening by the authorities have trimmed growth from high levels (11.9% in 2007). Forecasts for Hong Kong, China and Taipei, China also are unchanged from *ADO 2008*. The outlook for growth in the Republic of Korea (hereafter Korea) and Mongolia has weakened a little and their growth forecasts are lowered.

Merchandise exports in US dollar terms grew robustly in the first half of 2008 (by about 22% in the PRC and close to that in Korea and Taipei, China). Demand for the subregion's manufactured products generally remained strong in developing economies, but softened in industrial countries. Import growth surged (by about 31% in the PRC and 29% in Korea) and outpaced that of exports, largely owing to higher global prices for oil and other raw materials. Consequently, trade surpluses fell in the first 6 months of 2008 from year-earlier levels in the PRC; Korea; and Taipei, China. The trade balance in Mongolia turned to a deficit in the first half of this year and Hong Kong, China's trade deficit widened.

Over the course of the first half, GDP growth generally slowed. For some of the economies, this mainly reflected a tapering off in consumer demand, as accelerating inflation eroded spending. Investment growth also eased in April–June, the result of higher costs for many industrial inputs, the deteriorating international economic environment, and, in the case of the PRC, government measures to cool investment and inflation.

Inflation has accelerated at a faster rate this year than was foreseen in *ADO 2008*, with higher prices for food and oil the leading causes. The subregional forecast is revised up by more than 1 percentage point to 6.1%, significantly faster than the 3.9% seen in 2007 (Figure 3.1.5). The 2008 forecasts are raised for all economies. Monetary policy has been

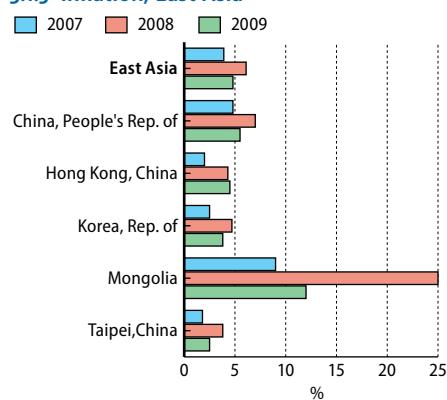
3.1.4 GDP growth, East Asia



Sources: Asian Development Outlook database; staff estimates.

[Click here for figure data](#)

3.1.5 Inflation, East Asia



Sources: Asian Development Outlook database; staff estimates.

[Click here for figure data](#)

tightened in most economies to curb inflation pressures. Consumer inflation started to ease around midyear in the PRC after good harvests and a recovery in pork production.

A substantial current account surplus (6.2% of GDP) is still expected for the subregion. This is a downward revision from *ADO 2008*, and compares with a surplus of 8.9% in 2007. Korea and Mongolia are expected to record deficits on their current accounts.

Subregional prospects

Subregional growth next year is forecast to moderate further to 7.7%. Forecasts are lowered from *ADO 2008* for all economies, mainly on account of the deterioration in the global economic and financial outlook. Growth in the PRC is expected to ease to 9.5%, reflecting a smaller trade surplus and slowing investment growth. This will relieve some of the pressures on resources, energy, and the environment that arose during the years of 10%-plus expansion.

Inflation is forecast to decelerate next year to 4.8% on a subregional basis (revised up from 4.2% in *ADO 2008*). This would still put inflation at double the rate recorded over the 5 years 2003–2007.

The subregional current account surplus is expected to decline to 4.9% of GDP in 2009 (Figure 3.1.6), in a downward revision from 6.7% in *ADO 2008*, mainly owing to an expected reduction in the PRC's surplus as its trade surplus declines further. Korea and Mongolia are projected again to record deficits in their current accounts.

Country highlights

People's Republic of China

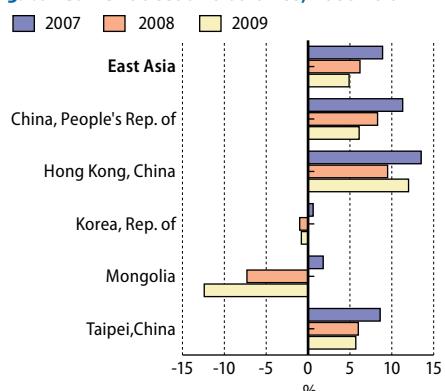
Softening external demand and the impact of policy tightening trimmed GDP growth to a still-rapid 10.4% in the first half of 2008. Weaker economic growth in industrial countries and a reduction in PRC tax rebates on exports clipped growth in merchandise exports to 22% in the first half from a year earlier. Import growth (about 31%) outpaced that of exports (22%), and the trade surplus fell.

Rapid growth in fixed asset investment has been damped by rising prices for fuel, power, and raw materials; a halving in the nominal growth of industrial enterprise profits; a slowdown in the property market owing to credit tightening; government directives to reduce fixed asset investment in some industries; and the softening in demand for exports. Real fixed investment growth slowed to about 15% in the first half, from 22% in the prior-year period. Private consumption was strong in the January–June half, despite a pickup in inflation. Retail sales in real terms grew by about 14%, supported by growth in real incomes.

This strength in private consumption, combined with the slowing in investment and exports, is starting to achieve the authorities' sought-after rebalancing in the structure of demand.

Inflation quickened to 7.7% in the first 7 months of 2008, driven mainly by rising food prices. Consumer inflation started to ease after April, but the producer price index continued to accelerate. The Government moved to curb price pressures by, among other measures, selling grain from reserves and strengthening its price controls.

3.1.6 Current account balance, East Asia



Sources: *Asian Development Outlook* database; staff estimates.

[Click here for figure data](#)

Rapidly growing foreign direct investment and speculative capital inflows boosted foreign exchange reserves to \$1.8 trillion by June 2008, even as the trade surplus fell. The central bank increased bank reserve requirements six times between end-2007 and July 2008 and issued bills to drain excess liquidity from the banking system. These efforts, plus guidance to banks to adopt informal credit quotas, curbed lending. The yuan appreciated by 7.3% against the US dollar in nominal terms between end-2007 and July 2008, a little faster than in 2007. Concerned that this might attract more speculative capital inflows and harm exporters, the Government tightened capital controls in August.

The authorities have indicated they will put more emphasis on maintaining economic growth and employment generation in the second half of 2008 and in 2009, and this is likely to mean that some administrative controls on bank lending are loosened. Fiscal policy is expected to remain slightly expansionary. Reaching the Government's inflation target could require an increase in interest rates.

Rising production costs and softening external demand are forecast to trim export growth this year and in 2009, while faster growth of imports than exports will reduce the trade surplus in both years. Growth in real fixed asset investment is projected to slow in the forecast period, too, partly a result of government policy tightening over recent years. Private consumption growth, in contrast, is projected to pick up, supported by rising incomes.

Taking these factors into account, the GDP growth forecast for 2008 is maintained at the 10.0% made in *ADO 2008*. The forecast for 2009 is revised down to 9.5% from 9.8%, because of smaller trade surpluses and slower investment. Growth at that level in 2009 would be in the 9–10% range considered by various studies to be the economy's potential rate of growth, one that does not put undue strains on energy, natural resources, the environment, and inflation.

On the basis of lower merchandise trade surpluses, as well as a continuing deficit in services trade, the forecast for the current account surplus is revised down to 8.3% of GDP in 2008 and to 6.1% in 2009. Food price inflation is expected to decline to single digits later this year, which will bring down overall inflation. Administered fuel and power prices will rise further, though. The inflation forecast for 2008 is revised up to 7.0%, the highest since 1996, from 5.5% in *ADO 2008*, and the projection for next year is raised to 5.5%, from 5.0%.

Hong Kong, China

After solid expansion in the first quarter of 2008, the economy contracted by 1.4% on a quarter-on-quarter basis in the April–June period. GDP grew by 5.8% in the first half of the year. Real growth in exports slowed to 4.9% in the second quarter, nearly half the rate of the first quarter. Although the labor market remained firm, consumer spending was moderated by rising inflation, a falling stock market, and deteriorating global economic prospects. GDP growth is expected to slow further in the second half. The 2008 full-year forecast is maintained at 4.5%. For 2009, the forecast is edged down to 4.5%, based on the weaker outlook for major economies and the likely easing of growth in the PRC.

Higher prices for food, energy, and private housing rents lifted

inflation to a higher than expected 5.1% in the first 6 months, with the rate accelerating to 6.3% in July. The authorities took several fiscal steps to limit inflation, including waivers on public housing rents and private housing rates (or taxes), temporary increases in welfare benefits, and a one-time grant to subsidize household electricity costs. Inflation in full-year 2008 is now expected to average 4.3% and in 2009, 4.5% (both revised up from ADO 2008). Substantial current account surpluses (9.5% this year and 12.0% next) are still forecast.

Republic of Korea

Growth decelerated from 5.8% in the first quarter of 2008 to 4.8% in the second, putting the January–June economic expansion at 5.3%. This solid result was fueled by external demand: exports of goods and services rose in real terms by 12.2%, with gains in shipments to Asia and the Middle East more than offsetting sluggish exports to the US. Imports in real terms rose by 8.8%. However, domestic demand weakened sharply. Consumption was eroded by rising inflation, slowing growth in real incomes, and high household debt. Investment was hit by soaring costs of raw materials and energy and by generally weak business sentiment. Private consumption fell in the second quarter relative to the first, investment in construction declined in both quarters, and investment in machinery and equipment softened.

On the supply side, manufacturing, supported by exports, maintained robust growth, particularly for semiconductors, video and communications equipment, and machinery. But services sector growth sagged, as did employment growth.

Inflation averaged 4.3% in the first half and hit a 10-year high of 5.9% in July, well above the Bank of Korea's 2.5–3.5% target. Core inflation (excluding energy and agricultural products) doubled from a year earlier, to 4.6% in July. The central bank, moving to contain inflation expectations, raised its policy interest rate in August by 0.25 percentage points to 5.25%. The authorities also intervened in the foreign exchange market to support the won, which has weakened against the US dollar and added to import-price pressures.

In the second half of 2008, private consumption will likely remain soft and export growth is expected to slow. The GDP growth forecast for all 2008 is revised to 4.6% (down nearly a half percentage point from ADO 2008).

A deterioration in the global outlook for 2009 has led to a downward revision in the 2009 forecast to 4.5% (from 5.2% in April). Inflation will be higher than previously expected (it is now forecast at 4.7% for this year and 3.8% in 2009). Higher prices paid for imported oil and other raw materials will cut the trade surplus and push the forecast current account deficit to 1.0% of GDP this year. The deficit next year is projected at 0.8%.

Mongolia

Favorable weather conditions for agriculture and high global prices for copper and gold exports are supporting growth. Large increases in civil service wages and in social welfare outlays have also contributed to growth in domestic demand this year. External demand has been bolstered by continuing economic growth in the PRC, Mongolia's main

export market. GDP growth picked up to 10.2% in the first 3 months of 2008. Higher prices for imported food (food makes up 41% of the consumer price index) and fuel pushed up inflation to 24.6% in the first half of the year, and it reached 32.4% in June. This rapid rate is expected to restrain growth in overall consumption, and the GDP growth forecast for 2008 is lowered by half a percentage point, to 9.0%. Expected slowing growth in the PRC in 2009, combined with policy tightening by the Mongolian Government to rein in inflation, will likely bring GDP growth down next year to about 8.0% (revised down from 9.0% in *ADO 2008*).

Expansionary monetary and fiscal policies have fueled inflation (money supply expanded by 56% in 2007, and the budget recorded a small deficit in the first half compared with a significant surplus in 2007). A depreciation of the togrog against the currencies of the PRC and the Russian Federation, sources of much of the country's food and oil imports, added to price pressures. The Bank of Mongolia has raised both its policy interest rate and commercial bank reserve requirements in an attempt to curb inflation. Nevertheless, the inflation forecast for 2008 is raised to 25% and for 2009 to 12%, both revised up from *ADO 2008*.

The surge in import prices sharply widened the trade deficit in the first half of 2008 and is expected to push the current account into deficit, equivalent to 7.3% of GDP this year and 12.4% in 2009, compared with small surpluses forecast in April. Reflecting the deterioration in the current account and the acceleration of inflation, Fitch Ratings in June 2008 downgraded, to stable from positive, the outlook on Mongolia's B+ long-term foreign and local currency ratings.

Taipei, China

Economic growth slowed sharply from 6.3% in the first quarter to 4.3% in the second, as private fixed investment fell and private consumption growth eased in the face of rising prices and a declining stock market. Net exports accounted for nearly all the second-quarter expansion. Growth in the second half is projected to weaken from the first half's 5.3%, reflecting forecast weakness in both external demand and consumer spending. The growth forecast for all 2008 is maintained at 4.2%.

For 2009, the forecast is revised down by 1 percentage point to 4.6%, mainly because external demand will be weaker than was projected in April. As expected at that time, economic links with the PRC are strengthening and this should support some pickup in growth from this year, as will planned additional public infrastructure spending. Current account surpluses are still expected in both years, but the forecasts are downgraded to 6.0% of GDP this year and 5.7% in 2009 largely because of the weaker international economic environment and higher prices for imported oil and raw materials.

Inflation accelerated to 3.9% in the first half of 2008 and hit 5.9% in July, the highest in 14 years. It was driven mainly by rising prices of imported energy and food as well as by some damage to domestic food crops from bad weather. The monetary authorities continued to raise the benchmark discount rate in small steps, to 3.625% in June, a 16th consecutive quarterly rate rise, aiming to contain inflation expectations and achieve positive real interest rates. The inflation forecast for 2008 is raised to 3.8% (from 2.3% in *ADO 2008*) and for next year to 2.5% (from 1.6%).

South Asia

Subregional assessment and prospects

As with many countries in other subregions of developing Asia, surging inflation, deteriorating current account balances, worsening fiscal balances, declining local currencies, and belated monetary tightening have hit South Asia in the first few months of 2008. Elections in the next year or so will complicate the economic response.

Inflation in South Asia accelerated in 2008 (Figure 3.1.7), reaching double digits by midyear. Food price inflation is a special concern because food consumption is a very high proportion of consumer spending: it is especially high for the very poor, and is affected by the adjustments in administrated fuel prices (through, for example, higher costs of transportation and for operating farm equipment). The weakening of local currencies against the US dollar in India and Pakistan in 2008 has contributed to inflation pressures, exacerbating the rise in global commodity and other import prices.

The fiscal measures taken to mitigate the impact of import prices on inflation included reductions in import duties or domestic trade taxes on fuel and food in Bangladesh, India, Nepal, Pakistan, and Sri Lanka. Fuel products are subsidized in major South Asian countries (but were eliminated in Sri Lanka in 2006), and subsidization of food grains and fertilizers has been stepped up.

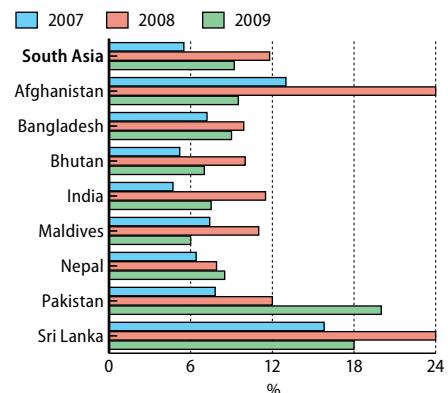
These measures have put heavy fiscal pressure on South Asian countries, and in the absence of fiscal space, budget balances have deteriorated. If all unfunded and unaccounted liabilities of governments are included, South Asia's fiscal deficit as a share of GDP is now estimated to worsen to around 8% of GDP in 2008 from 5.2% in 2007. Off-budget liabilities are likely to increase for state-owned oil and electricity companies, which are incurring losses from the effect of administrated prices despite some upward adjustment of domestic fuel prices in response to the higher world prices.

In addition to the fiscal measures, food exports have been restricted in several countries to secure the domestic food supply. India has banned the export of wheat since September 2007, and added non-basmati rice and edible oil to the export ban in 2008. An export tax has also been imposed on basmati rice. Bangladesh and Nepal restricted food exports in May and April 2008, respectively, and Sri Lanka applied a price floor for rice exports.

Central banks have started to tighten monetary policy more decisively. India and Pakistan lifted policy rates and cash-reserve ratios, and Sri Lanka raised the yield on government securities. Bangladesh is the exception as it is keeping an accommodative policy to facilitate economic recovery from natural disasters in 2007. Countries with currency pegs, including Bhutan, Maldives, and Nepal, however, have less room for active use of monetary policy to address increasing inflation pressures.

High food and oil prices have the potential risk of generating serious balance-of-payments problems. Since most countries in South Asia are net importers of food and fuel, they suffered from higher import costs and a worsening of their terms of trade, resulting in deterioration in their trade balance and pressures on their foreign exchange reserves.

3.1.7 Inflation, South Asia



Sources: Asian Development Outlook database; staff estimates.

[Click here for figure data](#)

The impact on the current account has, so far, been relieved by strong performance in services exports (India and the Maldives) and robust workers' remittances (Bangladesh, Nepal, and Sri Lanka). Nevertheless, the current account deficit for the South Asia subregion is projected to be wider in the *Update* than expected in April: the deficit is expected to be 3.5% of GDP in 2008 (revised from 2.5%) and further deteriorate to 3.9% (Figure 3.1.8) in 2009 (revised from 2.8%). Slowdown or reversal of capital inflows in the wake of current economic problems in some South Asian countries is a concern.

Despite efforts to tighten macroeconomic policies, inflation in South Asia is now expected to escalate to 11.8% in 2008 before moderating to 9.2% in 2009. Elections expected in 2008 and 2009 in the subregion may, however, delay price adjustments and subsidy cuts, which could worsen fiscal balances further. Tighter credit conditions and higher interest rates will likely damp investment, and slow economic growth. GDP growth for the South Asia subregion is expected to slow from 8.6% in 2007 to 7.1% in 2008 and decelerate further to 6.7% in 2009 (Figure 3.1.9).

Country highlights

Afghanistan

The effects of drought will likely hit agriculture, in turn dragging the forecast for GDP growth in FY2008 (ending 20 March 2009) lower to 7.5% (from 9.0% in *ADO 2008*). Assuming normal weather, growth in FY2009 is expected to be 8.3%.

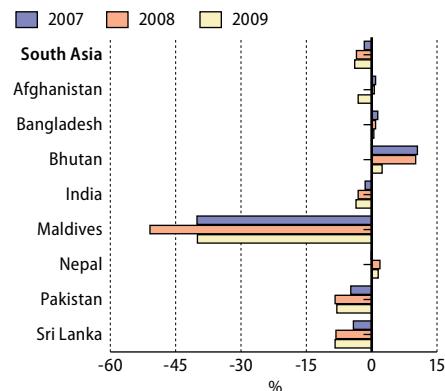
A 49% increase in food prices as well as higher prices of imported fuel took year-on-year inflation to 33% in June 2008. Nonfood prices rose by around 10%, indicating that high inflation is largely the result of exogenous factors (poor harvest, and high international food and fuel prices) rather than macroeconomic policies. For FY2008, projected average inflation is revised to 24.0%. The sharp increase in global wheat prices (50–100% from a year earlier) has aggravated poverty in Afghanistan, as wheat is a large part of the consumption basket of the poor and wage hikes lag far behind increases in wheat prices.

To reduce the impact of food inflation, the import tax on both wheat and wheat flour has been eliminated and the tax on edible oil has been reduced from 3.5% to 2.5%. Softening in wheat and other commodity prices, improved rainfall, and a better domestic harvest as well as moderation in global fuel prices—all of which are forecast—are expected to bring inflation down to 9.5% in FY2009. Dealing with the worsening domestic security situation, creating a base for sustainable economic growth, phasing out the opium economy, and overcoming infrastructure bottlenecks, notably electricity, remain key challenges for the economy.

Bangladesh

Growth in GDP (6.2%) and the level of the current account surplus (0.9% of GDP) in FY2008 were close to the earlier projections made in *ADO 2008* in April this year, as the economy showed resilience in recovering from the natural disasters of the first half of the year. However, inflation rose, averaging 9.9% for the year. Higher global oil prices pushed up oil subsidies, causing fiscal pressures to grow. The

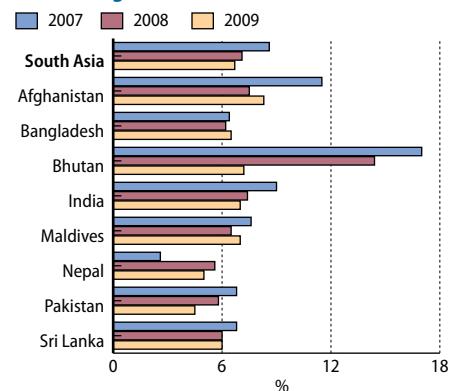
3.1.8 Current account balance, South Asia



Sources: *Asian Development Outlook* database; staff estimates.

[Click here for figure data](#)

3.1.9 GDP growth, South Asia



Sources: *Asian Development Outlook* database; staff estimates.

[Click here for figure data](#)

caretaker Government (appointed when parliamentary elections were postponed in January 2007) has undertaken economic reforms, pursued a marked anticorruption effort, and pushed through important electoral reforms in preparation for elections expected by end-2008.

For FY2009, this *Update* maintains the earlier 6.5% projection for GDP growth, but expects higher inflation than forecast in April (9.0% rather than 8.0%) and a somewhat lower current account surplus (0.5% instead of 1.0% of GDP).

Bhutan

In FY2007 (ended June 2007), GDP growth rose to 17.0%, pulled up largely by the start of operations at the 1,020-megawatt Tala hydropower plant. As full output from Tala has come on line as expected, the growth outlook of 14.4% in FY2008 and 7.2% in FY2009 (as given in *ADO 2008*) is maintained. The consumer price index increased to 8.9% (year on year) in the April–June quarter of 2008. Given the parity peg between the currencies of Bhutan and India, price movements are very similar, and in view of what is happening in India, Bhutan's inflation forecast is now revised upward to 10.0% in FY2008 and to 7.0% in FY2009.

With Tala's hydropower exports to India, the current account balance switched from deficit into a large surplus amounting to 10.5% of GDP in FY2007. No change is made to the *ADO 2008* projections (surplus of 10.1% of GDP in 2008 and 2.4% in 2009).

India

Recent developments are challenging India's strong growth performance of recent years. Emerging capacity constraints, continued rapid expansion in credit, and partial pass-through of global commodity price increases have triggered steep domestic inflation and consequent monetary tightening. Growth in the April–June quarter of the FY2008 (ending in March 2009) slowed to 7.9% from the 9.2% seen in the first quarter of FY2007, the slowest rate of growth since FY2004. Inflation reached 12.6% toward mid-August. A widening trade deficit, moderating capital inflows, and some depreciation in the rupee are features of current developments. The main problem, however, consists of large fiscal imbalances being created by the escalation in oil and other subsidies and by other unbudgeted liabilities.

The inflation forecasts for FY2008 and FY2009 are revised upward in the *Update* to 11.5% and 7.5%, respectively. Growth is seen edging down from 7.4% in FY2008 to 7.0% in FY2009. How well the Government addresses the difficult issues of oil and other subsidies, so as to maintain macroeconomic stability, and the longer-term adoption of structural reforms, is key to fulfilling the country's enormous potential.

Maldives

Economic growth for 2008 is revised to 6.5%, from the 8.0% projected in *ADO 2008*, owing mainly to reduced construction activity. Due to a significant revenue shortfall, the Government has committed itself to reducing current expenditures by 20% and has decided not to start any new capital project for which contracts have not yet been awarded. The consumer price index, mainly reflecting the escalating costs of food and

fuel, rose by 15.5% (year on year) in June 2008. Average inflation for the year is now forecast at 11.0%.

Given an expansive fiscal policy, very high import dependency, and rising fuel and food prices, the current account deficit widened to the equivalent of 40.1% of GDP in 2007. The impact of these underlying circumstances strengthened in 2008 and the current account deficit is projected to deteriorate further to 50.9% of GDP this year.

Nepal

The political situation offers ground for cautious hope, but remains fragile despite successful constituent assembly elections as well as elections for president and prime minister. GDP growth rebounded to 5.6% in FY2008 (16 July 2007–15 July 2008) from 2.6% in FY2007 due to a weather-induced recovery in agriculture. The growth revival was also aided by continued expansion of services. Industrial growth, however, declined to 1.8% from 3.9% due to the impact of power and fuel shortages and labor tensions. Assuming normal weather conditions, greater political stability, and improved power and fuel supplies, GDP is forecast to grow by about 5% in FY2009.

As a result of sharp increases in food and oil prices, year-on-year inflation rose to 13.4% in mid-July 2008. Average inflation in FY2009 is revised in this *Update* to 8.5% from the 6.5% April forecast (and higher than the 7.9% average of the previous year). Higher remittances and tourism receipts helped more than offset a widening trade deficit to generate a current account surplus of 1.9% of GDP (after a deficit of 0.1% in the previous year). For FY2009, the current account surplus is now projected at 1.5% of GDP, supported by sustained growth in remittances and tourism receipts.

Pakistan

The surge in global oil and food prices and domestic policy uncertainties in a turbulent political year put heavy stress on the economy in FY2008. This was reflected in a slowdown in growth, a buildup in inflation, much larger fiscal and current account deficits, a weakening currency, and a large drop in foreign reserves. Increased risk perception was seen in a downgrading of credit ratings, a rise in sovereign bond spreads, a slide in capital inflows, and declining access to international capital.

With continued high oil prices, an ongoing power deficit, and tightened demand management policies to correct macroeconomic imbalances, economic growth in FY2009 is put at only 4.5%, while the current account deficit estimated at 8.0% of GDP will be little changed from a year earlier. High inflation will persist (averaging 20.0% compared to 12.0% in FY2008) as domestic fuel, food, and power subsidies are rationalized. While macroeconomic imbalances are expected to shrink, they cannot be eliminated in the short term.

Sri Lanka

The economy grew by 6.8% in 2007. Growth was forecast to be slightly lower in ADO 2008, at around 6.0% in both 2008 and 2009, mainly due to the global slowdown affecting Sri Lanka's key export markets. No change in these forecasts is made in the *Update*. Point-to-point inflation

hit 18.8% in December 2007, driven mainly by food prices. In 2008, the Government increased fuel prices several times to allow a pass-through of international oil price increases. Electricity tariffs were also revised in 2008, reflecting cost pressures on thermal power generation.

These administered price rises have pushed up inflation, which reached 28.2% by end-June. Reflecting this, average inflation for 2008 is now projected at 24.0% in 2008, compared with the 16.2% forecast made in *ADO 2008*. While global prices of food and oil are expected to moderate in 2009, wage increases in the public and private sector (public sector wages and pensions are partially inflation indexed) indicate that demand pressures will remain high. The forecast for inflation in 2009 has been raised to 18.0% from 14.0% in *ADO 2008*.

Sri Lanka's balance of payments is under serious pressure, in large part due to high global oil prices. On the positive side, growth in energy demand appears to be slowing, in response to higher prices, and workers' remittances remain high. Nevertheless, the current account deficit has markedly widened and is now projected to increase to 8.2% of GDP in 2008 (up from the 4.3% estimated in *ADO 2008*). Indeed, it may be even wider if the growth of non-oil imports (running at 25% year on year in June 2008) does not slow.

The central bank has intervened to keep the Sri Lanka rupee from depreciating so far in 2008; this policy helps limit inflation pressure but could lead to a rapid depletion of the relatively low level of gross official reserves. Weak industrial-country growth will continue to slow Sri Lanka's garment exports. The *Update* projects the current account deficit to remain high at 8.4% of GDP in 2009.

Southeast Asia

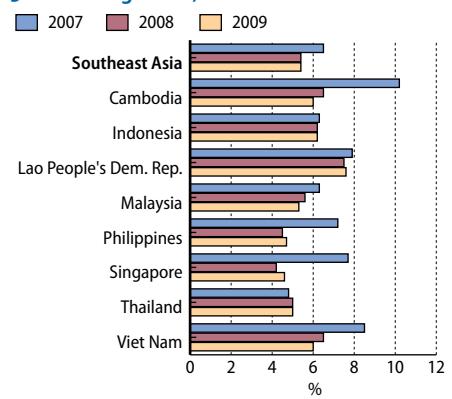
Subregional assessment

Aggregate GDP growth in Southeast Asia is now expected to decelerate to 5.4% in 2008, somewhat lower than 5.7% rate projected in *ADO 2008*, and significantly slower than the 6.5% growth achieved in 2007 (Figure 3.1.10). The impact on economic growth of the weaker external environment and sharp increases in fuel and food prices has varied among the countries, according to their economic states before the rise in prices, their dependence on imports of these products, and policy options available to them. Among the larger economies, growth projections for the Philippines, Singapore, and Viet Nam are revised down significantly. The projection for Thailand has not changed, while those for Indonesia and Malaysia are nudged up.

Inflation has accelerated at a faster pace than expected, and inflation forecasts for this year are marked up sharply for the subregion, from 5.7% to 9.4% (more than double the actual rate seen in 2007). Forecasts for all the countries are raised, to rates that are the highest in more than a decade for some. The pace is particularly fast in Viet Nam, where the rise in fuel and food prices added to the expansionary monetary and fiscal policies in the last several years.

The external current account surplus as a share of subregional GDP is now projected at 4.7%, revised down from 5.8% in *ADO 2008*.

3.1.10 GDP growth, Southeast Asia



Sources: Asian Development Outlook database; staff estimates.

[Click here for figure data](#)

The surpluses in Indonesia and Thailand are projected to be narrower, the former because of strong domestic demand as well as higher costs of imports, the latter on large import requirements for fuel. In the Philippines, weak electronic exports, in addition to large fuel and food imports, have contributed to a downward revision to the current account surplus. Viet Nam's deficit is projected to widen. Its imports in the first half rose strongly in part on expectations of a devaluation of the dong, as well as purchases ahead of impending higher import taxes. In contrast, the surplus has been larger than expected in Malaysia, which has benefited from higher fuel and nonfuel commodity prices.

The variation in economic performance can partly be explained by the countries' dependence on imported commodities. Net exporters of commodities have benefited from the improvement in terms of trade and consequent support to incomes and consumption. Indonesia and Malaysia are net exporters of energy as well as some other nonfuel commodities. Thailand imports fuel, but is a significant exporter of agricultural commodities. Viet Nam turned into a net fuel importer this year as its imports of petroleum products exceeded its exports of crude oil. Like Thailand, it is a large exporter of agricultural commodities. The Philippines is a net importer of both fuel and food.

Indonesia, Malaysia, and to a lesser extent Viet Nam subsidize domestic fuel prices, and these countries provide some form of subsidy for food, especially rice, as well. This has cushioned the impact of higher prices on consumers. However, the increasingly heavy fiscal burden of subsidies, combined with their distortionary effect on efficient use of energy and allocation of resources, prompted these countries to raise domestic prices to align them more closely with international prices.

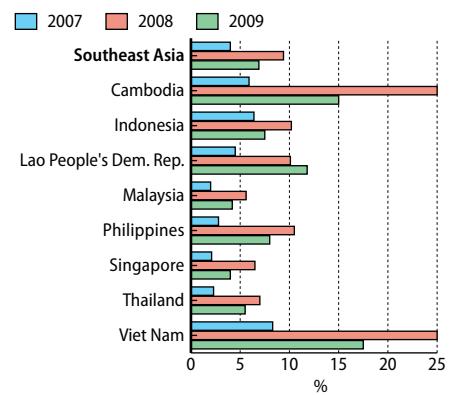
Fiscal policy has been tightened in Viet Nam to reduce demand-side pressure on inflation, and funds have been reallocated from administrative and capital expenses toward food subsidies and assistance to the poor. In Indonesia, where the cost of fuel subsidies has climbed, spending on social and development programs has been squeezed so as to meet fiscal targets. Malaysia's fiscal deficit is set to widen this year with an increase in subsidies, while Singapore recorded a larger surplus in the fiscal year ending March 2008 than initially projected. In the Philippines and Thailand, higher receipts from import tariffs and taxes (including those on fuel), have helped finance some of the assistance to the more vulnerable segments of the population. Monetary policy has been tightened in all the larger countries except Malaysia. Reflecting the intensity of inflation pressures, the extent of the tightening is most severe in Viet Nam, followed by Indonesia, Philippines, and Thailand.

Subregional prospects

Next year's subregional growth forecast is marked down to 5.4% from 6.0% in *ADO 2008* as the rise in consumer prices, as well as generally tighter monetary policies, damp spending growth. Downward revisions are substantial for the Philippines, Singapore, and Viet Nam.

The inflation forecast is revised up from 4.7% in *ADO 2008* to 6.9%. Inflation is generally expected to moderate from levels reached this year (Figure 3.1.11). Tighter policies to restrain demand, particularly in

3.1.11 Inflation, Southeast Asia



Sources: *Asian Development Outlook* database; staff estimates.

[Click here for figure data](#)

Viet Nam with evidence of demand-side pressures, should help suppress inflation pressures.

The current account surplus is projected at 5.1% of GDP next year, trimmed from 5.5% in *ADO 2008*. Surpluses are revised up for Indonesia and Malaysia, and Viet Nam is now expected to post a narrower deficit. Narrower surpluses are projected for the Philippines and Singapore (Figure 3.1.12). Thailand is now forecast to record a deficit.

Country highlights

Indonesia

The economy is on track to achieve 6.2% growth this year, slightly higher than projected in *ADO 2008*. Growth has been broad-based, with private consumption and fixed investment recording healthy increases, and a modest contribution from net exports. On the supply side, investments in the plantation sector and favorable weather benefited agriculture. Industry slowed in the first 6 months however, reflecting low investment in manufacturing, rising wages, and inflexible labor laws. Services continued to provide the main impetus to growth. Next year, growth is forecast to remain at 6.2%, supported by higher government spending and somewhat firmer consumption as inflation subsides.

The current account surplus is expected to fall to 1.1% of GDP in 2008, more than projected in *ADO 2008*. While exports rose strongly with help from higher commodity prices, imports rose even faster with the increase in import prices and sturdy domestic demand. The surplus is forecast to rise to 1.7% of GDP next year.

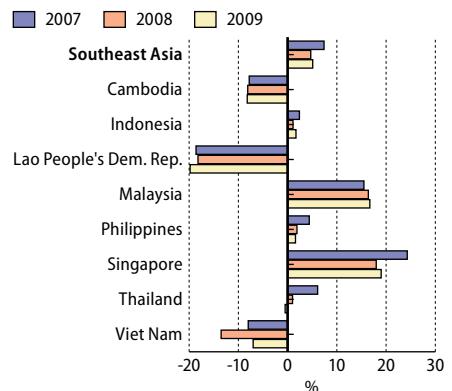
Inflation has accelerated to well above the 4–6% target set by the central bank, driven by high food and energy prices as well as strong domestic demand. Administered fuel prices were increased in May to reduce fiscal pressures from fuel subsidies. Leaning against inflation, the central bank raised its policy rate by 125 basis points in May–September. Inflation is expected to average 10.2% this year, before slowing to 7.5% in 2009 (both revised up from *ADO 2008*).

With subsidies likely to increase to almost 30% of government expenditures, even after the hike in fuel prices, some social and capital spending has been scaled back to meet the budget deficit target. The Government increased food subsidies and provided cash assistance for the poorest households.

Malaysia

GDP growth has slowed more moderately this year than expected. Higher international prices of commodities have improved the terms of trade, supporting incomes and demand. An accommodative monetary policy and expansionary fiscal policy have also supported growth. Private and public consumption remain strong, reflecting the effect of higher commodity prices on rural incomes, stable labor markets, the rise in civil servants' salaries in July 2007, spending on March elections, and declining real interest rates. Fixed investment, however, rose modestly in the first 6 months because of economic and political uncertainties. GDP growth this year is forecast at 5.6%, revised up slightly. With the external environment remaining soft, more moderate commodity prices, and

3.1.12 Current account balance, Southeast Asia



Sources: *Asian Development Outlook* database; staff estimates.

[Click here for figure data](#)

limited room for a fiscal stimulus, growth next year is now projected to decelerate to 5.3%.

The current account surplus for this year and next is projected to be wider than previously expected, largely reflecting the positive effects of higher prices on exports of commodities such as natural gas and palm oil.

Inflation has accelerated significantly faster than projected in *ADO 2008* on higher prices of food and fuel. The Government raised prices of gasoline and diesel in June to reduce the cost of subsidies. Bank Negara Malaysia has kept its policy rate unchanged to August, expecting slower economic growth to temper inflation. There is so far little evidence of a spillover of fuel and food prices into general inflation. The inflation forecast is raised to 5.6% this year and to 4.2% in 2009.

Philippines

Economic growth this year is projected at 4.5%, downgraded from 6.0% in *ADO 2008*. The economy has been hurt by the sharp increase in global food and fuel prices and the deceleration in global growth, since it relies heavily on imports of fuel and food to meet domestic needs. High prices, coupled with weak consumer sentiment, have damped consumption spending in spite of strong growth in remittances from overseas workers. Export growth has weakened, partly reflecting the country's dependence on electronic products and the downtrend in the global technology cycle. Growth in 2009 is now forecast to remain moderate at 4.7% on weakness in external demand, but supported by remittances and higher government expenditures.

Inflation is projected to be higher than in *ADO 2008* for this year and next. The Government does not subsidize fuel, except for a modest subsidy on diesel for public transport. Rice, however, is subsidized. Core inflation, which strips out unprocessed food and fuel, has also risen suggesting that inflation pressures have broadened. The central bank raised its policy rates in June–August to stem inflation, which is now projected to reach 10.5% this year before moderating to 8.0% in 2009.

The current account surplus is projected to be smaller in 2008 and 2009 than previously expected. A combination of weak exports together with rising fuel and food imports has contributed to a larger trade deficit. Remittances, and to a lesser extent revenues from business process outsourcing, have supported the current account.

Higher prices of fuel and food reversed some of the gains in poverty reduction achieved in the last few years. The Government is using higher receipts from value-added tax on petroleum products to fund cash transfers and subsidies to protect the poor from falling deeper into poverty.

Singapore

Growth in the first half of this year decelerated sharply to 4.4% from 7.7% in full-year 2007. Among the major sectors, manufacturing growth slowed, with a contraction in the second quarter, mainly reflecting weaker external demand for pharmaceutical and electronics products. Trade, financial services, and construction also slowed from their cyclical peaks last year, but continued to expand significantly. Transport and storage showed sustained growth as shipping-container throughput continued to

rise at double-digit rates. Increases in employment contributed to growth in private consumption, and fixed investment remained strong. Domestic demand is likely to slow with a deterioration in terms of trade and softness in labor markets, but it should be supported by a modest fiscal stimulus and ample domestic liquidity. GDP growth is now projected at 4.2% this year, compared with 5.2% in *ADO 2008*, before picking up modestly to 4.6% in 2009 (also revised down).

Inflation accelerated to 7.5% in the second quarter and averaged 7.1% in the first 6 months, reflecting higher prices of food, fuel, and housing. Price pressures are likely to moderate as economic growth slows. The effect of an increase in the goods and services tax in July 2007 should also taper off starting in the second half of this year. Commodity prices are expected to increase at a slower rate next year, and the authorities' maintenance of the policy to allow a gradual appreciation of the Singapore dollar's nominal effective exchange rate is forecast to damp imported inflation. This year, inflation is projected to average 6.5%, up from 5.0% expected previously, before moderating to 4% in 2009.

The current account surplus declined sharply in the first 6 months of 2008, although at 15% of GDP, it remains large. The lower surplus reflects primarily movements in the trade surplus. Non-oil domestic exports, which account for about three fourths of domestic exports, contracted. Imports, in contrast, rose by 21%, partly a result of a 5% rise in import prices. External demand is expected to remain soft into next year. However, the likely slowdown in imports in line with softer exports and domestic demand should support the current account surplus at around 18–19% of GDP this year and next.

Thailand

Growth has decelerated over the course of the year as rising political tensions undermine business and consumer sentiment. GDP is projected to expand by about 5% this year and next, but the forecasts are subject to strong downward risks because of the political uncertainties. The 2009 forecast is revised down slightly on expected sluggish global trade and higher domestic interest rates.

Inflation has risen faster than expected in *ADO 2008*, reaching an 11-year high of 9.2% in July before easing in August. Producer prices increased at a much faster pace, so inflation pressures are likely to persist. The central bank raised its policy interest rate by 25 basis points each in July and August to 3.75%. Inflation is now projected at 7% this year, revised up from 4% in *ADO 2008*, before moderating to 5.5% in 2009.

The current account surplus is forecast to narrow to 1% of GDP, from 3% projected in *ADO 2008*, as the boost to agricultural exports from higher prices is offset by the rise in the value of fuel imports. Export growth is expected to ease in 2009. At the same time, public infrastructure investment should pick up, if the political environment allows. That will contribute to growth in imports and a larger trade deficit. Tourism receipts will also be dented by the political uncertainties and travel warnings. The current account next year is forecast to turn a small deficit, the first in 4 years.

To mitigate the impact of inflation on the poor, the Government released stocks of rice at low prices, eliminated excise tax on gasoline

and diesel, and cut or eliminated charges on some utilities and public transportation for 6 months from August. The fiscal deficit is expected to widen to 2.4% in 2009, from about 1.8% this year, if government spending increases as planned.

Viet Nam

The growth projection for this year is revised to 6.5% from 7% in *ADO 2008*. Government anti-inflation measures have restrained rapid growth of investment and halted expansion of construction activity. These measures are likely to continue into 2009, and external demand is expected to soften, trimming GDP growth to 6%, also less than previously projected.

The current account deficit is seen widening significantly this year to 13.5% of GDP, compared with 10% forecast previously. Exports rose at a robust 32% in the first half, as higher commodity prices more than offset the decline in volume of oil and some other products. Imports surged by 60%, reflecting higher purchases of petroleum products and precautionary imports on impending higher tariffs on some goods and expectations of currency devaluation. The 2009 current account deficit is forecast to be narrower than this year's gap and than the *ADO 2008* projection. Export growth is likely to moderate on declining oil output and soft external demand, but the rise in imports will also decelerate as aggregate demand softens and imports of oil decrease.

Inflation this year is now expected to hit 25%. Price pressures intensified in the first half, driven by loose monetary and fiscal policies in the past several years, higher global prices for fuel and food, as well as some shocks to agricultural production. The Government subsidizes domestic fuel prices, but these were raised in July to reduce the burden on fuel importers and the budget. A depreciation of the dong also added to inflation pressures.

The State Bank of Viet Nam has implemented increasingly stringent measures to combat inflation and restore macroeconomic stability. Fiscal policy has also tightened, and investment by state enterprises has been pulled back. At midyear the economic situation started to improve. The anti-inflation measures are projected to bring down inflation to 17.5% in 2009, but still higher than forecast in *ADO 2008*.

The Government has raised the allocation for assistance to poor households to cope with the effects of higher inflation.

Other economies

Cambodia

The near-term economic outlook has deteriorated as a result of weaker growth in the US (the main market for Cambodia's garment exports), higher fuel and non-fuel commodity prices, and continued US dollar weakness. Clothing exports to the US have increased only slightly this year and exports to the European Union have contracted. Construction activity appears to be slowing. Robust tourism and a good rice harvest support growth, now forecast at 6.5% for 2008 and 6% next year, both revised down from *ADO 2008*.

The forecasts for the current account are revised to slightly narrower deficits this year and next compared with *ADO 2008*. Exports are

expected to remain weak, although imports are also likely to rise at a slower pace. Inflows of foreign direct investment and aid are seen keeping the overall balance of payments in surplus.

Inflation is widely believed to have accelerated this year, although official data have not been published, pending a revision to the method for calculating the consumer price index. Higher prices for domestically produced food have contributed to rising inflation. The 2008 inflation forecast is raised sharply to 25%, and the 2009 forecast to 15%. The authorities have implemented measures to restrict credit and absorb liquidity emanating from a rise in foreign exchange reserves, including restrictions on bank credit to real estate, an increase in the minimum reserve requirement for banks, and less restrictive controls on capital outflows.

There are indications that higher inflation, especially of food prices, has set back efforts to reduce poverty. Preliminary evidence suggests that as many as 2 million people may have slipped below the poverty line, in addition to 4.5 million already in poverty. The Government is implementing emergency food assistance and targeted support to farmer groups with subsidized seeds and fertilizer, among other measures, to increase output and protect the poor.

Lao People's Democratic Republic

GDP growth projections for this year and next are revised down slightly to 7.5% and 7.6%, respectively, from *ADO 2008*. Exports have weakened on the back of a softer external environment. The country continues to benefit from construction of large hydropower and mining projects, and the new Phu Kham copper and gold mine is already contributing to growth. Tourist arrivals are expected to increase by 12% this year.

Current account deficits are expected to be wider than projected in *ADO 2008*, primarily reflecting weaker exports, imports to build hydropower and mining projects, and higher fuel import costs. Significant inflows of foreign direct investment for the projects, as well as official development assistance, finance the deficit. International reserves increased to \$711 million, or about 5.6 months of imports, as of May 2008.

The central bank has allowed the kip to appreciate against the Thai baht and the US dollar to contain imported inflation. Broad money supply has grown rapidly, reflecting increased net foreign assets in the absence of effective policy instruments to sterilize these inflows. Inflation projections are revised up to 10.1% this year and 11.8% for 2009. The impact of higher food prices on poverty is mitigated by the significance of the subsistence economy. Rice, for example, is produced mainly for own consumption, insulating consumers from the potential adverse impact of higher international rice prices.

Myanmar

Cyclone Nargis in early May caused large-scale casualties, with an official death toll of 84,000, 54,000 people listed as missing, and 19,400 injured. The disaster caused widespread destruction to homes and infrastructure. Industrial sites, agricultural land, salt farms, and fishing vessels also suffered extensive damage. The total value of damages and lost output is estimated at about \$4.1 billion.

In spite of the high human costs, the cyclone is expected to reduce GDP growth modestly. The economic losses are estimated to be about 2.7% of the officially projected GDP in 2008. Inflation was estimated at around 37% in 2007. The damage may further increase inflation pressures, and reconstruction will put upward pressure on demand for labor and construction materials. The expenditure impact of the cyclone will also add to fiscal pressures from high oil and food prices.

The cyclone is likely to increase the country's import bill and may hurt some exports, particularly shrimp. Higher imports are likely to be offset by increasing revenues from natural-gas exports. Such revenues have supported a rising current account surplus, which in 2007 was estimated at \$1.1 billion. The current account is expected to continue to stay in surplus, contributing to larger international reserves.

The Pacific

Subregional assessment

The aggregate growth projection for 2008 is revised up from that made in April in *ADO 2008* by almost half a percentage point, to 4.8% (Figure 3.1.13), mainly because of stronger than expected growth in resource-rich Papua New Guinea and Solomon Islands. Their upgraded growth projections more than offset a downgrade in the outlook for six of the 14 Pacific developing member countries attributable to the loss in spending power caused by higher oil and food prices. The projected subregional growth of 4.8% would be the highest since the mid-1990s.

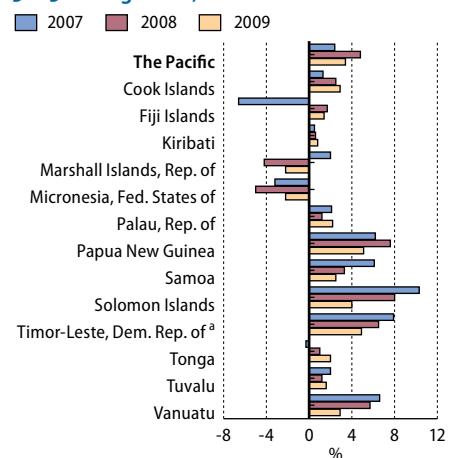
Higher global oil and food prices have led to an upward revision in inflation projections for all the Pacific economies. The forecast for subregional inflation this year is raised to 8.7% from 5.0% in *ADO 2008*, even though some countries have adopted measures to suppress the rise in consumer prices, from the sale of subsidized rice to price restraints on government-owned electricity utilities.

The rise in world oil prices poses greater economic and social risk than the rise in food prices. High transport costs arising from remoteness and the dependence on diesel in electricity generation mean that petroleum products account for a larger share of national expenditure than imported rice and wheat. Moreover, there is little potential to substitute other fuels for imported petroleum products, while in most Pacific islands the local foods (such as sweet potato, cassava, taro, breadfruit, and bananas) provide substitutes for imported rice and wheat.

Higher prices for food and other essentials are seriously hurting vulnerable groups, who need assistance. An earlier estimate by the Asian Development Bank that an additional 5% of the population of some Pacific nations could fall into poverty this year now appear conservative. Those living in urban squatter settlements, those lacking their own fertile land, and those living in remote areas are the most exposed.

Impacts are likely to be most severe in the harsh environments of the atolls, notably in Kiribati, Republic of the Marshall Islands, and Tuvalu. Efforts to adjust to the higher prices, such as by reducing the oil intensity of the economies and by raising local food production, also need to be stepped up.

3.1.13 GDP growth, The Pacific



^a Non-oil, non-United Nations GDP.

Sources: *Asian Development Outlook* database; staff estimates.

[Click here for figure data](#)

Subregional prospects

Aggregate growth is expected to slow to 3.4% in 2009, little changed from the ADO 2008 forecast. Growth projections for Papua New Guinea and Solomon Islands for 2009 are upgraded from April, but both countries are still expected to expand at a slower pace than this year. The rise in inflation has damped economic prospects in other Pacific economies. Subregional inflation is projected to remain high at 6.4% in 2009 (Figure 3.1.14), up from the earlier projection of 4.0%.

Whether even these subdued projections can be achieved depends on how well the countries respond to elevated oil and food prices. The subregion's limited capacity to improve the implementation of public policy and the sometimes extensive operations of governments were under strain even before the price shocks. The high prices will further test the capacity to reach consensus on new directions (such as adopting social safety nets for the disadvantaged, helping the adoption of energy-efficient lighting, and prioritizing agricultural extension services and rural infrastructure) and to mobilize the resources needed to implement new initiatives (such as by reducing civil service wage bills to fund social safety nets).

Past difficulties of achieving cost savings in government operations to fund new initiatives suggest that the private sector will need to share some of the responsibility for a response to high prices. Policies that have the potential to help resolve these challenges include increased competition in infrastructure that could lower fares and charges, and private sector engagement in energy conservation and renewable energy projects.

Australia's adoption in August 2008 of a seasonal employment scheme for a total of 2,500 workers from Kiribati, Papua New Guinea, Tonga, and Vanuatu offers new income-earning prospects for the subregion in 2009. The scheme, which will operate on a pilot basis for 3 years, follows a similar one operated by New Zealand, and acts to build on the already important economic contribution made by remittances and overseas work.

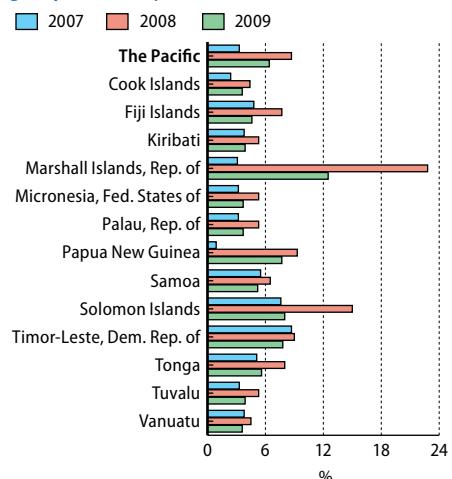
Country highlights

Fiji Islands

A moderate economic recovery has continued and the GDP growth projection for 2008 is upgraded marginally to 1.7%. Tourist arrivals have picked up (by 14.5% in the first 5 months of this year), although fare and accommodation discounts adopted to attract tourists will keep revenues flat. Political uncertainty following the December 2006 military coup continues to suppress business confidence. Fiscal policy has tightened slightly, with a small surplus of 1.4% of GDP recorded over the first 3 months of 2008.

Commercial bank lending to private businesses rose by 7.7% in the 12 months to May, half the rate recorded a year earlier. Business surveys point to a weakening in business confidence in the first half of 2008, while the number of new registered taxpayers showed a year-on-year decline of 11.0% as of June. Personal remittances in the first 5 months of 2008 were down 22.3% from a year earlier, a continuation of the downward trend evident in 2007. Contributing factors are likely to be the lower US dollar, weakening in the US labor market, a rising cost of living

3.1.14 Inflation, The Pacific



Sources: Asian Development Outlook database; staff estimates.

[Click here for figure data](#)

in remitting economies, and a reduced presence of Fiji Islands' security personnel in the Middle East.

Merchandise exports rose by 24.2% in the 5 months to May 2008. The robust showing was led by a rise in exports of sugar and mineral water. These gains were overshadowed by a rise in merchandise imports, due in part to high oil prices, and the trade deficit widened. Reserves were 3.9 months of import cover as of end-July.

High oil and food prices have put added pressure on communities already suffering from a lack of jobs and low growth in incomes. The interim Government that was installed after the coup responded to the high prices with a package of fiscal measures aimed at providing immediate relief, including the removal of duty and value-added tax on many basic food items, increases in the tax-free income threshold, and subsidies to bus operators. Nevertheless, inflation rose to 5.9% by June 2008, with the food subgroup reporting a 9.4% rise, and transport prices rising by 6.8%. The inflation forecast for 2008 is lifted to 7.7% from the *ADO 2008* projection of 4.6% and the 2009 forecast is revised up by about 1 percentage point to 4.6%.

The Reserve Bank of Fiji maintained a generally tight monetary policy stance, given pressures on foreign reserves and the rise in inflation. A credit ceiling on commercial banks remains in place, although provision has been made for special approvals of loan requests to priority sectors to ease the impact of the ceiling. However, in an effort to keep import prices down, the central bank allowed commercial banks to enter into forward foreign exchange contracts with local importers of food staples to hedge against future price increases.

The GDP growth projection for 2009 is lowered slightly to 1.4%, from 1.6%. The interim Government postponed elections initially intended for March 2009. This decision is expected to further erode investor confidence, constrain assistance from development partners, and add to the impetus for skilled labor to emigrate.

Papua New Guinea

This economy continues to benefit from high export prices for oil, minerals, and tropical agricultural products. The GDP growth forecast for 2008 is upgraded from 6.6% to 7.6%. Nonmining and non-oil GDP growth is projected at 7.1%, up from an initial projection of 6.5%. The growth upgrade is driven mainly by the higher prices of exports. There has also been a notable increase in construction activity as new mines develop, while improved world prices for tree crops, such as cocoa and copra, have boosted household incomes and spending in many rural areas. Higher levels of government expenditure and continued growth in private sector credit have also supported economic expansion.

The strength of domestic demand was evident in a further rise in lending to the private sector, of 35.3% in the year to June 2008. Strong demand is raising formal private sector employment, which rose by 8.4% over the 12 months to March 2008. The fiscal operations of the national Government for the 5 months to May 2008 show an overall budget surplus of 1.6% of GDP, reflecting higher revenues (particularly from mining and oil) that more than offset higher expenditures.

Longer-term prospects received a boost in May 2008 when the

Government signed an agreement with developers of a proposed liquefied natural gas (LNG) project. If the developers proceed, LNG production could begin in 2014 and has the potential to double GDP, albeit at the potential expense of agriculture (because the LNG exports are likely to result in an appreciation of the real exchange rate and reduce the competitiveness of agriculture).

The high oil and food prices have hit vulnerable groups, particularly those living in squatter settlements in urban areas and rural households that lack surplus agricultural produce for sale. Moreover, a landslide blocked road access to the Highlands region for several weeks from mid-April, which caused food shortages for over a quarter of the country's population.

The Government has sought to ease the impact of high prices by reducing or removing taxes on petroleum products, but so far has declined public calls for fuel subsidies, given their adverse effect on fiscal sustainability. Nevertheless, inflation is projected to rise to 9.3% in 2008, well up on the *ADO 2008* projection of 5.2%. This significant revision reflects both an increase in external and internal price pressures stemming from the high oil and food prices, and higher domestic demand pressures from the commodity price boom. These factors are projected to keep inflation higher than originally projected in 2009, at 7.7%.

After a near 50% rise in the US dollar value of official reserves in 2007, they have stabilized in 2008. At end-May, gross international reserves were sufficient for 10.3 months of total import cover and 15.2 months of nonmineral import cover. The current account surplus for 2008 is projected at 1.7% of GDP.

GDP growth is forecast at 5.1% for 2009, with nonmining and non-oil GDP expected to grow by 4.8%. The upgrade in the overall growth projection from 4.6% is based on expectations that prices for exports will be stronger than forecast in *ADO 2008*. The Ramu nickel-cobalt mine and the Hidden Valley gold mine are scheduled to start production in late 2009. Initiatives by the Government to rehabilitate and develop infrastructure, drawing on its surge in mining and oil revenues, will support growth.

Democratic Republic of Timor-Leste

The economy has continued to recover from the widespread civil unrest of 2006, which was triggered by tensions within the security forces. Most internally displaced persons, who accounted for as much of 10% of the population in 2007, have returned to their homes.

The value of the country's Petroleum Fund, established to hold income from offshore oil and gas production for future generations and to provide a permanent stream of revenues to the government budget, increased by \$1.3 billion in the first 7 months of 2008 to \$3.3 billion. A midyear supplementary budget more than doubled the Government's budget contribution to \$773 million, an allocation that for the first time exceeded the sustainable income of the Fund.

This increase in planned expenditure, presented as a step to avoid civil instability and to foster development, raised concerns that the savings held in the Fund might be insecure. Rapid spending of the savings is seen as having the potential to create the "resource curse"

evident in many resource-rich countries. Doubts were also expressed as to whether the Government could indeed spend the additional funds effectively, as recent budgets have been substantially underspent because of tight capacity constraints.

Some of the additional expenditure is to be used to create an economic stabilization fund. In response to the rise in world rice prices, the Government has acted as a buyer and seller of rice at subsidized prices, and this policy is to be extended via the new fund. However, the policy is likely to inhibit the nascent formal business sector from rice trading, and to suppress the price of basic foods, which reduces farmers' incentives to raise production. There is also a concern as to how to help those who are so cash poor that they cannot afford even subsidized rice.

The economy is on track to reach the *ADO 2008* growth projection for non-oil GDP of 6.5%. The corresponding growth projection for 2009 remains at 4.9%, although this is likely to be exceeded if the Government manages to spend the additional withdrawals planned from the Petroleum Fund.

Even with the benefit of rice subsidies, food price inflation was 13.8% in June and the overall rate was 7.0%. Sales taxes and import duties were both reduced and a sales tax on hotel, restaurant, bar, and telecommunications services was lowered. Nevertheless, inflation is projected at 9.0% in 2008, up from *ADO 2008*'s 7.0% forecast because of the higher than expected oil and food prices, and is revised up to 7.8% for 2009.

Other Pacific economies

Samoa

GDP growth is now projected at 3.3% in 2008, revised up from 3.0% in *ADO 2008*. Private remittances rose by 16% in the 12 months to June 2008, and tourism revenues increased by an estimated 6% over the period, both suggesting that growth will be a little higher than was forecast.

Prices of local goods continue to rise sharply, mirroring the jump in prices of imported food items such as rice, flour, and milk. High food and oil prices and an expansionary budget that is generating inflation pressures have led to an upward revision in the inflation forecast for 2008 to 6.5% and for 2009 to 5.2%. The GDP growth projection for 2009 is trimmed to 2.5%.

Samoa's umbrella body for nongovernment organizations has called for fuel subsidies, but the Government favors a longer-term response, which focuses on developing public infrastructure, health, and education. The central bank has urged commercial banks and government lending agencies to reduce loan interest rates and to emphasize lending for business development that could increase supply.

Solomon Islands

The GDP forecast has been raised to 8.0% for this year, from 6.0% in *ADO 2008*. This follows the uprating of production forecasts by the central bank for all major export commodities. Log exports are now projected to increase by over 10% in 2008, fish output by nearly 30%, palm oil production by around 40%, and copra production by 30%. Modest growth in cocoa production is also expected. However, the strong

expansion in logging is unsustainable because the forest resources are nearly exhausted.

Inflation has also been stronger than expected, hitting 18% in August. Pressures appear widespread, but are particularly acute for imported food and fuel. The inflation forecast for 2008 is revised up to 15%, reflecting the accelerating inflation so far this year and strong economic growth. In the first half of the year, the Government eliminated duties and taxes on rice and encouraged the substitution of local root crops for rice. It is also planning a program to raise domestic rice output.

External reserves and import cover have fallen significantly since end-2007, largely as a result of a higher import bill. External reserves came down from the equivalent of about US\$118 million at end-2007 to US\$104 million in July, and import cover from over 5 months to around 3 months over the same period.

A decline in logging rates is expected to slow overall economic growth from 2009. The GDP growth forecast for next year has nevertheless been revised up to 4.0% because of an upgrade in forecasts for fisheries and agriculture. The inflation forecast for 2009 is increased to 8.0%, reflecting higher forecasts for growth and commodity prices.

Tonga

This economy is on track to meet the 1.0% growth forecast for 2008, after contracting by 0.3% in 2007 (revised from a 3.5% contraction reported in *ADO 2008*). Reconstruction work needed for sections of the central business district damaged during riots in November 2006 is supporting growth. Tourist arrivals are projected to increase by 10% in 2008, and the National Reserve Bank of Tonga has adopted an expansionary stance by lifting credit ceilings and by reducing bank-reserve requirements. Growth of 2.0% is still forecast for next year.

The inflation forecasts for 2008 and 2009 have been revised up to 8.0% and 5.6%, respectively, a result of high oil and food prices and Tonga's heavy import dependence. As an immediate response to high prices, the Government removed some import duties. Even then, inflation accelerated to 12.0% in March 2008.

Vanuatu

Developments in 2008 are in line with the *ADO 2008* forecasts for growth of 5.7%. Commercial bank lending to the private sector rose by 29.0% in the 12 months to June. Demand for credit was particularly strong for construction and for house purchases, but lending to the tourist sector declined by 18.3%. Tourist arrivals rose by a moderate 5.4% in the first 5 months of the year. The growth projection for 2009 is lowered to 2.9%, given the erosion of consumer spending power by high prices.

The current account deficit has remained wide as merchandise imports greatly outweigh merchandise exports. However, Vanuatu has built up its foreign exchange reserves (US\$125 million at June 2008, up 15.1% from a year earlier) largely because of foreign investment in real estate and finance. Import cover in the first half of the year remained high at around 8 months.

The forecast for inflation is revised up to 4.5% this year and to 3.6% in 2009, reflecting high oil and food prices. Inflation has picked up over

the past year but remains relatively low compared with that in other subregional economies (it was 3.9% in the second quarter of 2008).

Others

The economy of Nauru is still expected to contract by 2.4% this year. The Australian refugee-processing center, which had generated some jobs and demand for support services, was closed in March. Phosphate exports are running at around 500,000 metric tons a year and world phosphate prices have risen, but the gains for Nauru are limited by contractual arrangements that locked in prices at lower levels. GDP growth is expected to resume at 1.5% in 2009 (a continued contraction was forecast in April), supported by higher phosphate prices as new contracts come into force and by official assistance to which the Government of Australia has committed itself. Food prices have increased in line with those in Australia, its major supplier, and by June were 4.0% higher than a year earlier. The inflation forecasts are raised to 4.5% for 2008 and 4.0% for 2009.

The Republic of the Marshall Islands declared a “state of economic emergency” on 3 July 2008 to address problems caused by soaring inflation, now projected at 22.8% this year. This declaration aims to fast-track a reduction in energy usage and hence the demand for imported oil. Government cost-cutting measures were implemented and appeals made to donor countries and regional lending agencies for financial support. The rapid rise in inflation is projected to cause the economy to contract by 4.2% in 2008 and by 2.2% in 2009, compared with previous forecasts of slight GDP growth.

Rising costs of fuel and transportation have also reduced spending power in the Cook Islands. The GDP growth forecasts for this year and next are revised to about 2.5%, down about 1 percentage point from *ADO 2008*. High fuel prices largely account for the increased inflation forecasts for 2008 and 2009, of 4.4% and 3.6%, respectively.

The economic outlook remains weak in import-dependent Federated States of Micronesia, Kiribati, Palau, and Tuvalu, where sharp increases in fuel prices have pushed up inflation. The economy of the Federated States of Micronesia in 2008 is expected to contract more than was expected in April. Its Government is promoting the use of local food instead of imported rice, meats, and canned food. Budget pressures have intensified in Kiribati, with debts of public enterprises rising, particularly at the electricity utility. In Palau, uncertainty surrounding the outcome of negotiations with the US on its soon-to-expire financial assistance package continues to damp the economy. Tuvalu is facing increasing subsidy demands from public enterprises; for example, the direct subsidy to the electricity corporation in 2008 is expected to be triple that in 2007.

Growth projections for these smaller Pacific countries have been revised down, mainly because high prices, notably of oil, have accelerated inflation and eroded consumer spending power. Inflation forecasts are revised up.

Bangladesh

Economic growth and the current account surplus were close to earlier projections as the economy showed resilience in recovering from natural disasters. However, inflation and budgetary pressures grew. The caretaker Government that was appointed when parliamentary elections were postponed in January 2007 has undertaken economic reforms, pursued a marked anticorruption effort, and has pushed through important electoral reforms in preparation for elections expected by end-2008. For FY2009, this *Update* maintains the earlier projection for growth, but expects higher inflation and a somewhat lower current account surplus. Future economic performance will depend on the Government's ability to deepen the economic reforms recently started.

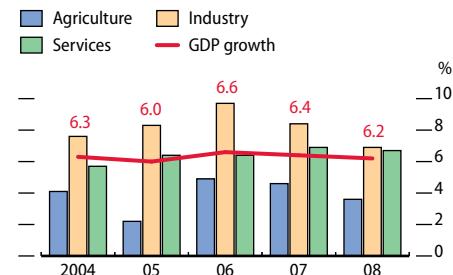
Updated assessment

At an estimated 6.2% in FY2008 (ended June 2008), GDP growth was slightly lower than the preceding year (Figure 3.2.1) but slightly above the projection of 6.0% made in *Asian Development Outlook (ADO 2008)* of April this year, which sought to take into account the effects of natural disasters in the first half of the fiscal year. The *aman*, the second most important rice crop, was severely damaged by floods and a cyclone, and its output declined by 10.9% to 9.7 million tons in FY2008 from a year earlier. In the second half of FY2008, agriculture and services performed better than expected and contributed to recovery. Agriculture's full-year growth of 3.6% was mainly due to a bumper *boro* (spring) rice crop helped by good weather and timely government support to farmers.

Services grew by 6.7%, aided by an expansion in transport and storage, in mobile phone services, and in wholesale and retail trade. Industrial growth rebounded in the second half of FY2008, driven by a surge in garment exports and a rise in private sector credit. A slump in garment production and exports in the first half of the fiscal year stemmed from buyers shifting orders to other countries (following labor turmoil in Bangladesh that disrupted shipments in FY2006), and from higher raw material import costs. Full-year industrial growth of 6.9% was lower both than a year earlier (8.4%) and than the *ADO 2008* projection of 8.7%, as the lost ground was not recovered.

Power shortages have increasingly blocked industrial expansion, and therefore the country crucially needs a large expansion in generation capacity, as well as an upgrading of transmission and distribution networks. More immediately, power supply is likely to improve somewhat in FY2009 with several public and private sector projects coming on stream. Industrial growth was also restricted by lower contribution from construction activity as growth fell (to 5.9%) from the prior year on a slowing in private sector investment, the high price of construction

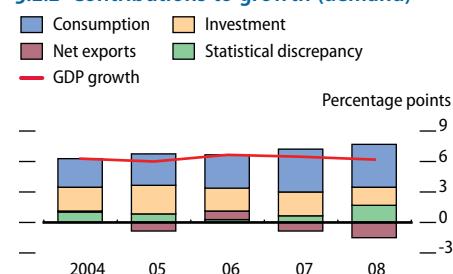
3.2.1 GDP growth by sector



Source: Bangladesh Bureau of Statistics, *National Accounts Statistics*, June 2008.

[Click here for figure data](#)

3.2.2 Contributions to growth (demand)



Source: Staff estimates.

[Click here for figure data](#)

materials, and a downsizing of the Government's Annual Development Program (ADP).

On the expenditure side, GDP growth stayed largely driven by private consumption (Figure 3.2.2), (about 75% of GDP in FY2008), which rose by 6.0%, only marginally faster than a year earlier despite a sharp gain in workers' remittances. Public consumption as a share of GDP declined slightly. However, preliminary estimates of expenditure included a sizable statistical discrepancy, which if reduced in final data, would provide a more comprehensive accounting of factors affecting growth.

A decline in public investment was pronounced (from 5.5% of GDP to 5.0%), reflecting a deep cut in the ADP. Growth in private investment slowed to 7.5% from 12.2% in FY2007, partly because of lingering uncertainty created by the Government's anticorruption drive. Total fixed investment, as a share of GDP, dipped to 24.2% from 24.5% in FY2007, moderating for the second successive year. Foreign direct investment, which was equivalent to about 3% of fixed investment, also fell. After long negotiations, Tata Group of India abandoned, in July 2008, its \$3 billion investment proposal for a package of power, steel, and fertilizer projects in Bangladesh. Declining export volumes of goods and services damped growth more than in the previous year.

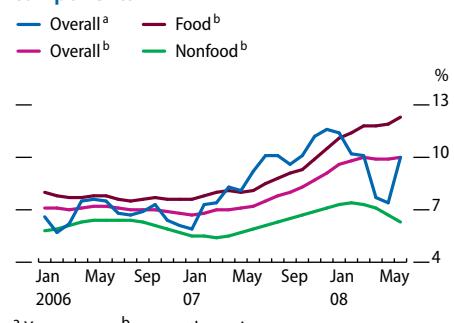
Inflation moved up to 10.0% on a 12-month moving average basis in March 2008 (Figure 3.2.3). Supply-side factors dominated, particularly higher international commodity prices and the shortfall in domestic food grain production (Box 3.2.1). Large spending on flood and cyclone rehabilitation; higher bank credit for agriculture, industry and services; and the rise in demand from the rapid growth in remittances were also factors. In response, among other measures the Government reduced import duties on food items; and for food grain, subsidized sales, lowered the interest rate on import credit, and boosted imports.

In FY2008, Bangladesh Bank, the central bank, continued an accommodative monetary stance permitting strong expansion in credit growth to the private sector. Growth of net credit to the Government rose steadily throughout the year reaching 30.4% in June 2008. Money supply (M_2) growth at 17.6% was higher than the Bank's annual program target of 16% and private sector credit grew sharply at 25.2%, higher than the target of 16% (Figure 3.2.4). Private sector credit largely reflected expansions in the areas of transport and communications, working capital, and consumer credit. Bangladesh Bank aimed at ensuring ample bank credit to the private sector to sustain economic growth, while seeking to keep demand-side pressures broadly in check. It relied on open-market operations, keeping reserve requirements, the liquidity ratio, and the main policy rate (reverse repurchase) unchanged.

Yields on treasury bills rose marginally over the year and banks' weighted average lending rate declined from 12.7% in March 2008 to 12.3% in June 2008, staying positive in real terms (Figure 3.2.5). The weighted average deposit rate of 7.0% remained negative in real terms and the interest spread between lending and deposit rates of the banking system remained high at 5.3 percentage points, reflecting the sector's high administrative costs, institutional inefficiencies, and the burden of nonperforming loans.

Revenue collection in FY2008 jumped to 11.2% of GDP, or

3.2.3 Change in consumer price index and components

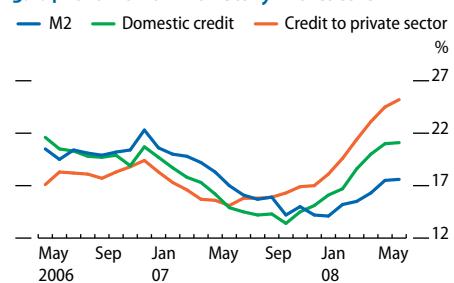


^a Year on year. ^b 12-month moving average.

Source: Bangladesh Bank, *Economic Trends*, available: <http://www.bangladesh-bank.org>, downloaded 15 August 2008.

[Click here for figure data](#)

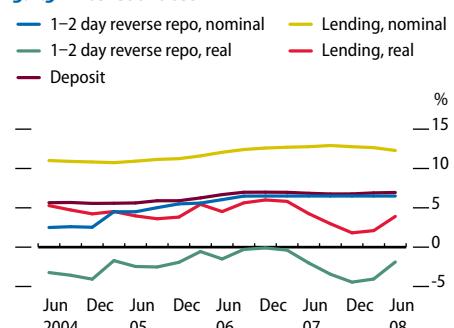
3.2.4 Growth of monetary indicators



Source: Bangladesh Bank, *Economic Trends*, available: <http://www.bangladesh-bank.org>, downloaded 15 August 2008.

[Click here for figure data](#)

3.2.5 Interest rates



Source: Bangladesh Bank, *Economic Trends and Major Economic Indicators: Monthly Update*, July 2008, available: <http://www.bangladesh-bank.org>.

[Click here for figure data](#)

1.0 percentage point of GDP higher than in FY2007. Nevertheless, the revenue-to-GDP ratio remains low, even compared with other South Asian countries, and it continues to constrain a non-inflationary expansion in spending on areas such as infrastructure, which is needed to sustain solid growth. Further reforms in value-added tax (VAT) and income tax laws, simplifying tax procedures, and modernizing tax administration will be needed to mobilize greater revenues.

The good performance in FY2008 resulted from reform-oriented interventions such as identifying large taxpayers, promoting voluntary compliance through creating social awareness, intensive monitoring of tax collection, and one-time measures such as opportunities for declaring legally earned undisclosed income (which started in June 2007). In the FY2009 budget, the opportunity for declaring undeclared legal income has been extended up to 31 October 2008.

On the expenditure side in FY2008—and despite the cut in the ADP—added spending for relief and reconstruction stemming from the natural disasters, expanded safety net programs to counter the impact of the sharp jump in the price of rice, and higher subsidies for fuel and fertilizer raised public spending to 15.9% of GDP, or about 1.2 percentage points higher than had been budgeted. This resulted in the widening of the fiscal deficit to 4.7% from 4.2% originally projected (both excluding assumption of state-owned enterprise [SOE] debt discussed below). Domestic financing of the deficit was 2.3% of GDP (slightly over half from banks) and foreign financing 2.4% of GDP. As ADP downsizing over the past few years has also been due to a lack of implementation capacity, overcoming this constraint as well as boosting domestic revenues will be required to stimulate infrastructure development.

In FY2008, the net losses of all 44 non-financial SOEs more than doubled to an estimated \$769.2 million or about 1% of GDP, primarily reflecting administered prices of products and services, especially fuel, power, and fertilizer (the three SOEs with the largest losses are shown in Figure 3.2.6). Fuel prices were raised in July 2008 (Box 3.2.2), which will help limit Bangladesh Petroleum Corporation losses. But the Bangladesh Power Development Board losses are rising unabated, as no power tariff adjustments have been made since 2007. In April 2008, the Government nearly doubled the prices of natural gas and urea fertilizer; the latter will help limit, to a degree, the losses at Bangladesh Chemical Industries Corporation.

From FY2008, the Government started providing some cash subsidies to SOEs to partly reimburse them for their losses. However, the SOEs' losses will still result in a growing fiscal burden unless the principle of setting cost-reflective prices for fuel, fertilizer, and electricity is adopted.

The trade deficit widened by about 60% in FY2008 to an estimated \$5.5 billion, as the import bill rose much more than export earnings. In the first 7 months of the year, exports showed single-digit growth but rebounded strongly during the remainder of the year posting full-year 15.9% growth, driven by a rise in knitwear exports (Figure 3.2.7). Imports grew by 26.1%, showing a steep rise in the imports of food grains (mainly rice and wheat), other food items, and fertilizer. The robust growth in workers' remittances (of about one third, to \$7.9 billion) offset the higher

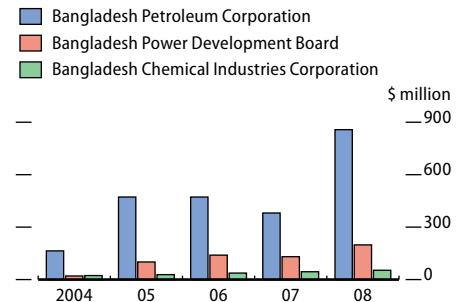
3.2.1 Impact of food price increases

Failure to contain Bangladesh's substantial food inflation could deepen the hardship of the poor and seriously undermine macroeconomic and political stability of the country.

Although the market availability of food grains in FY2008 was higher than needs, high prices—rice and wheat were up by about 50–60% in FY2008—hindered food security for all. The international donor community has, though, agreed to provide a sizable sum in emergency food financing to Bangladesh.

Over the short term, the Government will focus on targeted interventions for protecting the poor and vulnerable from rising food prices. In the medium to longer term, it should aim to improve productivity (by, for example, disseminating modern production technologies; developing rural infrastructure, especially irrigation; and ensuring rural financial services).

3.2.6 Losses at selected state-owned enterprises



Note: 2008 fiscal year figure is as of May 2008.

Source: Ministry of Finance, *Bangladesh Economic Review* 2008.

[Click here for figure data](#)

3.2.2 Fuel price increases

The limited adjustments in administered prices for oil products have resulted in increasing, substantial fiscal and quasi-fiscal costs to the Government in recent years. The bill for oil, all of which is imported, rose by 54.7% to \$3.2 billion in FY2008, widening the trade deficit (although by volume, oil imports declined by 12.7%, from 3.8 million tons to 3.3 million tons). The import bill is projected to rise by 23.6% in FY2009 relative to FY2008.

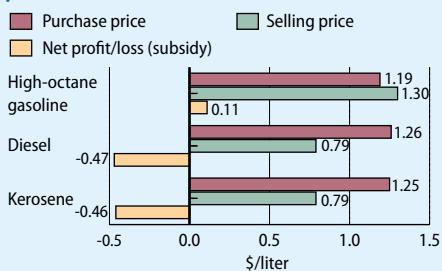
In FY2008, the Government assumed accumulated liabilities of \$1.1 billion of Bangladesh Petroleum Corporation (BPC) owing to losses made in prior years. It also began providing a cash subsidy to BPC in the FY2008 budget of \$775 million to cover its estimated loss for the year, and \$885 million for FY2009.

The Government raised fuel prices by 34–50% from 1 July 2008, sharply cutting subsidies. This will cut BPC losses, but an international price of oil above \$100 a barrel will still generate large losses. After the price hike, based on the average domestic and international prices for July 2008, the implicit subsidy for diesel is \$0.47 a liter and that for kerosene \$0.46 a liter (Box figure).

In the case of octane, there will be a small profit. The increase in prices will boost inflation through raising transportation costs, but will also lead to an adjustment in consumption and help check smuggling of petroleum products to neighboring countries.

The still-high fuel subsidy results in lower spending on social and physical infrastructure, thus undermining the country's long-term growth potential. The Government

Bangladesh Petroleum Corporation's fuel price breakdown



Note: Figures are based on average fuel price in the international market as of July 2008.

Source: Ministry of Energy and Mineral Resources.

[Click here for figure data](#)

should consider adopting a market-based automatic price adjustment mechanism that reflects international prices, which would promote energy efficiency. Targeted support should be provided to the poor (rather than general subsidies).

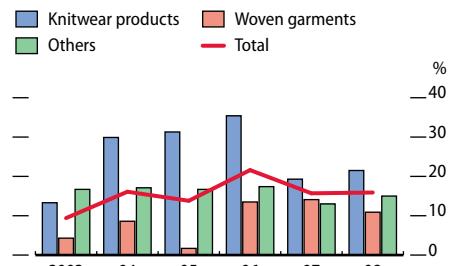
trade deficit and provided for a moderate (estimated) current account surplus of \$0.7 billion, or 0.9% of GDP.

The capital account surplus fell to \$145 million from \$1.3 billion in FY2007, mainly because of sizable net outflows in other short-term loans and trade credit. On 30 June 2008, foreign exchange reserves amounted to \$6.1 billion, rising by \$1.1 billion during the fiscal year, partly reflecting the increase in liabilities of Bangladesh Bank (Figure 3.2.8).

In FY2008, the foreign exchange market remained largely stable, with the taka appreciating by about 0.5% against the US dollar (Figure 3.2.9). In FY2008 the real effective exchange rate depreciated by about 3%, mainly due to higher relative domestic inflation.

The Dhaka Stock Exchange general index rose by 39.6% in FY2008 (Figure 3.2.10). The market capitalization-to GDP-ratio reached 18% in June 2008, up from 10% a year earlier, bolstered by 12 IPOs. But, as investors still must largely depend on bank financing, further strengthening of the capital market is needed.

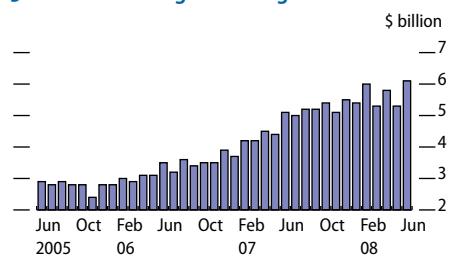
3.2.7 Growth in exports and components



Source: Bangladesh Bank, *Annual Report and Major Economic Indicators: Monthly Update*, available: www.bangladesh-bank.org; both downloaded 17 July 2008.

[Click here for figure data](#)

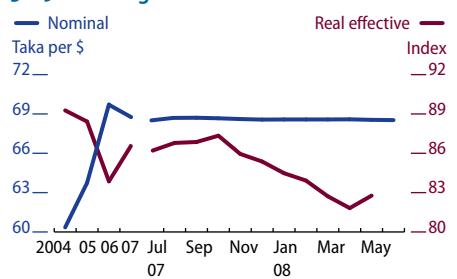
3.2.8 Gross foreign exchange reserves



Source: Bangladesh Bank, *Major Economic Indicators: Monthly Update*, July 2008, available: <http://www.bangladesh-bank.org>.

[Click here for figure data](#)

3.2.9 Exchange rates



Source: Bangladesh Bank, *Major Economic Indicators: Monthly Update*, July 2008, available: <http://www.bangladesh-bank.org>.

[Click here for figure data](#)

Prospects

The FY2009 forecasts are based on several fundamental assumptions. Despite the uncertainty in the lead-up to the planned December 2008 election and its outcome, it is assumed that a smooth transition between governments will be seen. Moreover, it is assumed that the authorities, before and after the transition, will be able to maintain macroeconomic stability (with an emphasis on controlling inflation), to adjust policies for successfully managing the impact of higher commodity prices, to adopt measures for accelerating ADP implementation, and to encourage higher private investment. A final assumption is that adequate external assistance will continue to support public spending for infrastructure and social sector programs.

GDP growth is forecast at 6.5% in FY2009, the same level as in ADO 2008, and slightly higher than the 6.2% outturn in FY2008. Agriculture is expected to grow at 4.0% assuming normal weather, farmers responding to higher market and government procurement prices, and continuation of government programs for inputs, credit, and extension services.

Industry is expected to pick up with further strengthening in business confidence, moving back toward the higher growth path seen in FY2005 to FY2007. For FY2009, industry is expected to post 7.9% growth, reflecting higher growth in export-oriented manufacturing such as garments and textiles, expansion in small and medium enterprises and light engineering, and growth in relatively new sectors such as shipbuilding, which has emerged as a promising export industry in recent years. Services are forecast to grow by 6.8%, slightly faster than FY2008, in step with the pickup in agriculture and manufacturing. Domestic demand expansion will be underpinned by higher consumer spending, aided by growing workers' remittances and strengthening investment spending.

The FY2009 budget adopts an expansionary stance, seeking both to accelerate growth and to protect the poor from the effects of rising prices for food, fuel, and fertilizer. To boost production and investment, it has reduced income tax and import duty rates and has raised the sales threshold for VAT on smaller enterprises. It also provides various tax incentives to stimulate business activity and investment.

On the expenditure side, the budget has expanded safety net programs and introduced new programs with large allocations for a job creation program for the poor. In fact, it earmarks nearly three fifths of spending for direct and indirect poverty reduction activities. It boosted allocations for food subsidies substantially and continued cash incentives for exports. It also significantly raised special development assistance to regions in extreme poverty to address regional disparities in growth and income distribution. To assist farmers in dealing with higher prices for fuel and fertilizer, the budget raised subsidies on these items in an effort to boost food production. Guided by past trends in underutilization, the ADP has been trimmed further.

In FY2009, revenue is projected to decline to 11.1% of GDP from the 11.2% in FY2008, as new tax incentives offset the intensified collection efforts begun in FY2008. Public spending at 16% of GDP will be slightly higher, resulting in a marginally higher deficit of 4.9% of GDP

3.2.10 Dhaka Stock Exchange indicators



Source: Bangladesh Bank, *Major Economic Indicators: Monthly Update*, July 2008, available: <http://www.bangladesh-bank.org>.

[Click here for figure data](#)

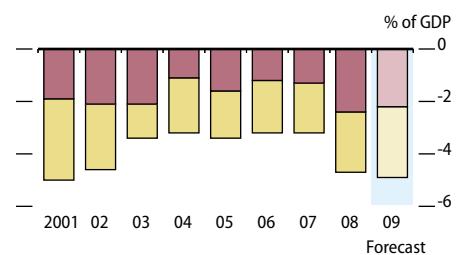
3.2.1 Selected economic indicators (%)

| | 2008 | | 2009 | |
|--------------------------------------|-------------|----------------|-------------|----------------|
| | ADO 2008 | Update 2008 | ADO 2008 | Update 2008 |
| GDP growth | 6.0 | 6.2 | 6.5 | 6.5 |
| Inflation | 9.0 | 9.9 | 8.0 | 9.0 |
| Current acct. bal. (share of GDP) | 0.7 | 0.9 | 1.0 | 0.5 |

Source: Staff estimates.

3.2.11 Fiscal balance

■ Foreign financing ■ Domestic financing



Source: Asian Development Outlook database.

[Click here for figure data](#)

(Figure 3.2.11). Foreign financing is 2.2% and domestic financing is 2.7% of GDP, with about four fifths from bank sources. Reaching the FY2009 revenue target will likely be a challenge, partly because several contributors to the jump in FY2008 revenue collection, such as taxing legally earned undisclosed income and special drives for collecting income tax and arrears, could be of a one-time nature.

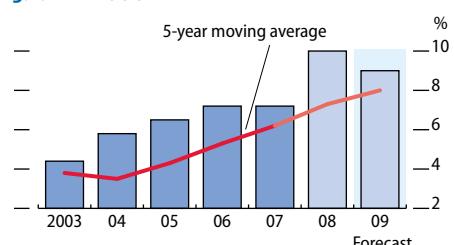
This *Update* raises the average inflation projection for FY2009 to 9.0% (from 8.0% in *ADO 2008*), though improved from the 9.9% outcome in FY2008 (Figure 3.2.12). The projection takes into account the likely effects of the July 2008 domestic oil price rise but assumes no further price adjustments. The Monetary Policy Statement of Bangladesh Bank stresses that an accommodative credit policy will stimulate production of essential food and other basic consumer items and thus will soften inflation pressures.

Substantial risks are involved in this supply-side approach to stabilizing the economy as its first-round effects of expanding credit without a quick or substantial supply response could trigger higher inflation. There are also risks that policies and assumptions could be upset by higher than expected prices for international commodities and misjudgment about the second-round effects of the July 2008 fuel price hike. The central bank may need to raise interest rates to anchor inflation expectations and keep second-round effects under control.

Imports are expected to grow by 21% with higher bills for oil, food grain, and other raw materials, while exports are expected to grow by 16.5% mainly owing to stronger growth in knitwear and garments. The larger trade deficit is expected to be offset by higher remittances, resulting in a continued moderate current account surplus of 0.5% of GDP (Figure 3.2.13). Although the US safeguard quota on the PRC is set to expire at the end of this year, the appreciating yuan and the PRC's move out of the low-end of the garment market could allow fast export growth for Bangladesh given its sound track record in this market segment. Yet in the face of rising labor and raw material costs, garment producers need guaranteed access to electricity and programs to address labor shortages, especially at the supervisory and mid-management levels, to retain their competitiveness.

Several risks facing the economic outlook could undermine the projections, including higher than assumed oil and commodity prices (stressing the balance-of-payments and fiscal positions), a budget revenue shortfall, lack of a supply response by farmers, and greater than expected shortages in power and gas (affecting investment and growth). Political disruptions in the runup to the parliamentary election and their outcome are a major risk. Natural disasters are a perennial risk.

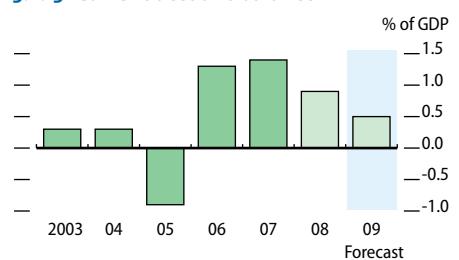
3.2.12 Inflation



Sources: Bangladesh Bank, *Economic Trends*, Table VIII; available: <http://www.bangladesh-bank.org>; staff estimates.

[Click here for figure data](#)

3.2.13 Current account balance



Sources: Bangladesh Bank, *Annual Report 2006–2007*, Appendix-2, Table II, available: <http://www.bangladesh-bank.org>; staff estimates.

[Click here for figure data](#)

People's Republic of China

Softening external demand and the impact of policy tightening trimmed GDP growth to a still-rapid 10.4% in the first half of 2008. Private consumption remained robust because incomes generally outpaced inflation. This *Update* maintains the April growth forecast at 10.0% for this year and revises the 2009 forecast down slightly to 9.5%, on the expectation of a reduced trade surplus and slower investment growth. These developments are helping rebalance the structure of demand toward greater reliance on private consumption. The inflation projection is raised to 7.0% for this year and to 5.5% for 2009. Some policy easing is expected as the authorities focus on maintaining growth and creating employment.

Updated assessment

Although the rate of economic growth has eased in each of the past three quarters, GDP still expanded by a rapid 10.4% in the first half of 2008 (Figure 3.3.1). The slowing in the second quarter from the first reflected an easing in external demand, policy-tightening measures, and the impact of the Sichuan earthquake in May (Box 3.3.1).

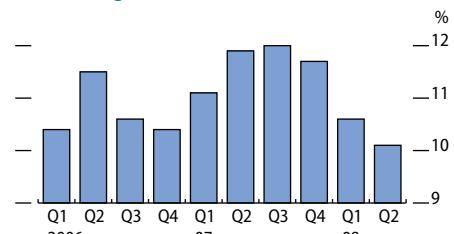
On the supply side, a slowdown in industrial output from 16.4% year on year in the first quarter to 15.9% in the second contributed the most to the deceleration in GDP. The production slowdown was mainly in consumer goods for export. Production of capital goods grew by about 17%, showing little sign of slowing due to strong, though declining, growth in domestic investment.

Weaker economic growth in industrial countries damped exports, as did a reduction in tax rebates on exports. Resilient demand from developing economies helped offset in part slower industrial-country export orders, so that overall export growth was a still-robust 22% in the first half (Figure 3.3.2), down 2 percentage points from the second half of 2007. Import growth of 30.6% outpaced that of exports, and the trade surplus fell by about 11% from a year earlier to \$99.7 billion. As a result, net exports are likely to contract and subtract from GDP growth in full-year 2008.

Fixed-asset investment grew by 26.3% in nominal terms in the first half, but after taking into account an acceleration in inflation, real investment growth slowed to around 15% from 22% (Figure 3.3.3). It was kept in check by rising prices for fuel, power, and raw materials (all rose by more than 10% in the first half), a halving in the nominal growth of industrial enterprise profits to about 20%; a slowdown in the property market owing to a tightening of credit; government directives to reduce fixed-asset investment in real estate, steel, cement, aluminum, and automobiles; and the softening in demand for exports. Foreign direct investment (FDI) picked up to average nearly \$9 billion a month.

Private consumption was strong, despite accelerating price pressures.

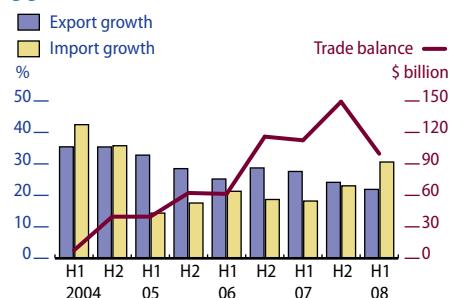
3.3.1 GDP growth



Sources: Asian Development Outlook database; National Bureau of Statistics.

[Click here for figure data](#)

3.3.2 Trade indicators



Source: National Bureau of Statistics, *China Monthly Economic Indicators*, various issues.

[Click here for figure data](#)

3.3.1 Impact of Wenchuan earthquake on the economy

The massive earthquake in Wenchuan, Sichuan province on 12 May 2008 was the country's worst natural disaster in a generation. Although the most seriously affected areas are sparsely populated mountainous regions, the number of fatalities and people missing totaled more than 80,000. Many more were injured and 46 million left homeless.

The earthquake disrupted production, transportation, and communications in several counties of Sichuan and its neighboring Gansu and Shaanxi provinces. Given that the affected region is home to just 1% of the country's population and accounts for about 2% of national economic output, the destruction might lower GDP growth by 0.15–0.2 percentage points during the second and third quarters this year.

The loss in production will be

at least partly offset by increased investment for reconstruction in the second half of 2008 and in 2009. As a result, the overall reduction in 2008 GDP growth is expected to be less than 0.2 percentage points.

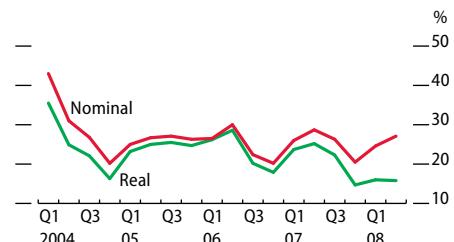
Some additional upward pressure was put on inflation by the loss of farm production, including that of pigs. The earthquake also destroyed an estimated 5.5 million buildings, and total property damage was put at more than CNY500 billion (\$72.1 billion). Few people had insurance.

The Government earmarked CNY70 billion (\$10.1 billion) of its own funds for reconstruction and arranged for 19 provinces in the eastern and central regions to provide assistance to 18 counties in Sichuan and to severely affected areas in Gansu and Shaanxi provinces.

Retail sales in nominal terms grew by 22.2% in the April–June period (Figure 3.3.4). While higher prices accounted for part of this increase, real incomes continued to grow, underpinning rising consumption. Per capita urban incomes rose by 6.3% in real terms in the first half (slower than 14.2% growth a year earlier—Figure 3.3.5), and rural incomes rose by 10.3% (13.3% a year earlier). Greater government spending on social security, education, and health care might also be encouraging households to spend more, as their need to build savings to pay for these services diminishes. Employment generation continued at a high level, too, with 6.4 million new jobs in urban areas in the first half, slightly above 6.3 million in the same period of 2007. The continued strength in private consumption, combined with a slowing in investment and exports, is starting to achieve the authorities' sought-after rebalancing in the structure of demand.

Inflation has been higher than was expected in *Asian Development Outlook 2008* (ADO 2008) in April this year. The consumer price index (CPI) rose by 7.7% in the first 7 months, driven mainly by rising food prices (Figure 3.3.6) and, to a lesser degree, by increasing rents. The jump in food prices particularly hurt rural poor and low-income city residents (Box 3.3.2). Consumer inflation started to ease after April (from 8.5% in that month to 6.3% in July). The producer price index, however, continued to accelerate, from 8.2% in May to 10.0% in July, influenced by higher prices for imported oil and iron ore, and by stronger demand for

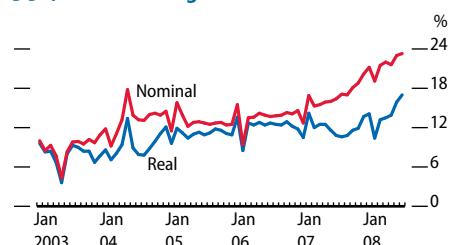
3.3.3 Fixed asset investment growth



Sources: CEIC Data Company Ltd., downloaded 1 September 2008; staff estimates.

[Click here for figure data](#)

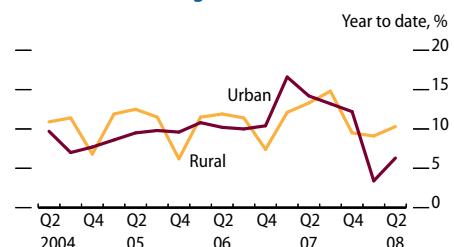
3.3.4 Retail sales growth



Source: CEIC Data Company Ltd., downloaded 1 September 2008.

[Click here for figure data](#)

3.3.5 Real income growth



Sources: National Bureau of Statistics, *China Statistical Abstract* 2007, and *China Monthly Economic Indicators*, various issues.

[Click here for figure data](#)

3.3.2 Steps taken to reduce the impact of food price rises

Food prices in the People's Republic of China rose by 20.6% between July 2007 and June 2008, accounting for about 88% of the overall rise in consumer prices over that period. In contrast, nonfood consumer prices rose by 1.5%. The rise in food prices was concentrated in pork, which rose by about 70% because of shortages caused by a pig disease, and cooking oil, which rose by about 40%, reflecting global prices for this commodity. Pork prices started to decline from April 2008 as farmers replenished livestock numbers. Prices of other foods, including grain, rose moderately in the year to June.

Farmers who produce a surplus to their household needs can usually benefit from rising food prices because of the higher selling prices. But the poorest and most vulnerable rural residents—the elderly, chronically ill, disabled, and those with small or less productive plots of land—are worse off when food prices rise. The urban poor, who spend a high proportion of their incomes on food and have none to sell, also suffer, unless their

incomes rise to compensate. Higher prices lead some families to turn to cheaper food with lower nutritional quality, or they eat less.

Steps taken by the Government in the face of rising food prices included the sale of grain from reserves. About 13.5 million tons of rice and wheat was sold from grain reserves in 2007. Reserves remain high though, estimated by the Food and Agriculture Organization of the United Nations at 156 million tons of cereals in 2007, or 40% of annual consumption. Export taxes were imposed on some food products in January 2008 and the Government strengthened its price controls by requiring large producers of food to seek official permission to raise prices.

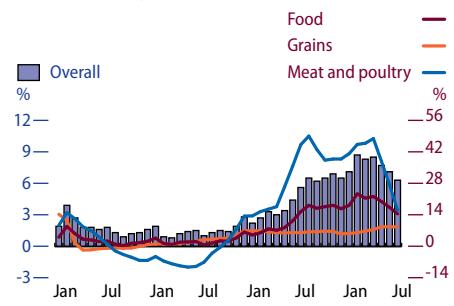
To directly help the poor cope with higher food prices, the Government has raised income support through programs for protecting minimum living standards known as *dibao*. In January 2008 and again in July, it raised the rural *dibao* by CNY10 a month and the urban *dibao* by CNY15 a month.

materials for earthquake reconstruction. Steps taken by the authorities to curb prices seem to have inhibited a spillover of price pressures into higher wages or into inflation expectations. Average salaries of urban employees rose by 18.0% in the first half of 2008, about the same rate of increase as the year-earlier period.

Stock and property markets have weakened, partly a reflection of tightened bank lending. The Shanghai A-share stock index (for shares accessible to domestic investors) plunged by about 60% between October 2007 and August 2008, after soaring throughout 2006 and most of 2007 (Figure 3.3.7). House price growth slowed in 70 cities in the first half of 2008 and sales, as measured by floor space, fell in big cities.

Rapidly growing FDI and speculative capital inflows boosted foreign exchange reserves by 36% to \$1.8 trillion in the 12 months to 30 June 2008 (Figure 3.3.8), even as the trade surplus fell. Non-FDI capital inflows contributed 46% to the buildup in foreign reserves, prompting concern among the authorities that speculators are betting on a faster appreciation of the yuan, and that the banking system could be jolted if the inflow of speculative capital is reversed.

3.3.6 Monthly inflation



Source: CEIC Company Data Ltd., downloaded 1 September 2008.
[Click here for figure data](#)

3.3.7 Shanghai stock exchange index, A-share



Source: CEIC Data Company Ltd., downloaded 31 August 2008.
[Click here for figure data](#)

3.3.8 Foreign exchange reserves and exchange rate



Source: CEIC Data Company Ltd., downloaded 1 September 2008.
[Click here for figure data](#)

The People's Bank of China, the central bank, is working to drain from the banking system excess liquidity created by the accumulation of foreign reserves. It has used increases in commercial bank reserve requirements as its major tool for managing liquidity, given that interest-rate increases might attract even stronger capital inflows. It raised these reserve requirements six times between end-2007 and July 2008, from 14.5% to 17.5%. In this manner, and by issuing more of its own bills, the central bank absorbed about CNY1.8 trillion (\$256.4 billion) of liquidity. These efforts have been combined with guidance to banks to adopt informal credit quotas to curb lending. The tightening measures slowed growth in bank lending to 15.5% in July 2008, from a recent high of 18.0% in October 2007 (Figure 3.3.9). Growth of broad money (M_2) slowed slightly from 16.7% in December 2007 to 16.4% in July 2008 (Figure 3.3.10), still above the central bank's target of 16.0%.

The authorities allowed the yuan to appreciate by 7.3% against the US dollar in nominal terms between end-2007 and July 2008, a little faster than the 6.9% appreciation for all 2007 (Figure 3.3.8). Concerned that this might attract more speculative capital inflows and also harm small and medium exporting firms that employ a large portion of rural migrants, they tightened capital controls in August. The real effective exchange rate rose by 3.6% in the first 7 months of 2008.

After the Sichuan earthquake, the Government raised the forecast for the national budget deficit from 0.8% to 1.0% of GDP to fund reconstruction. (There was a fiscal surplus of 0.7% of GDP in 2007.) Revenues increased by 31.4% in the first half of 2008, well above the budgeted 14.0% increase for 2008, but a deceleration in corporate tax revenues and a cut in the tax on stock trading in April could slow revenue growth in the second half. Expenditures, which grew by 25.8% in the first half, are likely to accelerate further in the second, in order to rebuild earthquake-hit areas and to fund higher subsidies both for farmers and some transport operators following an increase in administered retail fuel prices in June 2008 (Box 3.3.3).

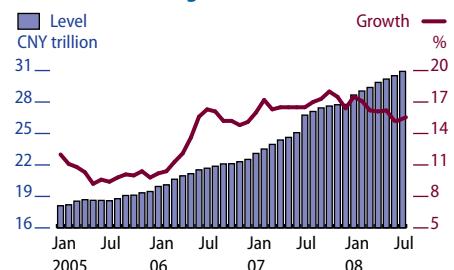
Prospects

The Government has indicated that it will put more emphasis on maintaining economic growth in the second half of 2008 and in 2009. This is likely to mean that some administrative controls on bank lending are loosened to assist smaller firms (which have been squeezed financially and may reduce employment otherwise). Fiscal policy is expected to remain slightly expansionary, with spending raised on reconstruction, agricultural development, and social sectors.

Rising production costs and softening external demand are forecast to trim export growth from 26% in 2007 to 20% in 2008 and 15% in 2009. At the same time, higher oil and commodity prices will push up import growth from 20% in 2007 to a projected 29% in 2008, before it eases to 21% in 2009, as global oil prices fall slightly. Faster growth of imports than exports will reduce the trade surplus from \$315 billion in 2007 to \$290 billion in 2008 and \$260 billion in 2009.

As for domestic demand, growth in real fixed-asset investment is projected at 13.0% this year, slowing from 20.1% in 2007 because of the

3.3.9 Bank lending



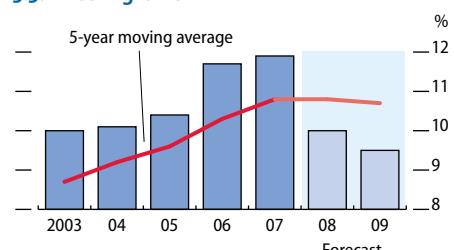
Source: CEIC Data Company Ltd., downloaded 30 August 2008.
[Click here for figure data](#)

3.3.10 Money supply (M_2) growth



Source: National Bureau of Statistics, *China Monthly Economic Indicators*, various issues.
[Click here for figure data](#)

3.3.11 GDP growth



Sources: National Bureau of Statistics; staff estimates.
[Click here for figure data](#)

3.3.1 Selected economic indicators (%)

| | 2008 | | 2009 | |
|--------------------------------------|-------------|----------------|-------------|----------------|
| | ADO 2008 | Update 2008 | ADO 2009 | Update 2009 |
| GDP growth | 10.0 | 10.0 | 9.8 | 9.5 |
| Inflation | 5.5 | 7.0 | 5.0 | 5.5 |
| Current acct. bal. (share of GDP) | 9.9 | 8.3 | 8.6 | 6.1 |

Source: Staff estimates.

factors listed above. Next year, investment growth is likely to ease to about 12%, on weakening external demand and slowing domestic sales growth in industries such as cement and steel. Private consumption growth, in contrast, is projected to step up to 12.0% in 2009 from 11.0% this year and 9.6% in 2007, supported by rising incomes and public investment in education, health care, and social security.

Based on the above projections, the GDP growth forecast for 2008 is maintained at the 10.0% made in *ADO 2008*, in April this year. The forecast for 2009 is revised down to 9.5% from 9.8% because of smaller trade surpluses and slower investment (Figure 3.3.11 above). On the basis of the lower merchandise trade surplus, as well as a continuing deficit in services trade, the forecast for the current account surplus is revised down to 8.3% of GDP in 2008 and to 6.1% in 2009.

Grain harvests this summer were better than expected and pork production is recovering, a result of steps taken that included increases in credit to pig farmers. Food price inflation has been easing since May 2008, and is expected to decline to single-digit levels late in the year. That should bring down overall inflation, since food constitutes a third of the CPI. However, as food inflation eases the Government is expected to further raise administered prices of fuel and electricity (their prices were increased in January–August). Based on higher than expected inflation in the first half, the inflation forecast for 2008 is revised up to 7.0% from 5.5%, above the 4.8% target set by the Government in March 2008 and the highest inflation rate since 1996. The further increases in fuel and electricity costs, and some likely spillover of rising production costs into consumer prices, lift the 2009 inflation forecast to 5.5% from 5.0%, keeping inflation well above the average 2.6% rate recorded in 2003–2007.

Growth of 9.5% in 2009 would bring GDP expansion into the 9–10% range considered by various studies to be the economy's potential rate of growth, without putting undue strains on energy, natural resources, the environment, and inflation. Reaching the Government's inflation target, though, is likely to require a further rise in interest rates (the last was in December 2007). Measures taken so far in 2008 to rein in price pressures have included the increases in bank reserve requirements (Figure 3.3.12); quotas for commercial bank lending; freezing prices for some goods and services and requiring official approval to raise other prices; scrapping tax rebates for grain exports and levying export taxes on some types of grain; and allowing the yuan to continue to appreciate against the US dollar.

The main risks for the 2009 forecast involve any sharper than expected deceleration in exports because of weakness in overseas markets or double-digit inflation that would require an aggressive tightening of monetary policy. Bad weather for agriculture or a new outbreak of livestock disease could reverse the easing in food price inflation and erode consumption growth. A hard landing for the economy (defined as GDP growth below 7%) is unlikely in 2009, although growth could decelerate to 7–8% if these risk factors materialize. In this unlikely event, the Government has the fiscal resources to spur consumption; for example, it could raise the income threshold at which personal income taxes start, provide more assistance to low-income groups, and further increase social sector spending.

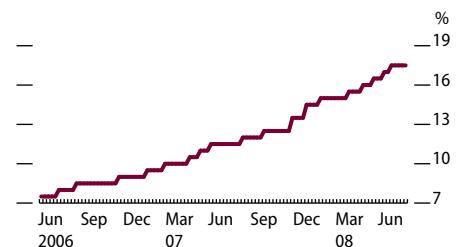
3.3.3 Hikes in energy prices and subsidies

Fuel prices in the PRC are kept relatively low (some studies show retail prices are 40% lower than the global average) by government subsidies to oil companies. These were equivalent to about 0.2% of GDP in 2007 and could reach 1.0% this year.

To reduce the cost of subsidies, and to ease a fuel supply shortage in some coastal provinces caused by the relatively low prices, the National Development and Reform Commission in June 2008 raised benchmark gasoline and diesel retail prices by 16–18% and aviation kerosene by 25%, the first increases since October 2007.

The reduction in outlays on fuel subsidies allowed the authorities to use part of the savings as assistance for those hurt most by higher retail fuel prices: low-income families, grain producers, and taxi and bus operators. The increases in urban and rural *dibao* were also intended to help the poor cope with higher fuel prices.

3.3.12 Bank reserve-requirement ratio



Source: People's Bank of China.

[Click here for figure data](#)

India

Developments are challenging India's strong growth performance of recent years. Emerging capacity constraints, continued rapid expansion in credit, and partial pass-through of global commodity price increases have triggered steep domestic inflation and consequent monetary tightening. A widening trade deficit, moderating capital inflows, and some depreciation in the rupee are also current features. The main problem, however, consists of the large fiscal imbalances that have been created by escalation in oil and other subsidies and by other unbudgeted liabilities. How well the Government can address this difficult issue, so as to maintain macroeconomic stability, and move on to adopt needed structural reforms is key to fulfilling the country's enormous potential.

Updated assessment

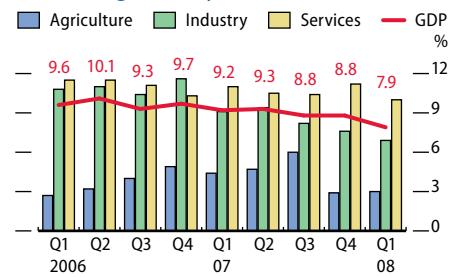
With 9.0% expansion in FY2007 (which closed at end-March 2008), India marked its fifth successive year of robust growth, even against a backdrop of growing turmoil in international financial markets and price escalation in commodities. An impressive 4.5% increase in agricultural production propped up the performance. Industry and services growth, though, decelerated. Since the start of FY2008, a combination of various domestic and international factors that have set off steep domestic inflation and the resultant measures to rein it in is slowing the pace of expansion.

These factors include the marked international price increases in oil, food, and metals, worsening fiscal and current account deficits, increasing cost of funds, moderating capital inflows, some depreciation in the rupee against the dollar, and decelerating growth in industrial economies. The Indian economy is now at a critical juncture where policies to contain inflation and ensure macroeconomic stabilization have taken center stage.

In the first quarter of FY2008 (April–June), GDP growth decelerated to 7.9% from 9.2% in the corresponding prior-year quarter (Figure 3.4.1), for the slowest expansion in three and a half years. The most pronounced slide was in industry where growth fell to 6.9%, dragged down by a halving in the manufacturing growth rate (to 5.6%). The slowdown was broad-based with agriculture and services sector growth coming in at 1.4 and 0.9 percentage points, respectively, below their expansions of the year-earlier quarter.

While growth in consumption expenditure held steady in the first quarter of FY2008, expansion in fixed investment fell to 9.0% from 13.3%, as higher interest rates and a weakening global and domestic outlook appear to be causing companies to scale back investment. Industrial production data available through June confirm a general slowdown, which is most pronounced in basic, intermediate, and capital goods production (Figure 3.4.2). This indicates that investment—which has

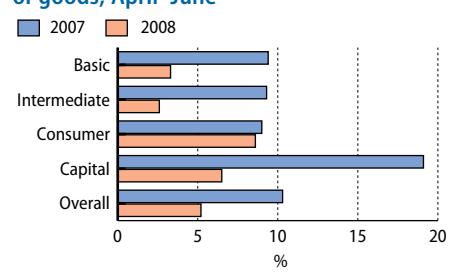
3.4.1 GDP growth by sector



Source: Central Statistical Organisation, available: <http://mospi.nic.in>, downloaded 29 August 2008.

[Click here for figure data](#)

3.4.2 Industrial production growth by type of goods, April–June



Source: CEIC Data Company Ltd., downloaded 19 August 2008.

[Click here for figure data](#)

accounted for much of GDP growth in recent years (Figure 3.4.3), rising to about 34% of GDP in FY2007—is slackening. Growth of consumer nondurable goods also contracted, but consumer durable goods production, hard hit a year ago, improved on account of strong rural demand.

A survey of manufacturing companies, carried out in June 2008 by the Reserve Bank of India (RBI), indicates a moderation in business optimism. Surveys of industry confidence by other bodies convey a similar picture. This is corroborated by the composite business optimism index for July–September 2008 prepared by Dun and Bradstreet, which shows a decline of 11.2% against the previous quarter and by 18% against the previous year. Further indicators of a weaker economic outlook are found in a credit rating change by Fitch. In July, it confirmed its BBB- rating on foreign currency debt but downgraded the outlook for India's long-term local currency debt from stable to negative, noting a deterioration in the fiscal position.

Inflation based on the wholesale price index (WPI) began to gradually rise from December 2007 (Figure 3.4.4). It surged in the first 5 months of FY2008 to touch a 16-year high of 12.6% in early August but slipped back to 12.4% by mid-August. The steep rise was largely due to a hardening of prices of primary articles and manufactured products. Food inflation has picked up (by about 2 percentage points in the first 5 months of FY2008), reaching 9.8% year on year in mid-August.

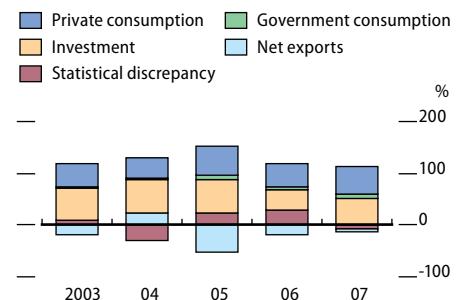
The Government sought to limit price pressures by (in addition to monetary policy tightening) various ad hoc interventions, including reduction in customs duties on certain basic food items, steel, crude oil, and oil products. It also banned the export of wheat, non-basmati rice, and pulses, and imposed export duties on some steel products.

RBI has adjusted key policy instruments to contain inflation pressures in FY2008 (Figure 3.4.5). These included several rounds of raising the cash-reserve ratio (taking it to 9.0% from 30 August) and putting up the key policy rate (the repo rate, the rate at which banks borrow from RBI). It lifted this rate to 9.0% on July 29. It kept the reverse repo rate (the rate at which banks park their surplus funds with RBI) unchanged at 6.0%.

Monetary policy has maintained prime lending rates at above 12.0% since January 2007 (Figure 3.4.6) when inflation previously breached RBI's tolerance level, even though inflation subsequently subsided. At end-August 2008, prime lending rate quotes were 12.75–13.25%. Lending rates for nonprime borrowers were in the range of 15–17%. Actions to date have not, however, markedly reduced credit expansion or arrested the rise in prices. One reason for this, as seen in Figure 3.4.6, is that real interest rates have fallen.

Bank credit to the commercial sector has been rising in FY2008, with year-on-year growth climbing to 26.8% at end-July from 22.3% at end-March (Figure 3.4.7). High demand for working capital by the state-owned oil-marketing companies and bank loans to fill in for diminished foreign funding seem to be two important reasons for the ongoing credit expansion. While data on FY2008 foreign borrowing are not yet available, the cost of credit default swaps on prime Indian companies is an indicator of risk aversion and tight access for most domestic companies (Figure 3.4.8).

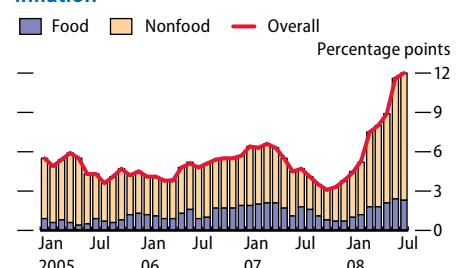
3.4.3 Contributions to GDP growth (demand)



Source: Central Statistical Organisation, available: <http://mospi.nic.in>, downloaded 29 August 2008.

[Click here for figure data](#)

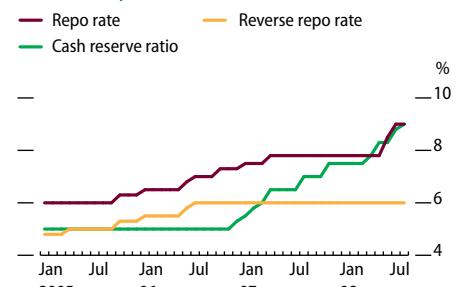
3.4.4 Contributions to wholesale price inflation



Source: CEIC Data Company Ltd., downloaded 3 September 2008.

[Click here for figure data](#)

3.4.5 Policy instruments



Source: CEIC Data Company Ltd., downloaded 3 September 2008.

[Click here for figure data](#)

The limited pass-through of international prices to the domestic market in recent years (Figure 3.4.9) has kept fuel prices artificially low. It has repressed inflation, but also fostered demand pressures and created off-budget liabilities. Special bond issues to compensate state-owned oil-marketing companies for selling below cost—"underrecoveries"—in FY2007 amounted to Rs212.5 billion, or 0.5% of GDP. (These bond issues, however, cover only part of the losses; the companies must absorb the balance.) As the average price of the Indian crude basket shot up to \$130 per barrel in June 2008, domestic fuel prices were raised by about 10% to limit fast-growing losses. Private oil-marketing companies are not compensated for their losses stemming from price competition with the state companies, leading to some closures in their marketing operations.

As indicated in Figure 3.4.10, the combined budget deficits of the central and state governments have been substantially reduced over the past 5 years, reflecting the governments' efforts to adhere to fiscal responsibility legislation. For FY2008, the central Government's deficit is budgeted at 2.5% of GDP and the states' at 2.1% (4.6% of GDP on a consolidated basis). A wider tax base, supported by a buoyant economy, and improved compliance have been the major factors underpinning the appreciable fiscal consolidation.

Two main challenges must be overcome before the FY2008 deficit targets can be met: a slowing economy that may limit the revenue buoyancy seen in recent years and spending pressures resulting from the central Government's decision to raise the salaries of its employees by 21% (at a cost of \$3.6 billion, or about 0.3% of GDP) in response to recommendations of the Sixth Central Pay Commission. About half a dozen states immediately announced similar wage rises and others are following suit. Provision for these salary increases was not budgeted.

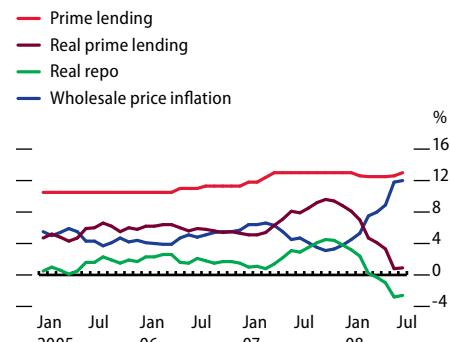
The major fiscal issue for FY2008 is the expected magnitude of off-budget subsidy items, which undermines fiscal consolidation. The Economic Outlook for FY2008 prepared by the Economic Advisory Council to the Prime Minister calculated that at a crude oil price of \$130 per barrel, after taking into account the June price increase, and apportioning some contribution from oil production companies, the Government would need to issue oil bonds to marketing companies equivalent to 2.2% of GDP (about Rs1.2 trillion).

The Economic Outlook also calculated that at prevailing import prices the budgeted fertilizer subsidy underestimated costs, and bonds amounting to 1.2% of GDP (Rs645 billion) would need to be issued. A similar calculation for the food subsidy showed that a bond issue of 0.8% of GDP would be required.

In addition, the debt-waiver program to qualifying farmers announced in the March 2008 budget speech is also funded off-budget by bond issues (to the creditor banks). Its cost is estimated at Rs717 billion, about 1.3% of GDP. Accordingly, off-budget obligations of the central Government in FY2008 are likely to be around 5.5% of GDP, bringing a comprehensive estimate of its expected deficit to about 8% of GDP and the consolidated (central and state) deficit to be around 10% of GDP. (This excludes the perennial large operating losses of state-government electricity corporations.)

Since the bond issues for oil-marketing companies and for fertilizer

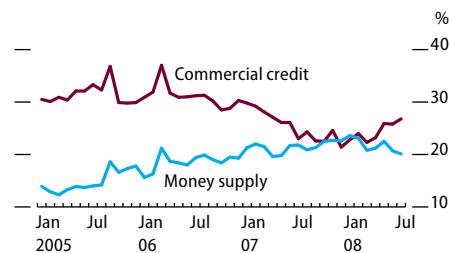
3.4.6 Wholesale price inflation and interest rates



Source: CEIC Data Company Ltd., downloaded 3 September 2008.

[Click here for figure data](#)

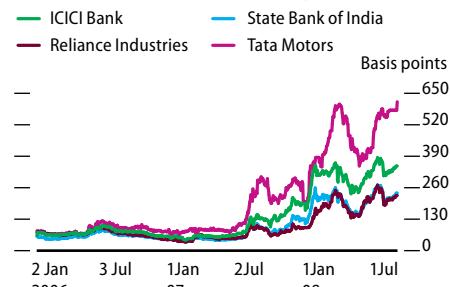
3.4.7 Growth in monetary indicators



Sources: CEIC Data Company Ltd.; Reserve Bank of India, *Weekly Statistical Supplement*, 15 August 2008, available: www.rbi.org; both downloaded 3 September 2008.

[Click here for figure data](#)

3.4.8 Credit default swaps, 5-year bonds



Source: Datastream, downloaded 3 September 2008.

[Click here for figure data](#)

and food corporations of 4.2% of GDP will need to be sold (to allow these companies to continue operating), their size is likely to create monetary pressures. A rough indicator of the problem may be seen in the fact that private bank credit expansion in FY2007 was the equivalent of about 10% of GDP. Thus, the addition to credit demand from such large bond issues will likely push up interest rates, crowd out investment, and add to inflation pressures—unless monetary policy is tightened sufficiently. The interest paid on the bonds will also add to fiscal pressures.

The farm-debt waiver raises different issues, in that the bonds will be issued to replace other assets (farm loans). The main problem seems to relate to moral hazard—will farmers' credit discipline to service new credits taken out for farm operations be heavily eroded? And if so, will banks react by adjusting credit standards and loan limits in a way that worsens farm production? Since the waiver program does not cover farmers' debts to money lenders, the waiver may not benefit much the very poorest farmers who depend heavily on these lenders, thereby resulting in a more limited supply response than intended, and a diminished humanitarian effect.

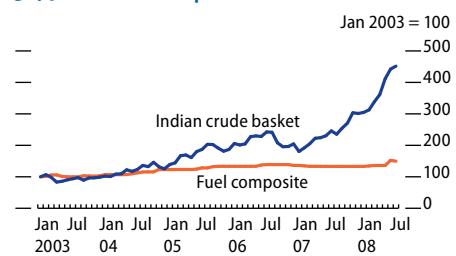
The trade and current account deficits have widened in recent years (Figure 3.4.11), reflecting primarily the impact of escalating oil prices and the expansion in non-oil imports, led by rapid growth in consumer and investment demand. In FY2007, merchandise import growth of 29.9% was considerably faster than export growth of 23.7%; the trade deficit widened to \$90 billion (7.7% of GDP). The current account deficit was, however, contained at \$17.4 billion, or 1.5% of GDP, by the country's healthy invisibles balance that stems mainly from exports by its successful software and business services industry. The capital account surplus, on a rising trend, surged to \$108 billion in FY2007, largely reflecting net foreign investment, including nearly \$30 billion of portfolio investment as well as heavy commercial borrowing by Indian companies (Figure 3.4.12).

Balance-of-payments data for FY2008 are not yet available. Customs data indicate that the trade deficit further widened to \$41.2 billion in the first 4 months of FY2008 as against \$27.4 billion in the same period a year earlier. Exports continued to expand rapidly, by 24.6%, as did imports, at 34.2%. Oil imports increased by 54.9% to \$35.0 billion, and accounted for nearly 35% of total imports (Figure 3.4.13). Non-oil imports rose by 25.2% to \$65.4 billion, at a slower pace than in FY2007, reflecting decelerating economic activity in the first 4 months of FY2008.

Little information is available on developments in the capital account for FY2008. Portfolio investment recorded net outflows in April–July 2008 while direct investment increased. Nevertheless, it is apparent that net capital inflows are on an appreciably lower track than a year ago as foreign exchange reserves have fallen by \$13 billion in the first 5 months of FY2008 (through end-August), explained in part by valuation losses, compared with a \$30 billion gain in the corresponding year-earlier period. This drop in reserves indicates that capital flows were insufficient to cover the current account deficit.

Foreign exchange reserves swelled to \$300 billion at end-March 2008 (Figure 3.4.14), though they fell slightly through end-August. The accumulated reserves of over 20% of the fiscal year's estimated GDP provide a very generous cushion against external vulnerabilities.

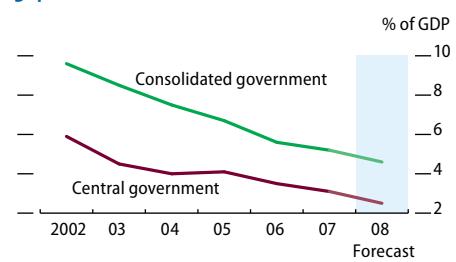
3.4.9 Oil and fuel price indexes



Sources: Datastream; CEIC Data Company Ltd.; both downloaded 3 September 2008.

[Click here for figure data](#)

3.4.10 Gross fiscal deficit

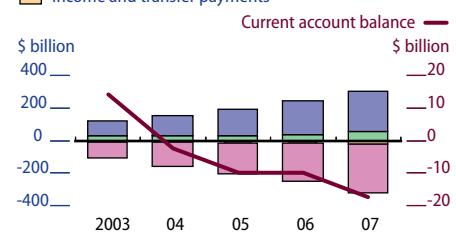


Source: Reserve Bank of India, *Macroeconomic and Monetary Developments: First Quarter Review 2008-09*, available: www.rbi.org, downloaded 3 September 2008.

[Click here for figure data](#)

3.4.11 Current account indicators

- Goods and services exports
- Goods and services imports
- Income and transfer receipts
- Income and transfer payments



Source: CEIC Data Company Ltd., downloaded 22 August 2008.

[Click here for figure data](#)

The rupee-US dollar exchange rate appreciated in the first quarter of FY2007, and then kept relatively steady over the rest of the fiscal year. The rate depreciated by 8.7% in the first 5 months of FY2008 (Figure 3.4.15). At end-August, it had fallen to Rs43.79/\$1, reflecting the toll of rising inflation, weakening capital inflows, and a growing current account deficit. While a weakening rupee exacerbates inflation pressures, it benefits exporters. In real effective exchange rate terms, FY2007's rupee appreciation had been offset by the end of the first quarter of FY2008.

The main index of the Bombay Stock Exchange, the Sensex, was down by about 30% from its 8 January 2008 all-time high at end-August. This drop follows, however, a very steep runup in stock prices over recent years. As indicated in Figure 3.4.16, the decline in the Sensex is broadly in line with the performance of other Asian emerging markets. Indeed, data from early July show some relative strengthening in the Indian market despite the country's emerging economic difficulties. It appears that the tumbling stock market in India, as elsewhere in Asia, largely reflects a general caution by both domestic and foreign investors toward the continued turmoil in global financial markets, and toward slowing economic growth and rising inflation both globally and in most Asian countries.

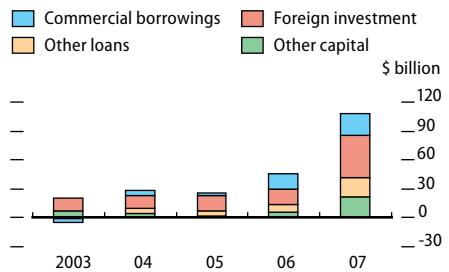
Prospects

The forecasts made by *Asian Development Outlook 2008* (ADO 2008) for FY2008 and FY2009, released in April this year, were based on assumptions that are substantially revised in this *Update*. Marked changes in the ADO 2008 baseline assumptions for increases in global oil and nonfuel commodity prices, as well as the degree of slowdown in industrial-country GDP growth, now suggest a much less conducive environment for growth and price stability (see Table 1.1.1 in Part 1). Moreover, the extent and duration of the global credit market turmoil and its impact on India's access to external finance were not foreseen in April.

Changes in domestic assumptions now include: (i) RBI will need to further tighten its monetary policy stance in FY2008 and then maintain this tight policy in FY2009; (ii) further upward revisions to domestic prices of gasoline and diesel, which were increased in June, will probably only be put through in FY2009 (that is, after the parliamentary elections to be held by May 2009); (iii) the rupee-US dollar exchange rate will likely depreciate but only to offset any appreciation in the real effective exchange rate; and (iv) the food supply situation will broadly be comfortable, because food grain stocks have been rebuilt and because the monsoon is expected to be normal, implying trend growth in agricultural output in FY2008.

The change in the global economic environment and the policy adjustments needed to maintain macroeconomic stability prompt a downward revision of the growth forecast to 7.4% in FY2008 and to 7.0% in FY2009. Taking account of the monetary tightening already undertaken, which will likely be supplemented by further measures later in the year, inflation is expected to remain high partly owing to the pass-through of the June increase in oil product prices before coming down to 9.0% in March 2009. WPI inflation would average 11.5% in FY2008. For FY2009, a

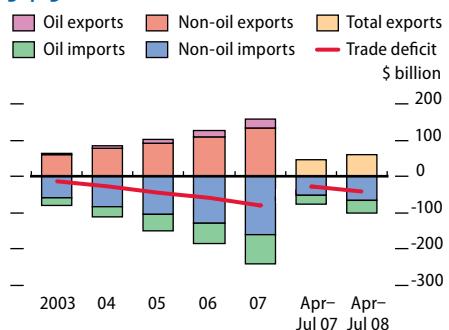
3.4.12 Capital account components



Source: CEIC Data Company Ltd., downloaded 3 September 2008.

[Click here for figure data](#)

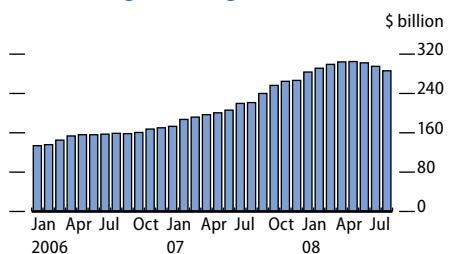
3.4.13 Trade indicators



Sources: Reserve Bank of India, *Handbook of Statistics on Indian Economy* and *RBI Bulletin*, available: www.rbi.org.in; CEIC Data Company Ltd.; all downloaded 3 September 2008.

[Click here for figure data](#)

3.4.14 Foreign exchange reserves



Sources: CEIC Data Company Ltd.; Reserve Bank of India, *Weekly Statistical Supplement*, various issues; all downloaded 5 September 2008.

[Click here for figure data](#)

revised inflation forecast is penciled in at 7.5%, including the impact of a substantial but not comprehensive upward adjustment in oil prices.

While most developing Asian countries now face the burden of adjusting to the same, grimmer circumstances, India's very large fiscal imbalance created by the current level of subsidization of oil, fertilizer, and food, as well as other off-budget items, sets a daunting task for economic management. Cutting these subsidies is a difficult task, but maintaining them would imperil any return to the high-growth path of recent years.

The main adjustment to the revised growth forecast stems from a weakened investment outlook. Negative factors include increasing caution by businesses because of faltering confidence in the near-term economic outlook, fewer options for foreign financing in all forms—commercial borrowing, initial public offerings of shares, and bonds—owing to a drop in risk appetite by foreign financial institutions, growing difficulties in securing domestic bank financing because of crowding out by government bond issues, and the need to maintain tight monetary conditions and high interest rates to bring down inflation. These circumstances are now expected to prevail well into FY2009, and will continue to limit growth in investment, which in turn will cause GDP growth to edge down to 7.0%.

RBI faces a serious dilemma in its monetary management policy. On the one hand, further increases in short-term policy rates or the cash-reserve ratio could threaten growth objectives. On the other, inflation is still way beyond its stated 7.0% policy objective to be achieved by end-March 2009. Financing the current level of subsidies will increase the pressure for rapid credit expansion in the year which, unless checked, will lead to higher inflation. Thus, a further tightening in policy, raising both nominal and real interest rates, will probably be required. High interest rates are likely to run on to FY2009 to keep inflation in check as administered prices are rationalized. A full adjustment would likely see inflation come in higher than the *Update* forecast. Though unlikely, such an adjustment would help bring forward a revival in investment.

High oil prices are the major contributor to trade and current account deficits, wider than forecast in April; growth in exports of software services is also assumed to ease. The current account deficit forecast for FY2008 is expanded to a deficit of \$41 billion, or 3.1% of GDP, from *ADO 2008*'s 2.2% deficit. Similarly, a current account deficit of \$51 billion, or 3.6% of GDP, is forecast for FY2009 (against 2.6% previously).

The key risks to the above outlook emerge from the following: the persistence of high oil and food prices and the difficulty in finding a consensus to adopt policies that shift government resources from broad subsidization to more focused interventions to assist the poor; the threat of a wage-price spiral (if inflation is not checked); and the long-term impact on growth of failure to adopt the structural measures needed to take the country back to its formerly impressive growth path.

3.4.1 Selected economic indicators (%)

| | 2008 | | 2009 | |
|-----------------------------------|-----------------|--------------------|-----------------|--------------------|
| | <i>ADO 2008</i> | <i>Update 2008</i> | <i>ADO 2008</i> | <i>Update 2008</i> |
| GDP growth | 8.0 | 7.4 | 8.5 | 7.0 |
| Wholesale price inflation | 4.5 | 11.5 | 5.0 | 7.5 |
| Current acct. bal. (share of GDP) | -2.2 | -3.1 | -2.6 | -3.6 |

Source: Staff estimates.

3.4.15 Exchange rates



Sources: CEIC Data Company Ltd.; Bank for International Settlements, available: www.bis.org; both downloaded 22 August 2008.

[Click here for figure data](#)

3.4.16 Stock price indexes



Note: The index for developing Asia is represented by the Morgan Stanley Capital International All Country Asia excluding Japan price index.

Source: Datastream, downloaded 2 September 2008.

[Click here for figure data](#)

Indonesia

Economic growth remains robust, driven by private consumption and fixed capital investment. However, inflation has climbed to double-digit levels, prompting the monetary authorities to raise interest rates several times. Government subsidies on food, fuel, fertilizer, and electricity are squeezing the budget, leading to reduced spending for social services and capital works. GDP growth is forecast at 6.2% for both this year and next, little changed from April's forecasts. Inflation forecasts are revised up.

Updated assessment

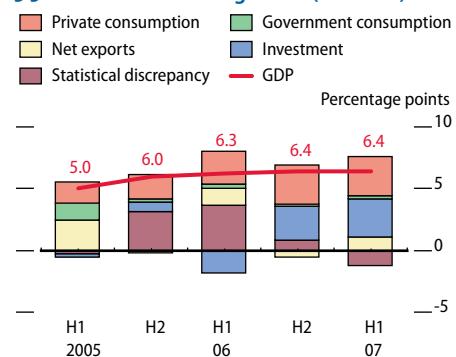
GDP expanded by 6.0–6.5% for seven consecutive quarters through June 2008, and the 6.4% outcome for the first half of 2008 remained in this band. The main contributors to first-half growth were private consumption (Figure 3.5.1) and fixed investment. Private consumption growth picked up from 4.7% in the first half of 2007 to 5.5% in first half of 2008, despite rising food prices. Consumers were insulated from higher global fuel prices until May, when domestic fuel subsidies were cut. Encouragingly, the growth rate for fixed investment doubled to 14.1% in the first half from the prior-year period (Figure 3.5.2). Although more than two thirds of this investment was in buildings, spurred by strong demand for offices and apartments, investment in machinery and equipment needed to build productive capacity also grew rapidly. Net exports made a relatively small contribution to GDP growth.

From the production side, growth of the services sector accelerated to 9.4% in the first half of 2008, contributing 4 percentage points of total GDP growth. Growth picked up in transport, communications, and financial services but slowed in wholesale and retail trading, hotels, and restaurants. In contrast, the growth rate of industry decelerated to 3.7% and its contribution to total growth was just 1.6 percentage points.

Within the industry group, manufacturing growth slowed for a third consecutive 6-month period, to 4.1%. The poor performance is largely attributed to rising wages, inflexible labor laws, and low investment in manufacturing. Construction expanded by about 8.0%, consistent with its performance over recent years. Mining production contracted slightly, despite high global prices for oil, natural gas, coal, and metals. This largely reflects a lack of investment in oil extraction in recent years. Crude oil production fell to 899,000 barrels a day in 2007 from 1.4 million barrels in 2000 as existing fields moved toward depletion. Oil output this year has edged up to 927,000 barrels a day, but still not enough to make the country a net petroleum exporter, a status it lost in 2003.

Agricultural production rose by 5.3% in the first half of 2008, well above the rate of the year-earlier period, largely a result of rains in the

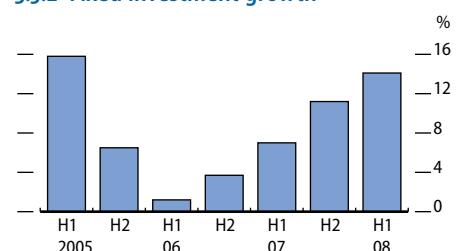
3.5.1 Contributions to growth (demand)



Sources: Asian Development Outlook database; CEIC Data Company Ltd., downloaded 22 August 2008.

[Click here for figure data](#)

3.5.2 Fixed investment growth



Source: CEIC Data Company Ltd., downloaded 22 August 2008.

[Click here for figure data](#)

dry season and an expansion of production from rubber and palm oil plantations attributable to higher global commodity prices. The rains and an increase in the area planted to rice are expected to lift rice production by 6% to 35 million metric tons in 2008. If this is achieved, net rice imports are unlikely this year. Agriculture's share of the economy is relatively small, so its rebound added just 0.8 percentage points to GDP growth. The increase in production and higher prices received for agricultural products supported growth in rural incomes and consumption.

Many of Indonesia's energy and commodity exports benefited from higher global prices in the first half, pushing up the value of total exports by about 28% to \$71.7 billion. A diversification of export destinations toward expanding markets in Asia also helped. The value of agricultural exports surged by about a half and the value of manufactured exports rose by about a quarter.

Imports rose at an even faster pace than exports, by 47% to \$58.8 billion, a result of higher prices for imported commodities and oil products, as well as continuing expansion of domestic demand. Consequently, the trade surplus fell by about 20% to \$12.9 billion in the first half from a year earlier. The current account surplus dropped to \$851 million, from \$4.9 billion in the first half of 2007. (It was in deficit in the second quarter, the first deficit in nearly 3 years—Figure 3.5.3.) The overall balance-of-payments surplus fell to \$2.4 billion from \$8.0 billion a year earlier. International reserves rose by 16.7% to \$59.5 billion over the 12 months to June 2008, providing 4.5 months of cover for imports and official debt repayments.

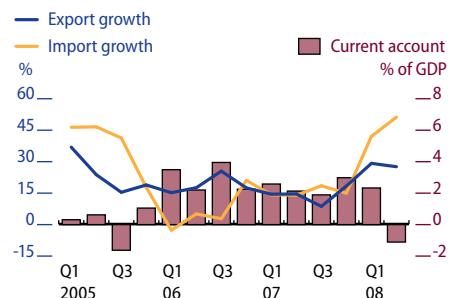
Inflation increased faster than expected. Rising prices for food (which makes up 37% of the consumer price index) were a major driver of inflation, with the solid overall domestic demand underpinning price pressures. Average inflation during the first 6 months of 2008 was 8.9%, and in July inflation accelerated to a 22-month high of 11.9% (Figure 3.5.4).

The Government raised administered fuel prices by nearly 29% in May, which propelled inflation in subsequent months. Producer price inflation shot up to 25.5% in April 2008, an 8-year high, and businesses are expected to pass through higher costs to consumers in the months ahead (operators of public transportation, for example, have yet to pass on all their higher fuel costs). The weights of the consumer price index were adjusted in June, reflecting changes in consumption patterns, to increase the weight of transportation and reduce the weighting for unprocessed food (Figure 3.5.5).

Credit growth remained high, adding to demand-side price pressures. Growth in consumption credit accelerated to 32% in June 2008, partly on account of strong sales of motorcycles and cars. Investment and working capital credit showed similar growth (Figure 3.5.6). Broad money growth (M_2) slowed to 17% in June 2008 from 19% in December 2007, contained by Bank Indonesia's draining of excess liquidity from the banking system.

After inflation had remained well above Bank Indonesia's 4–6% target band for several months, the central bank raised its policy interest rate in May, and followed with monthly hikes that lifted the rate by 125 basis points to 9.25% through September (still below the inflation

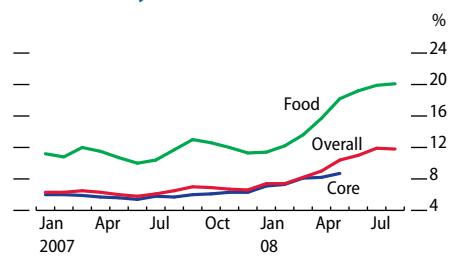
3.5.3 External indicators



Source: CEIC Data Company, Ltd., downloaded 6 September 2008.

[Click here for figure data](#)

3.5.4 Monthly inflation

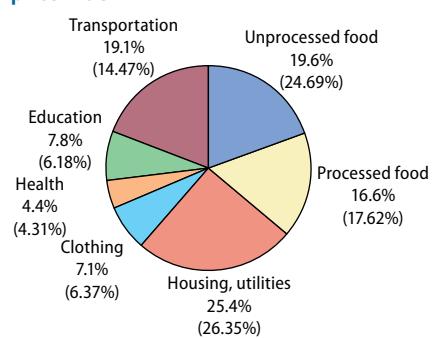


Note: Series break starting June 2008.

Sources: Asian Development Outlook database; CEIC Data Company Ltd., downloaded 1 September 2008.

[Click here for figure data](#)

3.5.5 Adjusted weights for the consumer price index



Note: Figures in parentheses indicate old weights.

Source: Thomson Reuters, Details of Indonesia's New CPI Weighting, available: <http://in.reuters.com/article/asiaCompanyAndMarkets/idINJAK32965020080701>, downloaded 1 July 2008.

[Click here for figure data](#)

rate—Figure 3.5.7). The rupiah appreciated by 2.7% against the US dollar from the start of 2008 to end-August.

Given the range of subsidies provided by the Government for food, fuel, fertilizer, and electricity, the high international oil and food prices put considerable pressure on the budget in the first half of 2008 (Box 3.5.1). The cost of all subsidies this year is projected to nearly double to the equivalent of 7.0% of GDP, from 3.8% in 2007 (Figure 3.5.8). The May hike in retail fuel prices trimmed growth in fuel subsidies. However, total subsidies this year will absorb about 30% of state expenditure (central government spending and transfers to the regions), based on a revised budget assumption that domestic crude oil will average \$127 a barrel.

3.5.1 Fuel subsidies a heavy burden on the budget

Fuel prices in Indonesia are determined by the Government, which provides subsidies to keep retail prices low by world standards (see the figure in Box 2.1.1, *Are high oil prices here to stay?*, in Part 2). The subsidies depend on global oil prices, exchange rate fluctuations, and the domestic fiscal position. In 2005, the cost of fuel subsidies ballooned to \$12.0 billion, or 4.4% of GDP, as global oil prices climbed. The Government raised retail fuel prices by a weighted average of 160% in two adjustments that year. Even though domestic gasoline prices were brought close to international levels, providing an opportunity to link domestic gasoline prices with international ones, the subsidy system was maintained.

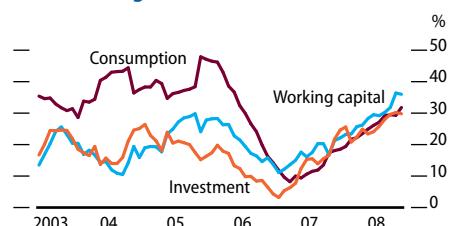
Retail prices were then left unchanged for nearly 3 years, even though global oil prices were rising. When they took off this year, the surging cost of subsidies pressed the Government to raise administered fuel prices by 28.7% in May, which brought the effective domestic price up to about \$75 a barrel, still well short of global levels. On the basis of an assumption of domestic oil prices averaging \$127 this year, the Government expects that subsidies for energy (fuel and electricity) will cost it Rp268.7 trillion

(\$28.2 billion), equivalent to about 5.7% of GDP, with fuel subsidies alone accounting for 22.4% of total central government expenditure or 16.4% of state spending (which includes transfers to the regions).

To mitigate the impact of the May fuel price increases, the Government provided cash compensation of Rp14.1 trillion (\$1.5 billion) for 7 months to 19 million very poor households, which also received food assistance. These concessions muted public criticism of the price hike. However, the budget remains vulnerable to increases in oil prices. Further, the central Government pays all the fuel subsidies but does not get all oil and gas revenues, owing to an arrangement that gives regional governments a share of these revenues. In addition, the subsidies are regressive: the top 10% of income earners receive 45% of the fuel subsidies and the poorest 10% less than 1%.

There would be advantages in removing fuel-price setting from the political process by linking fuel prices to global market levels. Such linking would reduce pressures on the budget, allowing for greater spending on priority expenditures, and would provide more accurate price signals to household and industrial users of fuel, encouraging them to be more fuel efficient.

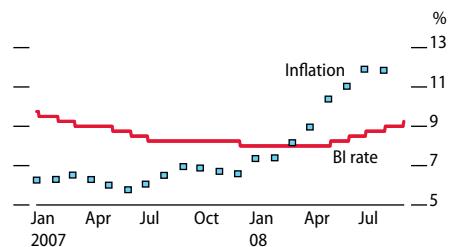
3.5.6 Credit growth



Source: CEIC Data Company Ltd., downloaded 22 August 2008.

[Click here for figure data](#)

3.5.7 Prices and policy rate

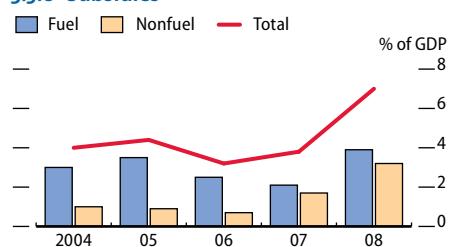


BI = Bank Indonesia.

Source: Datastream, downloaded 4 September 2008.

[Click here for figure data](#)

3.5.8 Subsidies



Sources: Bank Indonesia, *Economic Report on Indonesia*, various issues, available www.bi.go.id; Ministry of Finance, *Budget Statistics*, various issues, available: www.fiskal.depkeu.go.id.

[Click here for figure data](#)

As a result, other spending, including social development and capital works, has been reduced from original budget targets. Planned expenditure on education, for example, has been cut by 9.5% from the original budget and health spending by 7.4%. Capital spending is lowered by 17% from the original budget. The Government aims to limit the budget deficit to 1.8% of GDP (widening from 1.2% last year). It will finance the deficit through loans from multilateral and bilateral development agencies and bond issues. Domestic and international bond issuance in the first half totaled \$8.4 billion, 64% of the full-year target. The spread on Indonesian sovereign bonds has increased sharply, reflecting risk aversion in global markets and concerns over domestic inflation and the cost of subsidies (Figure 3.5.9).

Moderate economic growth is generating jobs, but not enough to significantly take down unemployment and underemployment. The Government targets unemployment of 5.1% in 2009 (it was 8.5% in February 2008), which would still be above the 4.7% seen just before the 1997–98 Asian financial crisis. The rate of underemployment (those working fewer than 35 hours a week) was 27.5% of the labor force in February. Furthermore, 70% of total employment is in the informal sector, where wages and benefits are generally very low. More than 40% of the population lives on less than \$2 a day, leaving them vulnerable to increases in food and fuel prices.

Underinvestment in power facilities over many years is, since July, manifested in controlled power blackouts in metropolitan Jakarta and other cities. The Government required manufacturers to shift some work to weekends to spread the demand for electricity. Electricity tariffs are set by the Government and kept low, one reason for underinvestment in this industry.

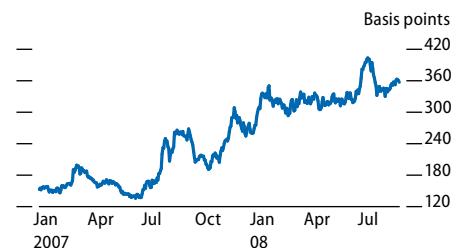
Prospects

The forecasts assume that the central bank will continue to address inflation pressures, that the rupiah remains in its narrow band against the US dollar (Figure 3.5.10), and that the Government contains the growth of subsidies. They further assume that weather conditions will be normal for the rest of 2008 and during 2009, and that there will be no natural disasters.

Growth in private consumption eased in the April–June quarter and is expected to slow to 5.1% in the second half of 2008 alongside high inflation. The impact of inflation will be offset to some degree by additional spending during the Ramadan holiday period in September. Growth in investment is expected to moderate in the second half because of the weaker global economic and financial environment and the rise in domestic interest rates. Bank credit continues to expand robustly, though. Government capital and social spending should pick up, given that the decline in global oil prices at the start of the second half will tend to reduce the cost of fuel subsidies. Growth in export earnings is expected to ease because of likely weaker external demand and a decline in some commodity prices.

Taking these factors into account, GDP growth is forecast to decline to 6.0% in the second half. As growth in the first half was higher than

3.5.9 Sovereign risk spreads



Note: JPMorgan Emerging Markets Bond Index sovereign stripped spreads.

Source: Datastream, downloaded 4 September 2008.

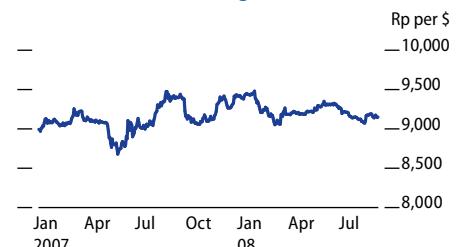
[Click here for figure data](#)

3.5.1 Selected economic indicators (%)

| | 2008 | | 2009 | |
|--------------------------------------|-------------|----------------|-------------|----------------|
| | ADO 2008 | Update 2008 | ADO 2008 | Update 2008 |
| GDP growth | 6.0 | 6.2 | 6.2 | 6.2 |
| Inflation | 6.8 | 10.2 | 6.5 | 7.5 |
| Current acct. bal. (share of GDP) | 1.9 | 1.1 | 1.6 | 1.7 |

Source: Staff estimates.

3.5.10 Nominal exchange rate



Source: Datastream, downloaded 1 September 2008.

[Click here for figure data](#)

expected at 6.4%, the full-year forecast is now 6.2% (Figure 3.5.11), slightly above the 6.0% expected in *ADO 2008*.

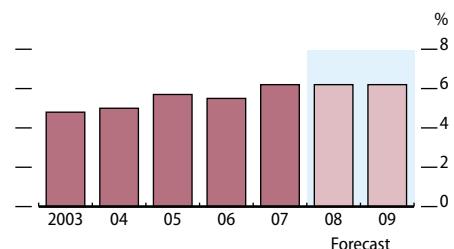
Parliamentary elections are scheduled for April 2009 and presidential elections for 3 months later, pointing to a pickup in budget disbursements in the first half of next year (the proposed 2009 budget raises spending by 12.3%). This is expected to support consumption, which will also be underpinned by a forecast easing in inflation. The weak global outlook and rising domestic interest rates will tend to damp investment, but capital outlays on public infrastructure are expected to increase in the second half of 2009 as the new administration turns its attention to deficiencies in ports, power generation, and many other areas. As fuel subsidy costs decline alongside the expected easing in world oil prices next year, budget resources should be freed for social and development spending. Export growth is expected to ease because of softening commodity prices and generally sluggish growth in world trade, while import growth could remain robust if domestic demand is as firm as expected. The GDP growth forecast for 2009 is unchanged from *ADO 2008* at 6.2%

The trade surplus this year looks set to decline to \$22.0 billion, from \$32.8 billion in 2007. The forecast for the current account surplus is revised down to 1.1% of GDP, from 1.9% in *ADO 2008* and an actual surplus of 2.4% in 2007. The overall balance of payments is projected to remain in surplus as a consequence of foreign direct investment and portfolio inflows. In 2009, the current account surplus is forecast at 1.7% of GDP, upgraded a little owing to the revised assumption of moderate growth in global nonfuel commodity prices.

Inflation is expected to remain high through the rest of 2008 and into 2009, although it may well peak in September 2008. A good domestic rice harvest has moderated rice prices, but other food items (especially imported ones) are pushing up inflation. The May increase in retail fuel prices will underpin high inflation for some time. Moreover, if the Government's assumption of domestic crude oil averaging \$127 a barrel proves to be low, another increase in retail fuel prices might be required. Without any further fuel price increases, inflation is seen averaging 10.2% this year, revised up from 6.8% in *ADO 2008* because of higher than expected inflation in the first half. The tightening in monetary policy will have an impact on price pressures in 2009, when inflation is set to ease to 7.5% (revised up by 1 percentage point from *ADO 2008*) (Figure 3.5.12).

Risks to the forecasts are largely grounded in the costs of subsidies. Higher than expected prices of food and oil would require larger subsidies, which would further erode funds available for other public spending. If inflation does not decline as projected in 2009, thereby requiring a longer cycle of monetary policy tightening, consumption and investment would be weaker than forecast.

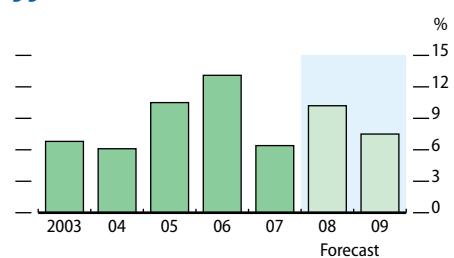
3.5.11 GDP growth



Sources: CEIC Data Company Ltd., downloaded 22 August 2008; staff estimates.

[Click here for figure data](#)

3.5.12 Inflation



Sources: CEIC Data Company Ltd., downloaded 22 August 2008; staff estimates.

[Click here for figure data](#)

Malaysia

High prices for export commodities supported incomes and consumption in the first half of 2008. An expansionary fiscal stance and accommodative monetary policy also underpinned growth. The economy slowed less than foreseen earlier in the year, and the GDP growth forecast is nudged up to 5.6%. With the external environment expected to remain soft next year and commodity prices to moderate, and given limited room for fiscal stimulus, the growth projection for 2009 is revised down to 5.3%. Inflation has accelerated, prompting upward revision to the inflation forecasts. Over the longer term, subsidies on food and fuel could compromise fiscal consolidation and risk blunting incentives for greater efficiency in their use.

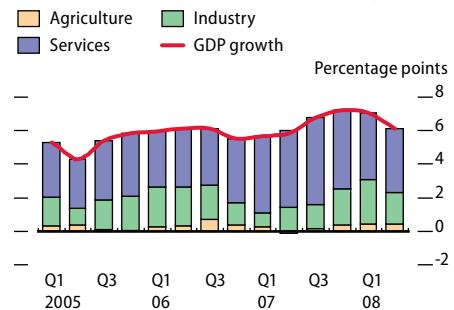
Updated assessment

GDP growth slowed more moderately than expected in *Asian Development Outlook 2008* (ADO 2008) in April, from a recent peak of 7.3% in the fourth quarter of 2007 to 6.3% in the second quarter of 2008 (Figure 3.6.1). Growth for the first half of 2008 was 6.7%. Agriculture performed well, benefiting from a sharp rise in palm oil production—reflecting improved yields and recovery from the year-earlier period when floods suppressed output—and from the strength of livestock. Industrial output was supported by an expansion of domestic-oriented production, including construction and transport equipment, despite slowing growth in the electronic and electrical subsector. A deceleration in services growth, which accounts for about half of GDP, was broad-based, although the sector continued to comfortably outpace overall growth. Consumer spending buoyed wholesale and retail trade while finance and insurance moderated.

Consumption continued to provide a strong impetus to domestic demand and growth (Figure 3.6.2). The beneficial effects of high commodity prices on rural incomes, a boost to civil servants' salaries in July 2007, a stable labor market, expenditures related to the general elections in March 2008, and low real interest rates all contributed to resilient consumption. Growth in private consumption, which makes up about half of GDP, slowed modestly to 9% in the second quarter from 10.8% in full-year 2007. Public consumption also recorded strong 8.8% growth in the first half. Subsidies on food and fuel, price controls on essential foodstuffs, and government programs to support lower-income groups have temporarily staved off the full impact on consumption of the rise in international prices of food and fuel.

Total investment declined in the first half, reflecting a fall in inventories. Fixed investment growth moderated to 5.6% in the second quarter from a peak of 12.8% in the third quarter of 2007. The deceleration is consistent with a moderation of foreign direct investment to RM3.4 billion in the first quarter from a recent peak of RM11.5 billion in the second quarter of 2007. Businesses are also likely to

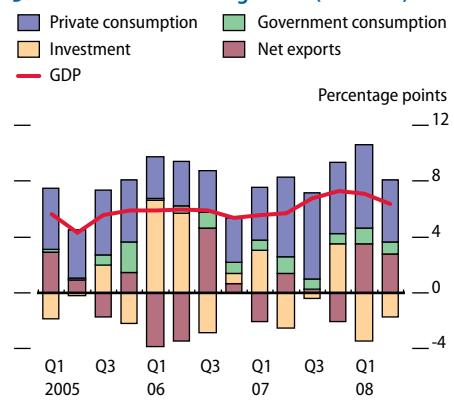
3.6.1 Contributions to growth (supply)



Source: Bank Negara Malaysia, available: www.bnm.gov.my, downloaded 1 September 2008.

[Click here for figure data](#)

3.6.2 Contributions to growth (demand)



Source: Bank Negara Malaysia, available: www.bnm.gov.my, downloaded 1 September 2008.

[Click here for figure data](#)

have postponed major projects while waiting for the outcome of March's elections and because of the more uncertain economic outlook.

Net exports contributed significantly to growth in the first half. The volume of exports rose faster than in the year-earlier period. Import volumes rose at a slower rate than those of exports, largely reflecting slower growth of the imports required for electronic and electrical exports and a moderate rise in fixed investment.

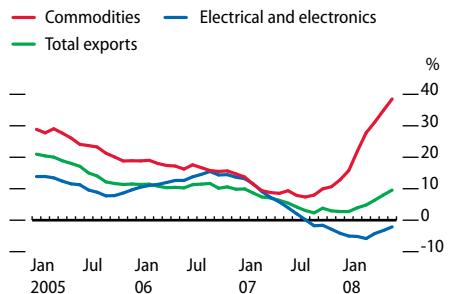
Exports in nominal terms have risen robustly this year, mainly a result of high global commodity prices (Figure 3.6.3) but also by a reorientation of exports: from the United States (US), European Union (EU), and Japan—whose combined share fell from 47% of total exports to 37% between 2000 and 2007—to the People's Republic of China and non-Asian countries. The ringgit value of merchandise exports was up by 15.5% in the first half with a 52% increase in major commodity exports. On the back of the persistent rise in commodity prices in the past few years, the share of major commodity exports in the total has risen to 22% (first-half 2008) from 11% (full-year 2001), with a corresponding decline in the share of electrical, and especially electronic, products to 30% and 12%, respectively. This export group stagnated in the first half relative to a year earlier as the decline in sales of semiconductors and electronic equipment and parts counterbalanced the increase in consumer electrical exports. Imports in nominal terms also rose in the first half, but at a slower 8.3% rate than the rise in exports. The merchandise trade surplus widened by 55% year on year in the first 6 months.

Available data for the first quarter show a 29% increase in the current account surplus, largely reflecting a wider merchandise trade surplus and contributing to a higher surplus in the overall balance of payments. Net inflows from the balance of payments exerted upward pressure on the currency, which the central bank, Bank Negara Malaysia, damped by accumulating foreign exchange reserves. International reserves rose to \$124 billion in mid-August from \$98 billion at end-2007. In spite of this injection of liquidity, growth in monetary aggregates was moderate: M3 rose by 14.1% in July 2008, just slightly faster than the 13.4% of a year earlier, and below the rise in first-half nominal GDP (Figure 3.6.4).

Inflation pressures have risen significantly and by more than expected in ADO 2008, primarily on account of the sharp rises in global food and fuel prices (Box 3.6.1). In the past few years, imported inflation had been tempered somewhat by administered prices of key products, including various foods and fuels, and by the appreciation of the ringgit against the US dollar. But the sharp and persistent rise in world fuel prices prompted the authorities to reduce the subsidies for fuel in June, and raise electricity tariffs from July, in order to contain the fiscal deficit and promote energy efficiency. Consumer price index (CPI) inflation averaged 4.4% in the first 7 months of this year, up from 2.0% a year earlier.

There is little evidence so far of a spillover to other components of the CPI. In the first 7 months of this year, the increase in food and transport prices, which have weights of 31% and 16% in the CPI basket, were the main drivers, accounting for 50% and 25% respectively of CPI inflation (Figure 3.6.5). The producer price index has been rising at a faster pace than the CPI, with a 10.3% increase in the first half, indicating increasing pressure on companies' profit margins.

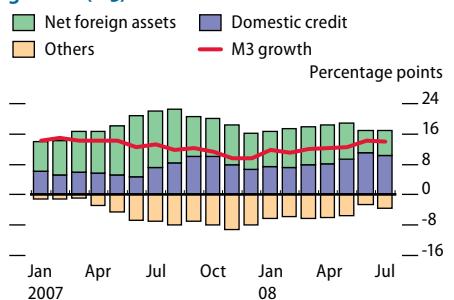
3.6.3 Merchandise export growth (year-on-year 12-month moving average)



Source: Bank Negara Malaysia, available: www.bnm.gov.my, downloaded 1 September 2008.

[Click here for figure data](#)

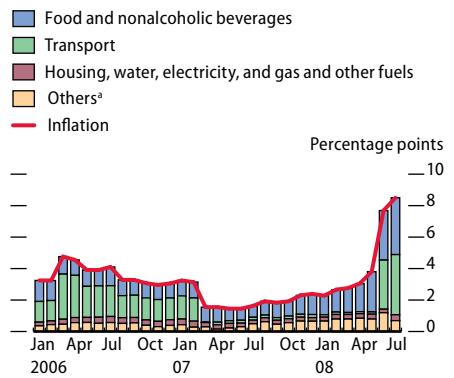
3.6.4 Contributions to money supply growth (M3)



Source: Bank Negara Malaysia, available: www.bnm.gov.my, downloaded 1 September 2008.

[Click here for figure data](#)

3.6.5 Contributions to inflation



^a Includes alcoholic beverages, clothing and footwear, furnishings, health, communications, recreation, education, restaurants, and hotels. This category has a 31% weight in consumer price index.

Source: Department of Statistics of Malaysia, available: www.statistics.gov.my, downloaded 29 August 2008.

[Click here for figure data](#)

3.6.1 Impact of food and fuel price increases

Malaysia is an exporter of palm oil, rubber, timber, and tin, a net exporter of fuel, and a net importer of food. It imports about a third of its domestic milled rice consumption for example, and all its wheat.

The increase in global commodity prices has contributed to higher trade and current account surpluses. Exports of crude oil and liquefied natural gas, in ringgit terms, have risen by more than 20% on average annually in 2003–2007; fuel imports also rose at a similar pace but from a lower base, thus widening the surplus. The impact of food price increases is more modest: imports of primary foods for household consumption rose at an average annual rate of 10% in 2003–2007, to RM4.0 billion.

With the rise in food and fuel prices, the attendant pressures on inflation and the fiscal account have complicated economic management. Domestic consumers have been insulated from the full impact by subsidies, especially on fuel, and by price controls on essential food items. Subsidies accounted for the equivalent of 1.6% of GDP and 8.5% of the federal Government's operating expenditure in 2007. (This excludes subsidies provided by Petronas, the state oil and gas company, to power producers.) The subsidies provided by the Government are estimated to rise to 4.3% of GDP this year.

To contain the increase in subsidies, the domestic price of gasoline was raised by 41%, that of diesel by 63%, and electricity tariffs by 18–26% for commercial and industrial users as well as households that consumed more than 200 kilowatt-hours per month. But even after the increase, domestic prices were still much lower than international prices—and with the subsequent decline in global fuel prices, the domestic price of gasoline was reduced by 5.6% and that of diesel by 3.1% in August. The Government intends to review fuel prices on a monthly basis and maintain a 30 sen per liter subsidy on gasoline and a 50 sen per liter subsidy on diesel.

The rise in domestic prices of fuel contributed to 7.7%

year-on-year consumer price inflation in June and 8.5% in July, up from 3.8% in May. Much of the increase until May had been driven by higher food prices.

According to government estimates, the reduction in fuel subsidies amounted to about 2% of GDP, or RM13.7 billion. However, to cushion the impact, about RM5 billion of these savings were given as cash rebates to owners of small vehicles (including private cars with an engine capacity of up to 2,000 cubic centimeters). The scheme also included increased subsidies for approved public transport companies and fishermen. Another RM6 billion was reallocated to support food subsidies and to increase the stock of imported rice. The net effect on the fiscal position was thus broadly neutral.

Measures for lower-income groups have also been announced, including raising the income threshold for eligibility for welfare assistance.

The authorities are attempting to balance fiscal prudence with supporting growth and insulating the more vulnerable segments of the population from inflation. However, over the longer term, if international prices remain high, the relatively lower domestic prices will not provide a strong signal of the relative scarcity of these products, especially fuel, and thus blunt the incentives for greater economy and efficiency in their consumption. Furthermore, the fuel subsidies are likely to benefit the relatively well-off, who are bigger consumers of energy.

Price discrepancy with neighboring countries is also likely to encourage smuggling, leading to a leakage of subsidies. This is less so for food since most of the controlled food items are of lesser quality and thus indirectly target the less well-off. But, for food too, price controls could damp the domestic supply response. A preferred option would be to align domestic prices of fuel and food to international prices in a phased manner and to strengthen the targeted support to lower-income groups.

Demand-side pressures on inflation remain subdued as money supply growth has been moderate in the last few years. The labor market may also be developing some slack as economic growth falls below the economy's potential (estimated by the central bank at 6.4% for 2007). The unemployment rate rose to 3.6% in the first quarter of 2008. In view of the subdued demand-side pressures and an apparent absence of spillover of food and fuel prices into overall prices, Bank Negara Malaysia has left its overnight policy rate unchanged at 3.5% since April 2006.

The rise in international food and fuel prices has complicated the Government's fiscal consolidation program against a backdrop of a more uncertain political environment. (In the March elections, the ruling coalition suffered a loss of its two-thirds majority in Parliament.) In order to contain federal government debt of 42% of GDP, which is higher

3.6.1 Selected economic indicators (%)

| | 2008 | | 2009 | |
|--------------------------------------|-------------|----------------|-------------|----------------|
| | ADO 2008 | Update 2008 | ADO 2008 | Update 2008 |
| GDP growth | 5.4 | 5.6 | 5.9 | 5.3 |
| Inflation | 2.7 | 5.6 | 2.5 | 4.2 |
| Current acct. bal. (share of GDP) | 11.6 | 16.4 | 11.7 | 16.7 |

Source: Staff estimates.

than that of most other large economies in Southeast Asia, the federal Government trimmed its deficit to 3.2% of GDP in 2007 from a high of 5.5% in 2000. However, this year, a deficit of 2.6% of GDP was posted in the first half compared with a surplus of 0.3% a year earlier (Figure 3.6.6). Much of this reflected a 36% rise in operating expenditures, notably a 30% increase in civil servants' salaries and a 298% jump in subsidies. Revenues rose by a more moderate 16% during the period, supported by a hefty increase in receipts from Petronas, the state oil and gas company, which accounted for close to 40% of total revenues.

Prospects

The economy is highly open: exports and imports of goods and services accounted for 110% and 89% of GDP, respectively, in 2007. With the global economy weakening and expected to remain lackluster in much of 2009, the country's economic growth is likely to slow both this year and next relative to the trend of the past 5 years. Projections for the period assume that political uncertainties will not have a significant impact on economic policies, that the Government will bring the fiscal consolidation program back on track after slippage this year, and that monetary policy will remain prudent in containing inflation pressures.

The projection for GDP growth this year is increased slightly to 5.6% from that in ADO 2008, while growth for next year is marked down to 5.3% on expectation of continued softness in the external environment (Figure 3.6.7). A still-sharper slowdown in economic growth is likely to have been prevented by the temporary fiscal stimulus and an accommodative monetary policy, and by the support from commodity exports.

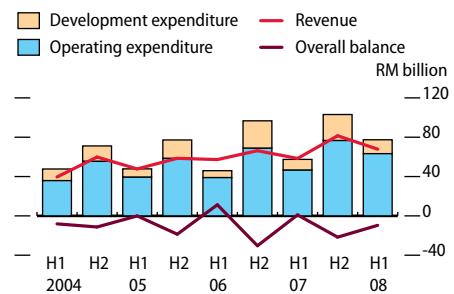
The revision for this year reflects primarily stronger than expected performance in the first half. The impacts of some factors that supported consumption growth, including election-related spending and the increase in civil servants' salaries, have either dissipated, or are likely to do so, over the rest of this year. The labor market is also likely to soften. Furthermore, the rise in inflation will crimp consumers' purchasing power.

Export volumes of goods and services are likely to decelerate in the second half of 2008 and in 2009, in line both with weaker external demand and a moderation in tourism after strong growth last year. The real trade-weighted exchange rate of the ringgit is projected to remain stable. The nominal exchange rate has depreciated against the currencies of some major trading partners this year. Real domestic interest rates are likely to fall further, so the pressure for appreciation of the real exchange rate of the ringgit against major currencies should be subdued (Figure 3.6.8).

Import volumes are also likely to moderate in the second half of 2008 and in 2009, largely reflecting weaker electronic exports, which tend to be import-intensive, as well as modest growth of fixed investment, due to anxieties about external markets, a dimmer outlook for the domestic economy, and somewhat greater domestic political uncertainties. Net exports are thus likely to contribute to growth this year before subtracting modestly from it next year (as in the past 2 years).

The value of exports is likely to rise faster this year than last on the sharp increase in commodity prices. Next year, as fuel prices are expected to fall and the increase in nonfuel commodity prices to moderate, export

3.6.6 Government finance



Source: CEIC Data Company Ltd., downloaded 1 September 2008.

[Click here for figure data](#)

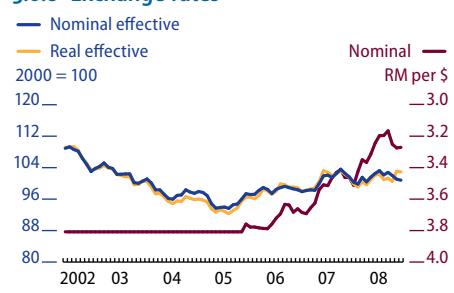
3.6.7 GDP growth



Sources: Asian Development Outlook database; staff estimates.

[Click here for figure data](#)

3.6.8 Exchange rates



Note: RM per \$ is an inverted scale.

Sources: Bank for International Settlements, available: www.bis.org; CEIC Data Company Ltd.; both downloaded 1 September 2008.

[Click here for figure data](#)

growth should decelerate in tandem. With imports also softening, the trade surplus is likely to rise. The services account will likely retain a small surplus. The income account deficit has declined in recent years, partly reflecting rising dividend incomes from outward direct investment by Malaysian companies. The forecasts for current account surpluses are revised up for both 2008 and 2009 (Figure 3.6.9).

Inflation is forecast to remain high as the June reduction in fuel subsidies and the electricity tariff hike in July filter through the economy, and as food prices remain elevated. The effects of June's and July's measures will probably erode companies' profit margins further, and producers will attempt to pass the higher prices on to consumers. Still, as growth slows and the international price of fuel subsidies, inflation should moderate. In fact, marking the fall in global fuel prices, domestic prices of gasoline and diesel were trimmed in August. Average CPI inflation is projected to hit 5.6% this year, the highest rate since 1982, and revised up sharply from ADO 2008, before moderating to 4.2% next year (Figure 3.6.10).

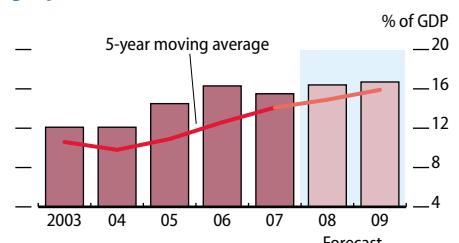
As of August 2008, the central bank had refrained from tightening monetary policy, partly as it expects slower economic growth to temper inflation. The rise in inflation has led to a decline in real deposit and lending rates, and the latter turned negative in June 2008 (the former has been negative for longer). As inflation moderates next year, real interest rates should start to turn positive (Figure 3.6.11).

The Government revised its estimate for the fiscal deficit this year to 4.8% of GDP from an original target of 3.1%. Most of this widening reflects an increase in the allocation for subsidies. Development expenditures are also set to increase. A rise in revenues equivalent to 1.8% of GDP, mainly from oil and gas receipts, is expected to offset some of this increase in total expenditure.

The budget for 2009 envisages a reduction in the deficit to 3.6% of GDP. Revenues are forecast to increase by 9.0% and operating expenditures by a modest 2.0%, as subsidies are expected to remain stable. Development spending growth is projected to increase by 12.0%, only slightly lower than 14.0% this year. The expected increase in revenues may prove ambitious, considering the likely decline in global fuel prices, slower economic growth, and measures to enhance disposable incomes in the 2009 budget (including tax breaks for individuals and elimination of duties on some food items).

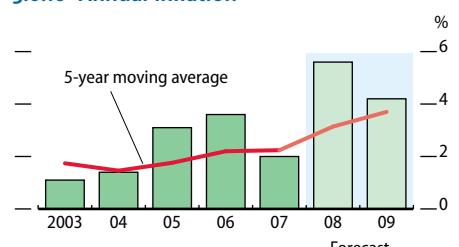
The main risks to the baseline projections stem from developments in the external environment and the domestic policy response. If commodity prices, especially of fuel, rise to such an extent that global growth is slower than expected, Malaysia's growth will also suffer. In that event, inflation will likely be higher than the projections because subsidies may need to be further cut. (Fiscal options to support growth are limited.) If subsidies are not reduced, social and development spending will probably need to be curbed or the fiscal consolidation program may slip again, potentially raising the country risk premium and borrowing costs and damping prospects for medium-term growth. Also, if inflation turns out higher than expected, monetary policy, which has remained accommodative so far, may need to be tightened rapidly, generating uncertainty about macroeconomic stability.

3.6.9 Current account balance



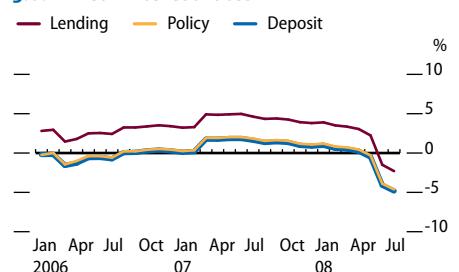
Sources: Asian Development Outlook database; staff estimates.
[Click here for figure data](#)

3.6.10 Annual inflation



Sources: Asian Development Outlook database; staff estimates.
[Click here for figure data](#)

3.6.11 Real interest rates



Notes: Deposit rates are for 6-month fixed deposits in commercial banks. Lending rates are average lending rates for commercial banks.

Source: CEIC Data Company Ltd., downloaded 1 September 2008.
[Click here for figure data](#)

Pakistan

The unprecedented increase in global oil and food prices and domestic policy uncertainties in a turbulent political year stressed the economy in FY2008, as revealed in a slowdown in growth, a buildup in inflation, wide fiscal and current account deficits, a weaker currency, and a large drop in foreign reserves. Increased risk perception was seen in a downgrading of credit ratings, a rise in sovereign bond spreads, a slide in capital inflows, and declining access to international capital. With continued high oil prices, an ongoing power deficit, and tightened demand management policies to correct macroeconomic imbalances, economic growth in FY2009 is put at only 4.5%. High inflation will persist as domestic fuel, food, and power subsidies are rationalized. Although imbalances are expected to shrink they cannot be eliminated quickly. To move forward, a coherent and credible short- to medium-term economic stabilization and reform program needs to be adopted and implemented.

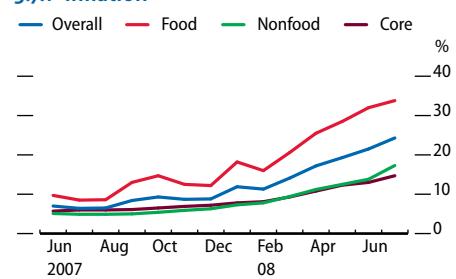
Updated assessment

FY2008 (ended June 2008) was a tumultuous year, and GDP growth slowed to 5.8%. Agriculture in particular suffered as major crops such as cotton and wheat failed to reach targets because of weather conditions, insufficient water, pest attacks, higher costs of fertilizer, and a delayed government announcement of the support price for wheat (which led to a lower sown area). Manufacturing growth—hit by a listless textile subsector, power shortages, and political disturbances in major industrial towns—fell by half to 5.4%, after averaging over 11% in the previous 4 fiscal years. Construction maintained relatively strong growth. Services remained the main economic driver, rising by 8.2%, backed by thriving wholesale and retail trade, a strong expansion in telecommunications, and robust financial activity.

Real private consumption was the largest contributor to growth from the demand side, underpinned by booming remittances and high food and fuel subsidies. Private investment in contrast stagnated, falling to 14.2% of GDP on account of political uncertainty, power shortages, and a downgrade in credit ratings. National savings as a share of GDP declined even more, widening the savings–investment gap. Net exports once again subtracted from growth as import volumes expanded markedly, with demand bolstered by domestic subsidies on oil and some food commodities.

Some pass-through of the substantial rise in international food and oil prices from 1 March 2008 (when the Government began raising administered prices), together with lower domestic food production, a depreciating currency, and strong consumption led to a surge in inflation in FY2008 (Figure 3.7.1). It averaged 12.0% for FY2008, the first time in 11 years it has hit double digits. Food inflation year on year reached 32% in June 2008 as prices of essential food commodities jumped, and

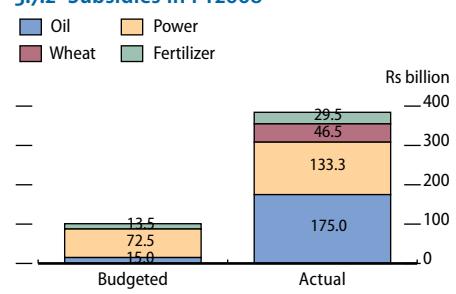
3.7.1 Inflation



Source: State Bank of Pakistan, available: <http://sbp.org.pk>, downloaded 13 August 2008.

[Click here for figure data](#)

3.7.2 Subsidies in FY2008



Source: Ministry of Finance, federal budget documents, June 2008.

[Click here for figure data](#)

accounted for much of the 21.5% increase in overall inflation in June (Box 3.7.1). It also fed into core inflation, which rose by 13.0% in June 2008, year on year. The State Bank of Pakistan (SBP), in its Monetary Policy Statement for July–December 2008, estimated that about one third of inflation came from the direct and indirect impacts of higher commodity prices in FY2008.

To help protect consumers from the impact of rising inflation, the Government provided large subsidies for oil products, electricity, imported wheat, and fertilizer. Although actual subsidies in FY2008 were much higher than had been budgeted (Figure 3.7.2 on previous page), many subsidies were not targeted and therefore had only a weak impact in protecting the poorest.

The large gap between actual and budgeted subsidies and higher interest payments overrode the impact of lower than targeted development expenditure, and resulted in a significant deterioration in the fiscal deficit, which substantially widened to 7.4% of GDP, surpassing the targeted deficit of 4.0%. The budgeted revenue target was achieved, helped by rising nontax collections; however, revenue growth did not match that of nominal GDP, causing the revenue-to-GDP ratio to fall to 14.3% from 14.9% in FY2007, while the tax-to-GDP ratio was stagnant at 10.0%.

To finance the burgeoning fiscal deficit in FY2008 at a time of dwindling external capital inflows (which covered only 26% of the fiscal deficit—Figure 3.7.3), and given the reluctance of commercial banks to purchase Treasury bills, the Government was compelled to borrow PRs689 billion from SBP (Table 3.7.1), equivalent to almost a third of

total government expenditure. Government borrowing from SBP was the single largest contributor to the 15.4% growth in broad money supply, which was inconsistent with SBP's effort to contain monetary growth. That would have been higher still had it not been accompanied by a marked drop in net foreign assets of the banking system.

With regard to monetary measures in FY2008, SBP raised the discount rate three times by a cumulative 250 basis points and increased commercial banks' cash-reserve requirements. Real commercial lending rates stayed negative. Private sector credit grew by 16.5%, only slightly less than a year earlier. Nevertheless, high inflation persisted as a result of elevated commodity prices.

The fiscal slide, precipitated by the failure to pass on the hike in international oil prices,

3.7.1 Impact of food and fuel price increases

The recent increase in domestic prices in Pakistan has come from a few commodities, mainly wheat flour, rice, vegetable ghee, and fresh milk. In June 2008, their prices increased by 75%, 93.4%, 54.3%, and 22.7%, respectively, on a year-on-year basis. The box table shows each commodity's contribution to overall inflation in FY2007 and FY2008.

Contribution to year-on-year inflation by category (percentage points)

| Item | FY2007 | FY2008 |
|------------------------------------|--------|--------|
| Food | 3.90 | 12.93 |
| Wheat flour | 0.35 | 3.83 |
| Rice | 0.65 | 1.25 |
| Vegetable ghee | 1.02 | 1.45 |
| Milk fresh | 0.85 | 1.51 |
| Others | 1.03 | 4.89 |
| Transport and communication | -0.22 | 1.82 |
| Gasoline (petrol) | -0.12 | 0.71 |
| All others | 3.32 | 6.78 |
| Overall inflation (%) | 7.00 | 21.53 |

Source: Staff estimates.

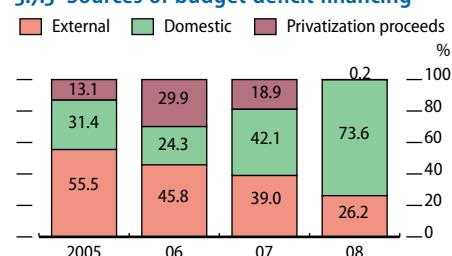
3.7.1 Monetary aggregates (flows, PRs billion)

| | FY2007 | FY2008 |
|-----------------------------------|--------------|---------------|
| Net domestic assets | 383.7 | 940.4 |
| of which: | | |
| Domestic credit | 478.5 | 1,025.3 |
| Growth (%) | 15.8 | 29.3 |
| Government sector ^a | 92.8 | 583.6 |
| Nongovernment sector ^b | 385.7 | 441.7 |
| Net foreign assets | 274.6 | -316.4 |
| State Bank of Pakistan | 222.7 | -307 |
| Commercial (scheduled) banks | 51.8 | -9.4 |
| Money supply (M2) | 658.3 | 624 |
| Growth (%) | 19.3 | 15.4 |
| Memorandum items | | |
| Net budgetary support | 102 | 554.6 |
| From State Bank of Pakistan | 58.6 | 688.7 |
| From commercial (scheduled) banks | 160.6 | -134.2 |
| Private sector credit | 365.7 | 408.4 |
| Growth (%) | 17.3 | 16.5 |
| Reserve money | 209.1 | 260.9 |
| Growth (%) | 20.9 | 21.6 |

^a Includes credit for commodity operations and net budgetary support. ^b Includes credit to private sector and public sector enterprises.

Source: State Bank of Pakistan, available: www.sbp.org.pk, downloaded 24 July 2008.

3.7.3 Sources of budget deficit financing



Sources: Ministry of Finance, *Pakistan Economic Survey* 2007–08; State Bank of Pakistan, *Monetary Policy Statement* July–December 2008.

[Click here for figure data](#)

became intertwined with the corresponding rise in the oil import bill, which was driven higher by both price and quantity increases. The direct subsidy on diesel and kerosene oil—the Price Differential Claim paid to oil-marketing companies, as well as the implicit subsidy through a reduction in the Petroleum Development Levy—helped sustain the high oil demand. The 2-weekly adjustment mechanism in domestic oil prices to respond to changes in international prices had been suspended in May 2006, and oil price adjustments only restarted in 1 March this year, with five subsequent upward moves through 21 July. So far, the adjustment to counter the impact of the rise in international prices has been incomplete (Box 3.7.2), although the Government has committed itself to eliminating all subsidies on oil products by December this year.

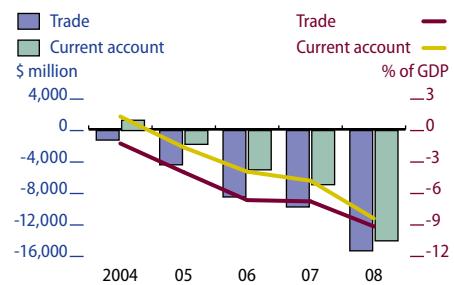
Oil imports increased by 43% in FY2008, and reached \$10.5 billion. This was the major cause of the worsening trade deficit, which soared by 57.4% to \$15.3 billion, even though the annual export target of \$19.2 billion was exceeded. The main reasons for the good export performance were higher rice exports, which increased by 40% following sluggish production and export restrictions in the major rice-producing countries and higher international prices; the trebling of cement exports resulting from strong demand by Middle East and African countries; and strong growth of exports of chemical products, especially plastic materials. These categories' robust performance compensated for the continued stagnation of textile exports, which stemmed from strong international competition, domestic production losses due to power shortages, and disruption caused by the political and security situation.

The food import bill swelled by 46% and was another key contributor to the trade deficit, driven by \$1.52 billion imports of edible oil and \$571 million of wheat imports as domestic consumption outstripped supply. The overall trade deficit and deterioration in the services and income accounts resulted in a huge \$14.0 billion current account deficit, or 8.4% of GDP (Figure 3.7.4). This deficit would have been even wider had it not been for workers' buoyant remittances, which, helped by the oil boom in the Middle East, continued to grow by 17.4% to total \$6.5 billion in FY2008.

The heavy fiscal and current account deficits struck at a time when capital inflows slowed over anxieties concerning the domestic political and security situation and the turmoil in international credit markets. Led by a significant drop in portfolio investment, foreign private investment fell by 38.4% (despite the resilience of foreign direct investment, which was unchanged from a year earlier). This decline, along with a stall in the privatization program, was indicative of investors' concern over the weakened fundamentals of the economy. The larger current account deficit thus resulted in a significant drawdown of foreign exchange reserves, as capital inflows slowed. Overall foreign exchange reserves fell by almost a third, from a high of \$16.5 billion in October 2007 to \$11.3 billion in June and to \$9.4 billion as of 22 August 2008 (Figure 3.7.5).

The Karachi Stock Market, which until recently had seen one of the largest price runups in developing Asia, succumbed to political uncertainty and weakened economic fundamentals as the KSE-100 index started falling precipitously, after peaking at 15,677 on 18 April 2008, to drop below 10,000 on 4 August (Figure 3.7.6).

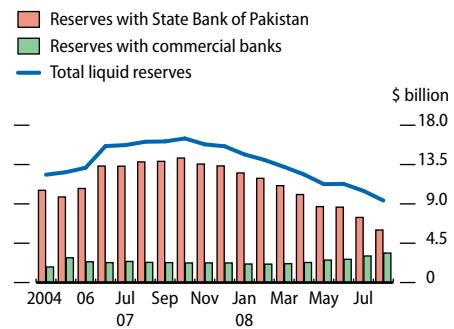
3.7.4 Trade and current account balances



Source: State Bank of Pakistan, *Annual Report*, various years.

[Click here for figure data](#)

3.7.5 Foreign exchange reserves



Source: State Bank of Pakistan, available: <http://sbp.org.pk>, downloaded 1 September 2008.

[Click here for figure data](#)

3.7.6 Performance of KSE-100 Index



Source: Karachi Stock Exchange, available: <http://www.kse.net.pk>, downloaded 1 September 2008.

[Click here for figure data](#)

3.7.2 Oil subsidies and pass-through to consumers

On 1 March 2008, the Government started adjusting upward the administered prices of key fuel items, partially passing on the impact of higher prices to consumers. The price that consumers pay equals the import parity price of oil minus the Price Differential Claim paid by the Government; the margins of the oil-marketing companies and dealers; and inland freight and taxes (excise duty, Petroleum Development Levy, and sales tax).

The Price Differential Claim is the direct subsidy paid by the Government on the import price of kerosene and light diesel oil, and is paid directly by the Government to the oil-marketing companies. In addition, the Government provides an implicit subsidy in the form of a reduction in Petroleum Development Levy to stabilize the domestic price of kerosene and light diesel oil. In the case of high-octane and regular gasoline, the Price Differential Claim subsidy was introduced in June 2008 but was eliminated on both products from 1 July this year.

The upper part of the box table shows the absolute levels of import and domestic prices of kerosene, light diesel oil, and high-octane and regular gasoline. The left side of the lower part of the table shows the Price Differential Claim in absolute terms and as percentage

of the total import price. In absolute terms, subsidies on kerosene and light diesel oil increased until July 2008, but then sharply fell in August 2008 as the Government started reducing the Price Differential Claim following the decline in international oil prices. As a percentage of the total import price, the subsidies on kerosene and light diesel oil have declined from their peak levels in May 2008 and registered a significant fall in August 2008.

The right side of the lower part of the box table provides the ratio of domestic to total import prices, which is a proxy for the pass-through, that is, how much of the increase in import prices has been passed on to consumers. These figures indicate that the Government continues to subsidize kerosene and light diesel oil; a return of their price ratios to July 2007 levels would restore margins and taxes and bring subsidies back to a range of 15–20% of the import price that prevailed at that time.

The price ratios for high-octane and regular gasoline are near or exceed the July 2007 level, indicating restoration of the earlier tax rates and margins. Using an average exchange rate of PRs76.51/\$1, regular gasoline in August sold for \$1.13 per liter and light diesel oil for \$0.74 per liter.

Oil prices, subsidies, and pass-through

Oil prices, international and domestic

| | Kerosene (PRs per liter) | | Light diesel oil (PRs per liter) | | High-octane gasoline (PRs per liter) | | Gasoline (PRs per liter) | |
|--------------|-----------------------------|----------------|-------------------------------------|----------------|---|----------------|-----------------------------|----------------|
| | Total import price | Domestic price | Total import price | Domestic price | Total import price | Domestic price | Total import price | Domestic price |
| July 2007 | 33.45 | 35.23 | 30.84 | 32.57 | 35.05 | 64.88 | 34.22 | 53.70 |
| January 2008 | 43.27 | 35.23 | 40.86 | 32.57 | 43.23 | 64.88 | 42.26 | 53.70 |
| May | 62.63 | 41.44 | 58.17 | 44.59 | 52.76 | 80.77 | 51.63 | 68.81 |
| June | 70.58 | 49.73 | 66.73 | 49.05 | 61.25 | 88.85 | 59.98 | 75.69 |
| July | 77.69 | 58.37 | 73.07 | 56.50 | 66.48 | 96.08 | 65.11 | 86.66 |
| August | 66.23 | 58.37 | 61.57 | 56.50 | 55.81 | 96.08 | 50.27 | 86.66 |

Price Differential Claim (subsidies)

| | PRs per liter | | As share of import parity price (%) | |
|--------------|---------------|------------------|-------------------------------------|------------------|
| | Kerosene | Light diesel oil | Kerosene | Light diesel oil |
| July 2007 | 5.33 | 5.58 | 15.9 | 18.1 |
| January 2008 | 17.9 | 16.3 | 41.4 | 39.9 |
| May | 32.14 | 23.86 | 51.3 | 41.0 |
| June | 33.57 | 29.04 | 47.6 | 43.5 |
| July | 33.93 | 29.4 | 43.7 | 40.2 |
| August | 18.47 | 16.82 | 27.9 | 27.3 |

Pass-through to consumers

| | Ratio of domestic price to total import price (%) | | | |
|--------------|---|------------------|----------------------|----------|
| | Kerosene | Light diesel oil | High-octane gasoline | Gasoline |
| July 2007 | 105 | 106 | 185 | 157 |
| January 2008 | 81 | 80 | 150 | 127 |
| May | 66 | 77 | 153 | 133 |
| June | 70 | 74 | 145 | 126 |
| July | 75 | 77 | 145 | 133 |
| August | 88 | 92 | 172 | 172 |

Source: Staff estimates.

Negative market sentiment was reinforced in May when Standard and Poor's downgraded Pakistan's debt rating from B+ to B and its long-term local currency rating from BB to BB-. Moody's quickly followed suit. This market pessimism translated into a risk premium of 912 basis points on the spread of sovereign bonds by 19 August 2008, and consequently plans to access international capital markets through sovereign bond issuance and global depository receipts were deferred (Figure 3.7.7).

Undermined by the current account deficit, the slowdown in capital inflows, and the drop in reserves, the rupee–dollar exchange rate depreciated by 12% between 1 July 2007 and 30 June 2008 (Figure 3.7.8). Subsequently it depreciated further by about 11% through end-August. Higher interest rates were insufficient to arrest the decline of the rupee and, since end-April this year, SBP has adopted administrative measures, including suspending forward booking of imports, reducing advance payments against imports' letters of credit, and requiring foreign exchange companies both to obtain approval for transactions of over \$50,000 and to surrender their "surplus" foreign currency to SBP. The sharp depreciation in the nominal exchange rate overshadowed the upward movement in the relative price index, such that the real effective exchange rate depreciated by 2.3% over the four quarters of FY2008 (Figure 3.7.9).

Prospects

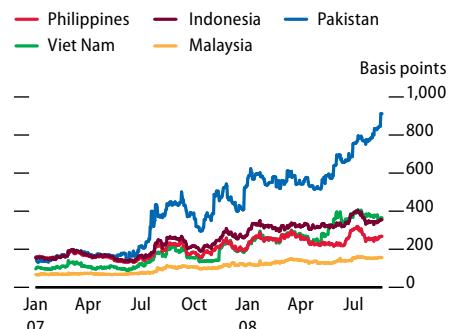
Economic projections for FY2009 are based on the following assumptions: political tensions will lessen leading to a more stable political environment, though uncertainty and security concerns will continue to affect economic decision making and investors' confidence; the stabilization measures announced in the budget to rationalize subsidies and curb demand will be implemented and overall demand management policies will be tight; international oil prices will remain high (as assumed in the baseline for this *Update*); and the pass-through of price adjustments related to the ending of oil subsidies as well as continued power shortages will increase the cost of doing business and therefore exacerbate inflation.

On these assumptions, growth in FY2009 is expected to remain subdued at 4.5%, with a continued slowdown in commodity-producing sectors. Domestic spending will have to rise less than output for the current account deficit to shrink. In these circumstances, export growth becomes crucial, as it will help make the current adjustment less painful. The faster the growth in exports the smaller the reduction in growth required to close the deficit.

In agriculture, cotton production is likely to fall short of target due to a reduction in the sown area and to a meal-bug virus attack. (Lower cotton production will hurt the textile industry.) It is too early to predict the winter wheat crop, which will depend on the availability of water and on the supply response of farmers to the expected adjustment in the procurement price to bring it close to international prices. Robust growth in services is expected to continue, although the sector will be affected by the tax measures announced in the budget and by power shortages.

On the demand side, private consumption in FY2009 will be hit by higher prices as food, oil, and power subsidies are rationalized.

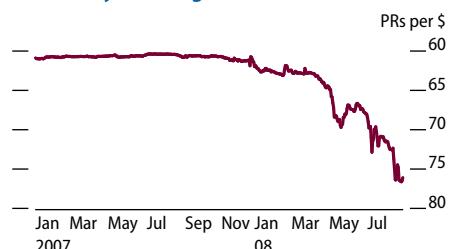
3.7.7 JPMorgan Emerging Market Bond Index sovereign stripped spreads



Source: Datastream, downloaded 19 August 2008.

[Click here for figure data](#)

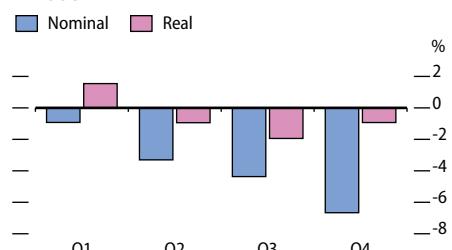
3.7.8 Daily exchange rate



Source: CEIC Data Company Ltd., downloaded 1 September 2008.

[Click here for figure data](#)

3.7.9 Change in effective exchange rates, FY2008



Source: State Bank of Pakistan, *Statistical Bulletin*, August 2008, available: <http://www.sbp.org.pk>.

[Click here for figure data](#)

Government expenditure will be suppressed by measures announced in the budget to contain current spending. Investment levels will be restrained by uncertainty, low capital inflows, and power shortages. The present power shortages are a result of chronic underinvestment in new generation capacity, high operational inefficiencies due to the lack of expansion of the power transmission and distribution infrastructure, and delayed institutional reforms. Although the Government is undertaking investment and reform in all these areas, the demand-supply gap will remain until new generation capacity comes on stream and the transmission and distribution infrastructure is upgraded.

With the Government setting out to progressively rationalize the oil subsidy by passing on higher prices to consumers and by reducing the subsidy between the full-cost producer price and tariffs charged for electricity, average inflation is projected to reach 20.0% in FY2009, higher than the government target of 11.0%. The planned adjustment of the domestic procurement wheat price will contribute to higher food inflation.

SBP has increased the discount rate several times since June 2007, taking it from 9.5% to 13.0% (Figure 3.7.10), and yet inflation has climbed. Moreover, the ensuing increase in the Karachi interbank offered rate has led to a rise in bank lending rates. SBP's interest rate tightening should increase the attractiveness of Treasury bills for commercial banks, and this would help reduce the Government's dependence on borrowing from SBP. An efficient way to achieve this objective, as recognized by SBP in the Monetary Policy Statement for July–December 2008, would be to limit the amount that the Government can borrow from SBP and encourage long-term nonbank borrowings. Achieving that statement's target of a 14% increase in money supply in FY2009, which is lower than in FY2008, would require strict limits on budget access to SBP credit.

To the extent that inflation in Pakistan is driven by high commodity prices, monetary tightening will have a limited impact on inflation and will most likely aggravate the economy's other structural problems. Excessive dependence on higher interest rates to stabilize prices will make firms reluctant to use debt financing and therefore push them to rely more heavily on self-financing, which might lead to less efficient capital allocation. Moreover, unless interest rates are raised significantly, it will probably take a long time for monetary policy to have an impact on the economy and inflation.

Although a tightening of expenditure policies, such as fiscal discipline, helps keep inflation in check, it also acts as a deflationary force resulting in underused production capacity and higher unemployment. A more effective anti-inflation tool would be identifying and eliminating fiscal programs that induce an inflationary bias in the economy, combined with pushing through moderate increases in interest rates to limit excessive credit expansion. Finally, to prevent a wage-price spiral, the authorities might consider implementing policies that link nominal wage increases to productivity increases and that limit increases in firms' markups, through, for example, tripartite (state, employer, worker) agreements.

The Government expects a significant reduction in the fiscal deficit as a result of the measures adopted in the FY2009 federal budget. These aim to reduce subsidies, curtail general government expenditure, and

3.7.2 Selected economic indicators (%)

| | 2008 | | 2009 | |
|--------------------------------------|-------------|----------------|-------------|----------------|
| | ADO 2008 | Update 2008 | ADO 2008 | Update 2008 |
| GDP growth | 6.3 | 5.8 | 6.5 | 4.5 |
| Inflation | 8.0 | 12.0 | 6.5 | 20.0 |
| Current acct. bal. (share of GDP) | -6.3 | -8.4 | -5.8 | -8.0 |

Source: Staff estimates.

boost revenues. A rationalization of the large public sector development program announced in the budget will help contain public spending. However, the difficulties in achieving a planned increase in tax revenues of almost 25%, a 20% increase in public sector salaries and pensions, and the projected slowdown in growth imply that the fiscal deficit will likely exceed the government target of 4.7% of GDP—but the outcome should, though, be much better than in FY2008.

Despite the need to reduce the budget deficit, a crucial requirement is protecting the poor from the impact of high oil and food prices. In this regard, the social protection programs announced by the Government in the budget need to be implemented quickly. As part of this effort, the Government has launched the PRs34 billion Benazir Income Support Program, under which qualified beneficiaries will receive PRs1,000 a month.

Despite possible reduced oil consumption as a result of ending domestic subsidies, international oil prices are expected to remain relatively high and this will result in a continued heavy oil import bill. However, the projected slowdown in the economy, tight monetary policy, SBP's administrative steps to stabilize the exchange rate, and higher customs duties imposed in the budget on nonessential items will discourage non-oil imports particularly. As a result, imports are projected to grow at the relatively slow pace of 9.5% (in nominal US dollars) in FY2009. The Government's trade policy has set an export target of \$22.1 billion, 10% higher than FY2008's exports. Even if this target is met, with slower growth in industry and weak global demand conditions, projected import growth will still result in a large trade deficit.

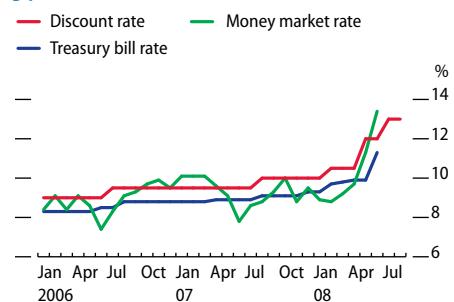
Taking account of continued growth in remittances, the current account deficit is projected to be marginally smaller than in FY2008, at 8.0% of GDP. The financing of the large fiscal and current account deficits will remain major challenges. If Pakistan's request to, for example, Saudi Arabia to grant a deferred-payment facility for oil is granted, this will help reduce pressure to finance the current account deficit. The long-term solution to the external deficits, however, involves a substantial upgrading and diversification of the export base.

Economic prospects for FY2009 remain sobering and require steadfast commitment by the Government to implement the various adjustment targets it has set for itself. It will need to maintain fiscal discipline, persist in cutting down untargeted subsidies and in passing through price increases (while compensating the poor adequately), and reduce reliance on borrowing from SBP. The reform program should also aim for a significant reduction in the current account deficit. Unless export growth picks up, this will require a significant reduction in domestic demand.

In parallel, the Government also needs to generate greater external inflows in order to increase foreign reserves through privatization, access to capital markets, and support from international development partners, besides pursuing and finalizing the Saudi oil facility.

Finally, over the medium term, the Government needs to implement programs that promote upgrading and diversification of the economic base. Potential risks include further increases in political uncertainty and a deterioration in the security situation on the country's western border.

3.7.10 Interest rates



Source: International Monetary Fund, *International Financial Statistics*, downloaded 1 September 2008.

[Click here for figure data](#)

Philippines

Private consumption has lost momentum this year, hurt by inflation that reached a 17-year high of 12.5% in August. Investment and exports also weakened, and GDP growth slowed to 4.6% in the first half of 2008, from a particularly robust 7.6% in the year-earlier period. The authorities started tightening monetary policy but eased fiscal policy to help low-income earners deal with rising prices. Forecasts for growth and the current account surplus are revised down, and inflation projections raised, for both this year and next.

Updated assessment

After expanding in 2007 at its highest rate in three decades, the economy has slowed this year. GDP growth decelerated from 8.3% in the second quarter of 2007 to 4.6% in the second quarter of 2008.

Two of the economy's main growth drivers, private consumption on the demand side and services on the production side, have lost momentum. Private consumption last year grew at about 6% every quarter. This year, its growth eased to 5.2% in the first quarter and pulled back to 3.4% in the second (Figure 3.8.1) as inflation accelerated and consumer sentiment cooled. Government consumption spending fell in the January–June period, possibly a result of larger than usual expenditure ahead of elections in the prior-year period.

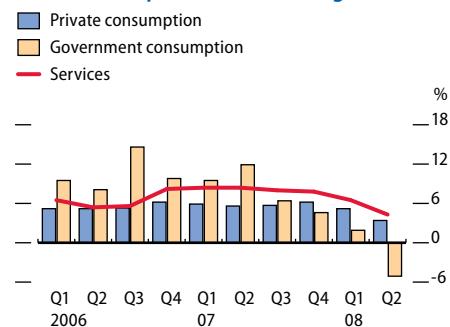
Growth in fixed capital formation slowed sharply to 4.3% in the first 6 months of 2008 from high levels a year earlier. In the first half, public investment was crimped by delays in implementing planned capital outlays. Private-sector housing remained robust. The ratio of fixed capital formation to GDP is low at 19.3%, though. Net exports of nonfactor services such as business process outsourcing more than offset a fall in net merchandise exports.

On the demand side, consumption, investment, and net exports all contributed to GDP growth of 4.6% in the first half (Figure 3.8.2). (The contributions are indicative only because a large statistical discrepancy of 2.4 percentage points is subtracted on the demand side to match the 4.6% half-year GDP growth.)

On the production side, services sector growth slowed to 5.4% in the first half, from 8.4% a year earlier. Weaker expansion was recorded for financial services, retail trading, and transport and communications, apparently related to the softening in consumption. Despite the slowdown, services still contributed more than half the total of GDP growth, reflecting its position as the biggest sector.

Industrial growth also decelerated in the first half, to 3.9% from 8.6% in the prior-year period. Manufacturing expansion picked up a little, although production of the important electrical machinery subsector fell, reflecting lower export demand. Mining output slipped, after a substantial

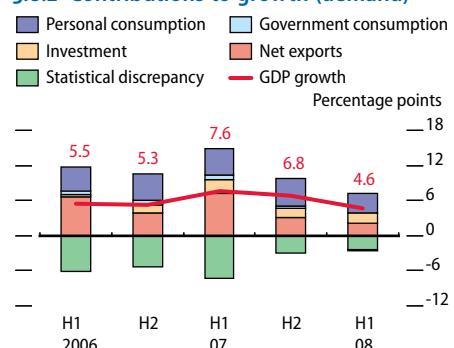
3.8.1 Consumption and services growth



Sources: National Statistical Coordination Board, available: www.nsbc.gov.ph; CEIC Data Company Ltd.; both downloaded 28 August 2008.

[Click here for figure data](#)

3.8.2 Contributions to growth (demand)



Sources: Asian Development Outlook database; National Statistical Coordination Board, available: www.nsbc.gov.ph, downloaded 28 August 2008.

[Click here for figure data](#)

increase in 2007. Construction growth slowed sharply, mainly a reflection of the reduced outlays on public projects in the half year. Industry as a whole contributed 1.3 percentage points to GDP growth. Agriculture expanded by 3.7% in the first half, a shade faster than a year earlier. Crop production increased but forestry output declined, and expansion of fisheries slowed because of higher fishing-fleet fuel costs.

Inflation, at a subdued level of just 2.8% in 2007, accelerated during the first half of 2008 to average 7.6%, and reached its highest level in 17 years at 12.5% (year on year) in August (Figure 3.8.3). A rise in prices of food (which makes up half the consumer price index) and of oil pushed inflation higher (Box 3.8.1). The Philippines, currently the world's largest

3.8.1 Impact of food and fuel price increases

The Philippines is the world's largest importer of rice, buying 10–15% of its consumption needs from abroad. Imports jumped to 2.3 million tons in the first 8 months of 2008, (from 1.8 million tons in all 2007), when the Government decided to build stocks at a time when some exporters were restricting shipments. As for oil, the country imports 93% of its requirements of 336,000 barrels a day.

The surge in prices of both commodities this year has driven up inflation, eroded the external current account surplus, and added substantially to fiscal spending.

The Government—through its National Food Authority—buys rice from abroad at market prices and sells it, subsidized, to low-income groups, incurring a loss that could reach \$1 billion this year. Longer term, it plans to invest the equivalent of \$96 million over 3 years in expanding the acreage planted to rice and in irrigation, as a way to increase rice self-sufficiency to 98%.

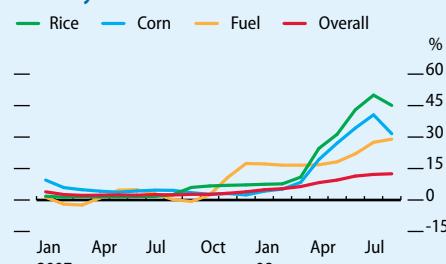
There are no subsidies for petroleum products, other than a small diesel subsidy for public transport. In fact, as petroleum products are subject to a 12% value-added tax, the price rise has generated much stronger tax receipts from this source. The Government has used them to fund various subsidies targeted at the poor. It also introduced fertilizer subsidies for small-scale farmers when global fertilizer prices rose.

The impact of higher rice prices on inflation is stark, since rice has a weight of 9.4% in the consumer price index. The retail price in August was 45% higher than a year earlier (Box figure), and this accounted for 4.2 percentage points of the 12.5% inflation rate that month.

The price rise particularly hurts poor households, who may spend much of their incomes on this staple. A survey conducted in June by Social Weather Station showed that 49% of families considered themselves "food-poor," an increase from 37% at end-2007. For their part, higher fuel prices in August contributed 0.7 percentage points to inflation.

The import bill for rice in the first half of 2008 was \$858 million, nearly four times as high as the prior-year period. The import bill for mineral fuels and lubricants, including crude oil and excluding coal, amounted to about \$6.4 billion, up by 60% from a year earlier and a major contributor to the trade deficit.

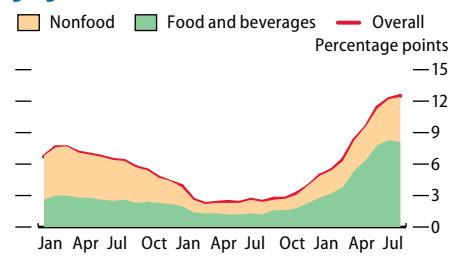
Monthly inflation rates



Source: CEIC Data Company Ltd., downloaded 5 September 2008.

[Click here for figure data](#)

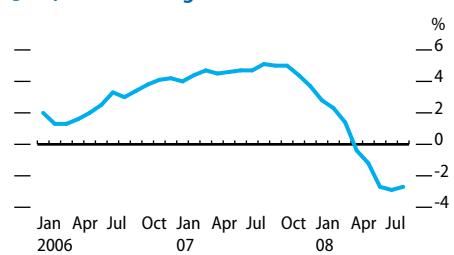
3.8.3 Contributions to inflation



Source: CEIC Data Company Ltd., downloaded 5 September 2008.

[Click here for figure data](#)

3.8.4 Real lending rate



Note: The rate shown is the middle rate of commercial banks' lending rates.

Sources: Bangko Sentral ng Pilipinas, available: www.bsp.gov.ph; Datastream; both downloaded 5 September 2008.

[Click here for figure data](#)

importer of rice, faced soaring global rice prices in the first half. Prices of fruits and vegetables rose because of typhoons, and meat prices increased as animal-feed costs moved up. Core inflation, excluding food and energy, rose from 3.4% in January to 7.0% in August, suggesting that underlying price pressures have broadened. The surge in inflation turned real lending rates negative in the second quarter (Figure 3.8.4 above).

Merchandise exports on a customs basis and in United States (US) dollars rose by only 4.1% to \$25.6 billion in January–June. The value of electronic products, the biggest export items, fell slightly because of weaker global demand. Exports of some agricultural products rose, supported by robust global prices. Growth in merchandise imports on a customs basis, of 15.8% to \$29.5 billion, far outpaced that of exports, mainly a reflection of higher global prices for oil, food, and other commodities. That left a first-half trade deficit of about \$4 billion.

Deficits in goods trade in recent years have been more than covered by large inflows of remittances from Filipinos working abroad, resulting in current account surpluses. Earnings from the developing business process outsourcing industry have started to contribute to current account surpluses. In the first quarter of 2008 (the latest available data), a current account surplus of \$1.2 billion was seen, helped by such earnings. Remittances rose by 17.2% to \$8.2 billion in January–June, although in peso terms the increase was only 3.1% because the peso was stronger on average against the US dollar in the first half of 2008 than a year earlier (Figure 3.8.5). Almost 60% of the growth in overseas jobs in the past 2 years has been in the Middle East, providing some diversification of remittance sources. Yet despite this, the biggest source remained the US (49%), followed by Saudi Arabia (8%), Canada (7%), and United Kingdom (5%).

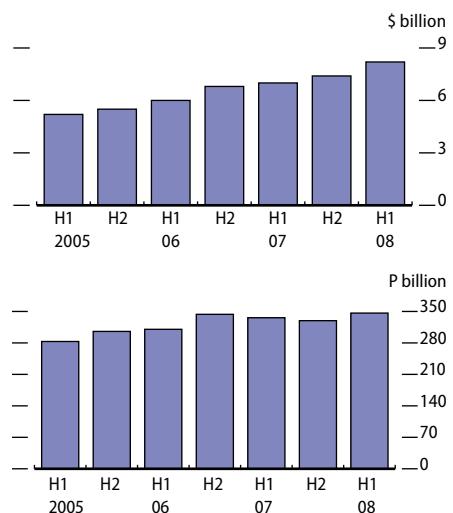
Portfolio investment posted a net outflow of \$417 million in the first half, compared with a net inflow of \$2.6 billion a year earlier, in part reflecting heightened international risk aversion stemming from the global credit squeeze. Yield spreads between Philippine and US Treasury bonds have widened significantly this year (Figure 3.8.6). Between 31 December 2007 and 30 June 2008, the peso depreciated by 7.5% against the US dollar, after appreciating by 19% in 2007 (Figure 3.8.7).

Job creation remains insufficient, even after several years of economic growth that averaged over 5%. The sum of the unemployment and underemployment rates was 27.8% in April 2008, compared with 26.3% a year earlier. A lack of productive employment opportunities within the country is one reason that a rising number of Filipinos (8.7 million at end-2007) work abroad.

Bangko Sentral ng Pilipinas, after lowering its policy interest rates five times between July 2007 and January 2008, changed tack in mid-2008 after inflation had climbed well above the Government's target range of 3–5% for several months. The central bank raised its policy rates in June, July, and August, by a total of 100 basis points, bringing the overnight borrowing rate to 6.0% and the overnight lending rate to 8.0% (both still below the inflation rate).

Fiscal policy was also adjusted. The national Government's emphasis under a fiscal consolidation program in recent years has been to rein in the fiscal deficit (it achieved a reduction from 5.3% of GDP in 2002 to 0.2% in 2007—Figure 3.8.8) and bring down the high levels of its

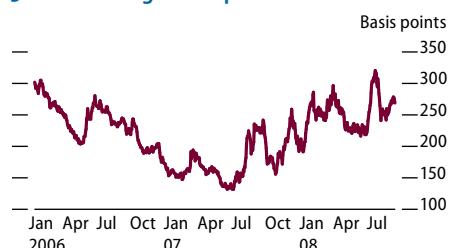
3.8.5 Overseas workers' remittances



Source: Bangko Sentral ng Pilipinas, available: www.bsp.gov.ph; downloaded 5 September 2008

[Click here for figure data](#)

3.8.6 Sovereign risk spreads



Note: JPMorgan Emerging Markets Bond Index sovereign stripped spreads.

Source: Datastream, downloaded 1 September 2008.

[Click here for figure data](#)

3.8.7 Peso exchange rates



Source: CEIC Data Company Ltd., downloaded 28 August 2008.

[Click here for figure data](#)

debt (from 78% of GDP in 2004 to 57% in June 2008—Figure 3.8.9). The stress this year is on assisting those vulnerable to rising prices for food and other essentials and spending more on social services, allowing the deficit to expand to the equivalent of about 1% of GDP, after including privatization receipts. Expenditure fell behind schedule in the first half, partly because budget approval was delayed until May, but also because of capacity constraints in government agencies. Revenue benefited from rising value-added tax collections on the higher prices of fuel.

Prospects

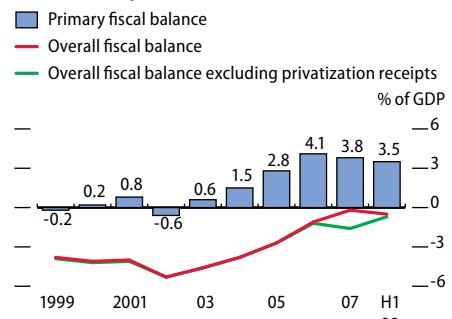
The outlook for 2008 and for 2009 has deteriorated from the one given in *Asian Development Outlook 2008 (ADO 2008)* in April, when GDP growth of about 6% and inflation of 4% were expected for this year. Since then, inflation pressures have built up and the environment for exports and international investment has worsened.

Private consumption is now projected to grow by 4% or less for all this year, slowing from 5% last year. Higher prices for food, fuel, and transport will continue to damp spending on other goods and services. Consumption growth is expected to pick up from low levels in the second half of 2009, if inflation eases as projected. The trend in remittances will be a key factor for consumption spending. Remittance inflows could slow if labor markets that employ Filipinos, in particular the US, continue to weaken. Alternatively, remittances would get a boost in local currency terms if the peso depreciates further against the US dollar and job markets abroad remain reasonably firm.

Investment growth in the second half of this year should get support from a pickup in public spending on development projects, after the delays of the first 6 months. However, investment in private housing will be hurt by steeply rising prices of construction materials and by higher interest rates. Moreover, business sentiment weakened for the third quarter of 2008, in the first negative reading in the business confidence index since 2005. Surveyed firms cited rising costs and wages and the global slowdown as main reasons for the downturn in sentiment. Consequently, investment growth in the second half of this year is likely to slow to about 6%. Next year, it is projected to be somewhat higher if inflation subsides and global demand improves for electronic products and if the Government increases capital spending as planned. The expected pickup in investment, though, is now projected to be at a more moderate pace (6.5%) than was forecast in *ADO 2008*.

The weak first-half export performance and downward revisions in the baseline assumptions for world trade have led to a reduction in the forecast for Philippine export growth. Exports of electronic products fell in the first half of 2008 and are unlikely to rebound until late 2009. This weakness, combined with stronger growth in imports that largely reflects high prices for imported oil and fuel, is pushing out the trade deficit. Taking these factors into account, the forecast for GDP growth in 2008 is revised down to 4.5%, and for 2009 to 4.7% (Figure 3.8.10). Current account surpluses are still expected in both years, but in the order of 1–2% of GDP (Figure 3.8.11) rather than about 4.5% as forecast in *ADO 2008*, mainly because of wider trade deficits.

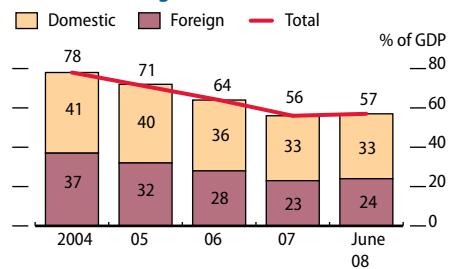
3.8.8 Fiscal performance



Source: Bureau of the Treasury, available: www.treasury.gov.ph, downloaded 22 August 2008.

[Click here for figure data](#)

3.8.9 National government debt

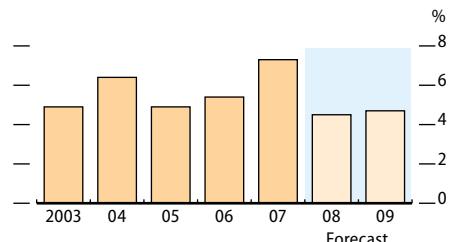


Note: Debt excludes contingencies.

Source: Bureau of the Treasury, available: www.treasury.gov.ph, downloaded 11 September 2008.

[Click here for figure data](#)

3.8.10 GDP growth



Sources: CEIC Data Company Ltd., downloaded 22 August 2008; staff estimates.

[Click here for figure data](#)

3.8.1 Selected economic indicators (%)

| | 2008 | | 2009 | |
|-----------------------------------|----------|--------|----------|--------|
| | ADO 2008 | Update | ADO 2008 | Update |
| GDP growth | 6.0 | 4.5 | 6.2 | 4.7 |
| Inflation | 4.0 | 10.5 | 3.6 | 8.0 |
| Current acct. bal. (share of GDP) | 4.3 | 1.9 | 4.5 | 1.6 |

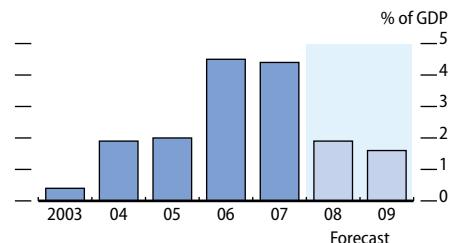
Source: Staff estimates.

Price pressures in the first half of 2008 were stronger than expected, and higher food and oil prices are still filtering through to consumer prices. Year-on-year inflation could peak in the third quarter. The inflation forecast for full-year 2008 is raised to 10.5% (Figure 3.8.12), from 4.0% in April. The pace of increase in both food and fuel prices is expected to ease in 2009 and the interest rate hikes will gradually damp domestic demand. Inflation next year is expected to average 8.0%, or well above the Government's target and over the 5.2% average actual rate seen in 2003–2007.

The budget planned for 2009, if approved, would boost total spending by 15% and outlays on infrastructure by 20% relative to this year's budget. The Government also wants to exempt minimum-wage workers from income tax next year, and corporate income tax rates are already scheduled to fall in 2009 from 35% to 30%, measures that could impede efforts to lower the budget deficit. (The aim is to achieve budget balance by 2010, defined to include privatization receipts.)

There is a risk that lower than expected economic growth may prompt a more expansionary fiscal policy, which would raise concerns about fiscal consolidation. Efforts to strengthen tax revenues will need to be stepped up to fund higher spending, particularly if weak global financial markets make it more difficult to achieve targeted privatization receipts. Higher revenue growth is required over the medium term, both to achieve fiscal consolidation, which is a key to maintaining global investor confidence, and to pave the way for greater spending on infrastructure and social services.

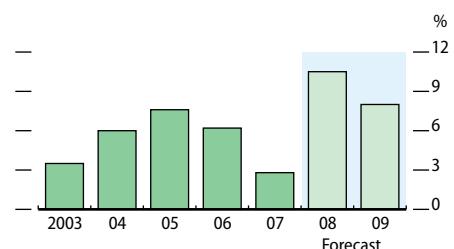
3.8.11 Current account balance



Sources: CEIC Data Company Ltd., downloaded 22 August 2008; staff estimates.

[Click here for figure data](#)

3.8.12 Inflation



Sources: CEIC Data Company Ltd., downloaded 22 August 2008; staff estimates.

[Click here for figure data](#)

Thailand

Renewed political uncertainties and rising inflation have undercut consumption and investment in 2008. GDP growth slowed in the second quarter and will likely trend lower in the rest of the year, while inflation accelerated in July to a more than 10-year high. The authorities have undertaken several policy measures: cuts in some taxes and utility charges, extra funding for villages and small businesses, and interest rate increases. Growth is projected at about 5% this year, subject to strong downside risks. Assuming that political tensions recede, growth in 2009 is forecast at around 5% (a downward revision from April). Inflation forecasts are revised up for both years.

Updated assessment

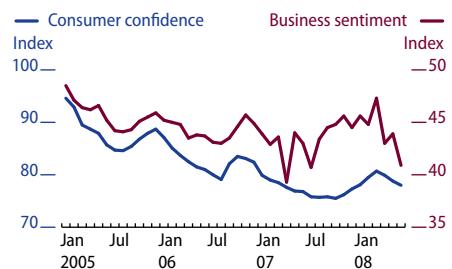
Continuing an uptrend from the second half of 2007, economic growth picked up to 6.1% in the first quarter of 2008. Early this year, an elected government took over from an interim administration that had been installed after the military coup in September 2006. However, the Government soon faced legal and political challenges, which renewed political uncertainties and undermined effective policy implementation. These political tensions, together with a surge in inflation, damaged consumer and business confidence in the second quarter (Figure 3.9.1), when economic growth slowed to 5.3% (Figure 3.9.2).

Growth in private consumption spending slowed from 2.6% in the first quarter to 2.4% in the second. Government consumption spending in real terms contracted in both quarters. Consequently, total consumption contributed just 1.2 percentage points to total GDP growth of 5.7% in the first half. Total investment contributed significantly to GDP growth in the 6 months, but mainly reflected rising inventories. Indeed, growth in fixed capital formation slowed from 5.4% in the first quarter to 1.9% in the second, when private fixed investment growth eased and public fixed investment fell (Figure 3.9.3), in part a result of the political situation. Fixed investment added less than 1 percentage point to GDP growth. Net exports also added to the overall expansion, but by much less than in 2007.

Industry grew by 7.9% in the first half and made the biggest production-side contribution to GDP growth, of about two thirds. Manufacturing grew by 9.0% in the 6 months, driven by export-oriented industries including electronic products, computers, televisions, and air conditioners. Public construction investment fell in the first half from high levels of a year earlier, and private construction recorded meager growth.

Services grew by just 3.5% from a year earlier to contribute 1.5 percentage points to GDP growth. Wholesale and retail trading showed a slight rise and some public services, such as education and health, contracted. High prices for agricultural products caused farmers

3.9.1 Consumer confidence and business sentiment

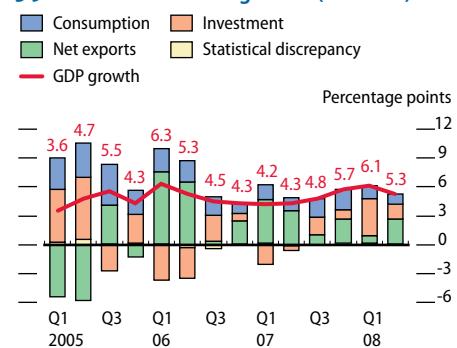


Note: A reading of less than 100 for consumer confidence and less than 50 for business sentiment denotes a deterioration.

Sources: Center for Economic and Business Forecasting; Bank of Thailand, available: <http://www.bot.or.th>, downloaded 29 July 2008.

[Click here for figure data](#)

3.9.2 Contributions to growth (demand)



Source: National Economic and Social Development Board, available: <http://www.nesdb.go.th>, downloaded 27 August 2008.

[Click here for figure data](#)

to increase output of rice, sugarcane, palm oil, and livestock, leading to a 4.9% lift in overall agricultural production in the first half. Agriculture contributed 0.4 percentage points to GDP growth.

Merchandise exports in United States (US) dollars rose by a stronger than expected 24.7% in the first half of the year, to \$86.5 billion. Agricultural exports jumped by about 55% in value terms, mainly owing to higher exports of rice (up by 135%) and natural rubber (32%). High-technology exports rose by about 19%, led by gains in computers and computer parts. This robust export performance was helped by rapid increases of about 32% in shipments to nontraditional markets, particularly People's Republic of China, India, Middle East, Eastern Europe, and the bigger Southeast Asian economies. By contrast, exports to traditional markets—US, European Union, and Japan—rose by about 10%. The proportion of exports going to traditional markets has fallen to only 35%.

Merchandise imports rose much faster than exports, by 32% to \$86.1 billion, inflated by higher prices for imported oil and industrial inputs. The value of imported oil rose by about 60%, although its volume increased by 6%. Energy efficiency has improved in recent years as oil prices have increased and there has been a shift to greater use of gasoline-ethanol mix, biodiesel, and natural gas. Imports of industrial inputs such as chemicals and plastics materials for the robust export industries grew significantly by value.

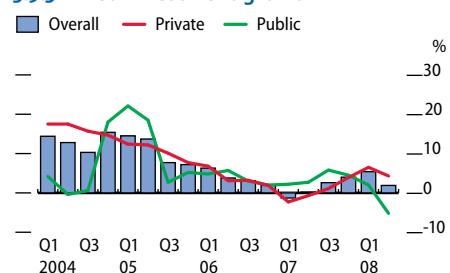
The sharper rise in imports than exports cut the trade surplus to \$316 million in the first half, from \$4.1 billion in the prior-year period, and the current account surplus fell to \$2.8 billion from \$5.9 billion (Figure 3.9.4). Foreign exchange reserves of \$102 billion in July 2008 were equivalent to 7.5 months of imports of goods and services.

Inflation accelerated during the first half to average 6.3%, jumping to an 11-year high of 9.2% in July, before easing in August (Figure 3.9.5). The main causes were higher prices for energy (fuel and natural gas), which rose by about 20% in the 6 months, and food and beverages, which were up by about 9%. Higher production expenses, reflecting cost hikes for metals and many other industrial inputs, were passed on to consumers, so that core inflation (excluding food and energy) accelerated to 3.7% by July, above the Bank of Thailand's target of 0–3.5%. The baht appreciated early in the year against the US dollar, assisted by a lifting of the capital controls that were imposed in December 2006. Subsequently though, it softened along with some other Asian currencies on concerns about a deteriorating global economic outlook. At end-August 2008, the baht had depreciated by 1.2% against the US dollar from the start of 2008 (Figure 3.9.6).

After core inflation breached the Bank of Thailand's target rate in June, the central bank raised its policy interest rate (the 1-day repo rate) in July and August, by 25 basis points each time, to 3.75% (Figure 3.9.7). That still keeps it below the inflation rate.

The Government took other steps to contain inflation. It released rice from stockpiles at low prices and temporarily reinstated a small subsidy on diesel between March and July. The authorities also pressed oil refineries to reduce refinery margins on diesel, to be in effect from June to November this year. A broader inflation-relief package was implemented in August, to last for 6 months. It includes a reduction of excise tax on

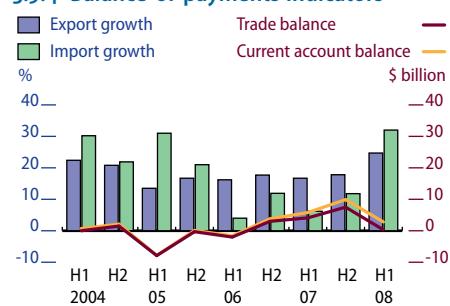
3.9.3 Fixed investment growth



Source: National Economic and Social Development Board, available: <http://www.nesdb.go.th>, downloaded 27 August 2008.

[Click here for figure data](#)

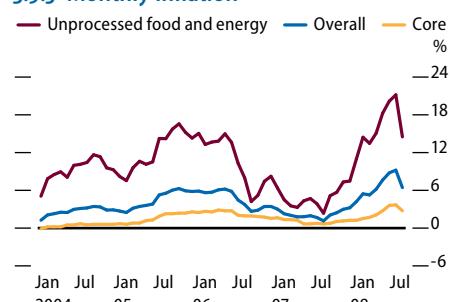
3.9.4 Balance-of-payments indicators



Source: Bank of Thailand, available: <http://www.bot.or.th>, downloaded 2 September 2008.

[Click here for figure data](#)

3.9.5 Monthly inflation



Sources: CEIC Data Company Ltd.; Bureau of Trade and Economic Indices, available: http://www.price.moc.go.th/web4_e/cpi/index.asp; both downloaded 2 September 2008.

[Click here for figure data](#)

gasoline-ethanol mix and diesel, free electricity and water supply for poor households, free rides on selected public buses in Bangkok, and free third-class train travel on some routes. The package will cost the Government about \$1.4 billion.

Despite these and other commitments, the budget deficit in FY2008 (ended 30 September 2008) is projected at slightly below the deficit of 1.8% of GDP recorded in FY2007. Revenue growth is expected to be slightly stronger than budgeted.

Prospects

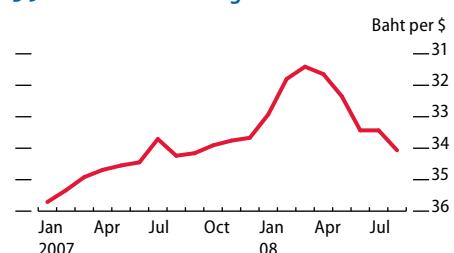
Several generally moderate fiscal measures have been implemented to spur the economy in the first 8 months of 2008. A package announced in March and costing the equivalent of \$1.2 billion contained tax breaks for individuals and for small and medium firms. A second package includes a 3-year debt moratorium for about 300,000 farmers, low interest rate loans from the Government Savings Bank for small businesses, and additional funding for the Government Housing Bank. As expected, the new Government injected more funds into programs started several years ago to assist development and generate employment in villages. It distributed about \$41 million to 5,800 villages in April for community development projects and \$26.6 million to 900 villages in August for lending to villagers.

These measures, and an easing in inflation from midyear levels, should have some positive impact in the second half of 2008. However, economic growth is forecast to slow toward 4.0% in that period, crimped by political tensions that worsened in August. Antigovernment demonstrations disrupted transportation and sparked clashes that led the Government to declare a state of emergency in Bangkok that was in force for 12 days in early September. This prompted some countries to advise their nationals against nonessential travel to Thailand, hurting the tourism industry. The rising political tensions further dented investor sentiment—the index of stock prices fell by 27% between late May and mid-September (Figure 3.9.8). Export growth is expected to soften in the second half because of the weaker global trade environment. Taking into account the stronger than expected 5.7% economic expansion in the first half, full-year growth is projected at about 5% (Figure 3.9.9), subject to strong downside risks because of the highly uncertain political context.

The surge in imports caused by higher prices for oil and other commodities has cut into the trade surplus this year, and services income will be hurt by lower than expected tourist arrivals in the second half, contributing to an expected reduction in the current account surplus to 1.0% of GDP, which is a revision from the 3.0% given in *Asian Development Outlook 2008* (ADO 2008). The steps taken to curb the cost of fuel, utilities, and public transportation helped slow inflation to 6.4% in August (a decline in fuel prices that month had a significant impact). Inflation for all 2008 is forecast to average 7.0%, revised up from 4.0% in ADO 2008 because of the higher than expected price pressures that built up in the first half.

The outlook for 2009 assumes that political tensions attenuate and that the policy environment improves. That would pave the

3.9.6 Nominal exchange rate



Source: International Monetary Fund, *International Financial Statistics* online, downloaded 2 September 2008.

[Click here for figure data](#)

3.9.7 One-day repo rate



Sources: CEIC Data Company Ltd.; Bureau of Trade and Economic Indices, available: http://www.price.moc.go.th/web4_e/cpi/index.asp; both downloaded 2 September 2008.

[Click here for figure data](#)

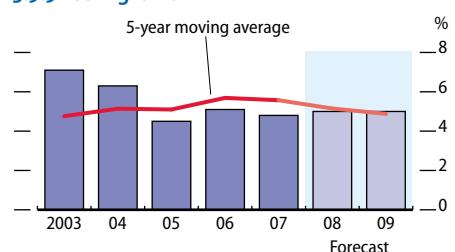
3.9.8 SET index



Source: CEIC Data Company Ltd., downloaded 11 September 2008.

[Click here for figure data](#)

3.9.9 GDP growth



Sources: National Economic and Social Development Board, available: <http://www.nesdb.go.th/>, downloaded 27 August 2008; staff estimates.

[Click here for figure data](#)

way for a pickup in consumer and business sentiment and allow the implementation of some of the large public infrastructure projects planned by past administrations, but delayed in the past 2 years by political issues. (Specifically, two new mass transit rail lines for Bangkok, which are a significant part of the infrastructure program, are expected to start construction in 2009.) An expansionary budget with a deficit target of 2.4% of GDP has been approved for FY2009, and the forecasts assume that public spending will increase next year.

Private consumption and investment are expected to strengthen, although not to the degree forecast in *ADO 2008*, mainly owing to higher inflation and interest rates. Public consumption and investment spending are likely to rise, supported by the infrastructure projects and the budget spending plans. Export growth will lose momentum as a result of lackluster world trade and modest growth in global nonfuel commodity prices, while import growth might not slow by the same degree, given the need to import equipment for the expected public investment programs. Drawing these strands together, the *Update* lowers the growth projection for next year to 5.0%, although this forecast (as 2008's) is subject to substantial downside risks. The current account is forecast to move into deficit, equivalent to about 0.5% of GDP (Figure 3.9.10) (a surplus was expected previously).

Inflation is forecast to ease to 5.5% next year (Figure 3.9.11) as global prices for oil and other raw materials decline or grow more moderately than in 2008. Also, the Government is expected to implement measures to suppress price increases for low-income earners, as it has done this year. Such inflation would still be well above the average of 3.2% in 2003–2007.

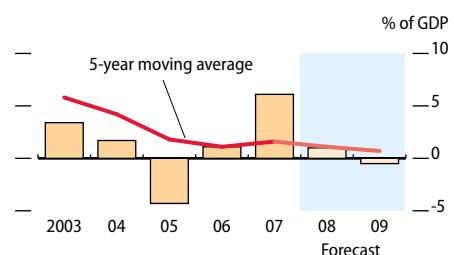
The main risks to this outlook are in the political arena. If wrangling that started in 2006 drags into a fourth year, the impact on the economy would most likely intensify, substantially eroding already weak business and consumer sentiment and resulting in lower than forecast economic growth. Extended disruptions to the economy and to policy making could have implications for the country risk premium (including bond spreads and credit ratings). The Government faces several legal challenges that could lead to an early national election in the forecast period. That would likely create an economic policy vacuum for some months that could further delay the large public infrastructure projects and undermine investment. In that event, weaker than expected domestic demand could be expected to damp import growth, and the current account outcome would be better than the baseline forecast. The inflation outlook is conditioned on volatile international factors, as well as the implementation of domestic inflation-relief measures and the value of the baht.

3.9.1 Selected economic indicators (%)

| | 2008 | | 2009 | |
|--------------------------------------|-------------|----------------|-------------|----------------|
| | ADO 2008 | Update 2008 | ADO 2008 | Update 2008 |
| GDP growth | 5.0 | 5.0 | 5.2 | 5.0 |
| Inflation | 4.0 | 7.0 | 3.5 | 5.5 |
| Current acct. bal. (share of GDP) | 3.0 | 1.0 | 1.0 | -0.5 |

Source: Staff estimates.

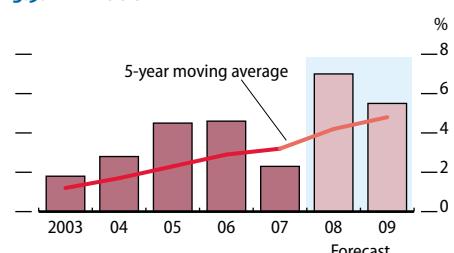
3.9.10 Current account balance



Sources: Bank of Thailand, available: <http://www.bot.or.th>, downloaded 2 September 2008; staff estimates.

[Click here for figure data](#)

3.9.11 Inflation



Sources: Bank of Thailand, available: <http://www.bot.or.th>, downloaded 2 September 2008; staff estimates.

[Click here for figure data](#)

Viet Nam

Macroeconomic turbulence intensified in the first several months of 2008 due to a combination of external and internal factors. Inflation accelerated, the trade deficit widened, and the currency came under downward pressure. In response, the Government adopted measures to stabilize the situation. Economic growth slowed in the first half of 2008, and the overall economic situation started to improve at midyear. Growth is now expected to be lower, inflation higher, and the current account deficit wider in both 2008 and 2009 than forecast in April this year. Risks to the projections are tilted to the downside. Still, medium-to long-term economic prospects remain good.

Updated assessment

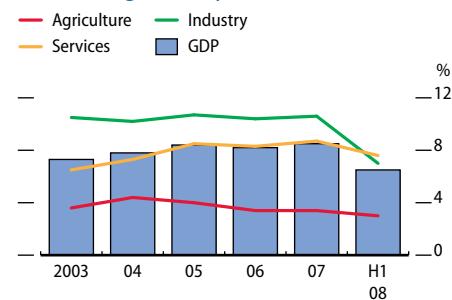
According to preliminary official statistics, GDP grew by 6.5% in the first half of 2008, below the rates recorded in recent years (Figure 3.10.1). Anti-inflation measures taken by the Government restrained growth in investment and halted the expansion of construction. Manufacturing continued to grow robustly, although at a slower pace than in recent years. Output of crude oil fell to 290,000 barrels per day from 312,000 barrels in 2007 as some oil fields neared depletion and the Government tried to conserve oil for future domestic processing. Overall industrial output expanded by 7.0% in the first half, moderating from more than 10% in the past 5 years.

Services grew by 7.6%, from around 8% in recent years. Growth of transport, storage, and communications services picked up, in part due to rapid expansion of merchandise trade, whereas growth of other services, particularly those related to real estate, slowed. Agriculture (including forestry and fisheries) recorded modest growth of 3.0% in the first half of the year, slowing from 3.4% in 2006 and 2007. The winter-spring rice harvest was bountiful and fisheries performed strongly, but forestry and animal husbandry were stagnant, the latter hit by pig and poultry epidemics in late 2007–early 2008.

Inflation on a year-on-year basis accelerated to 20.3% for the first half of 2008, and reached 28.3% in August (Figure 3.10.2). The principal causes were expansionary fiscal and monetary policies over several years, the rise of world commodity prices, and some supply-side jolts to food prices early in the year caused by the pig and poultry epidemics and bad weather. The price index for food items, with a combined weight of almost 43% in the consumer price index, soared by 44.2% in the 12 months to August 2008. Rising prices for food, in particular, hurt living standards for low-income earners in cities (Box 3.10.1).

Merchandise exports on a free on board basis grew strongly by 31.8% in January–June 2008, mainly reflecting higher world prices for Viet Nam's export commodities. Indeed, the volume of exports of crude oil,

3.10.1 GDP growth by sector



Source: General Statistics Office of Viet Nam, available: <http://www.gso.gov.vn>, downloaded 29 August 2008.

[Click here for figure data](#)

3.10.2 Changes in selected price indexes



Source: General Statistics Office of Viet Nam, available: <http://www.gso.gov.vn>, downloaded 29 August 2008.

[Click here for figure data](#)

3.10.1 Impacts of recent increases in world food and fuel prices

Viet Nam is a net exporter of food, selling about 4.5 million tons of rice, 1.2 million tons of coffee, and significant amounts of seafood, cashew nuts, fruit, vegetables, and tea each year. It imports about 1.3 million tons of wheat and large amounts of dairy products.

It also exports crude oil and imports refined products. Until recently, these exports were greater than the imports, and Viet Nam was a net oil exporter. In the first half of 2008, however, the value of oil-product imports exceeded the value of crude-oil exports, turning the country into a net oil importer.

Accordingly, recent increases in world food and fuel prices have had a mixed impact on the economy. On the one hand, they boosted the value of exports, incomes of food and oil producers, and government revenues. On the other, they contributed to the soaring value of imports and the widening trade and current account deficits. Government controls over domestic fuel prices limited the impact of surging world fuel prices on inflation, but higher global food prices had a large impact.

To limit the upward pressure on inflation from rising world prices, the Government froze domestic fuel prices in late March 2008, imposed a temporary ban on new contracts for rice exports in April, and raised export taxes on crude oil and coal in May and June. It also lowered its target for rice exports in 2008 from 4.5 million tons to 3.5 million tons and set minimum prices for rice exports. State enterprises importing fuel for domestic distribution reportedly lost about \$900 million in the first half of this year because of the large gap between world and domestic fuel prices.

More recently, however, some of these measures have been reversed, at least partly. Domestic prices of fuels were raised substantially in July, lifting them close to prices in neighboring countries, both to cut the cost of subsidies and to reduce smuggling. For example, the price of gasoline was put up by 31%, although it was trimmed by 10.5% in August as global oil prices eased. The Government also raised the target for rice exports this year to 4.6 million tons in August, following a bumper winter-spring harvest and declines in domestic rice prices.

At the household level, higher food prices have

increased both expenditure on food and income from food production, so their net welfare impact has varied. Households that are net consumers of food have lost out, whereas those that are net producers have benefited. Since most urban households are net consumers of food, the urban population as a whole has suffered. By the same token, the rural population as a whole has benefited because most rural households are net producers of food.

Using 2006 household survey data and assuming that there are no substitution and indirect effects, research commissioned by the World Bank (Vu and Glewwe 2008) has found that a 10% rise in food prices in Viet Nam makes 88% of urban households worse off, compared with 46% of rural households. For the country as whole, it increases average household welfare by 1.7% and reduces the poverty rate by 0.6 percentage points, even though it makes 56% of households worse off. The reason for this apparent paradox is that net food producers on average gain more than net food consumers and poor households tend to be net food producers.

By contrast, the welfare effect of higher fuel prices has been negative for most households. In the case of net food consumers, it has exacerbated the adverse impact of increased food prices. In the case of net food producers, higher fuel prices have offset—at least partly—the net positive effect of increased food prices because they raise prices of agricultural inputs, such as fertilizers.

The Government provides social assistance to poor households and communities with a relatively high poverty incidence through various fairly well-targeted programs. It increased budgetary expenditure on these programs to the equivalent of 1.7% of GDP in the first half of 2008, from 0.8% in all 2007. However, the poverty lines that are used in classifying households into poor and nonpoor have not been adjusted for the high inflation this year. As a result, many (particularly urban) households that have been pushed into poverty by high inflation do not at present receive assistance.

Reference

Vu, Linh, and Paul Glewwe. 2008. "Impacts of Rising Food Prices on Poverty and Welfare in Vietnam." Paper commissioned by the World Bank.

coal, and many agricultural products declined or grew moderately, yet their export values rose considerably. Imports (cost, insurance, freight basis) surged by 60.3%, nearly double the pace of exports, due to a combination of higher world prices and increased import volumes. Unlike exports of crude oil, imports of refined oil products increased in both volume and value terms (Figure 3.10.3).

Reports that import taxes would be raised on goods such as cars and motorcycles, and expectations that the dong might be devalued

significantly, fueled precautionary and speculative imports. The volume of imports of gold, cars, motorcycles, steel, urea, paper, and cotton increased by 30–414% in the first half. Imports of machinery and equipment also rose strongly. Consequently, the trade deficit widened to \$14.8 billion in the first 6 months, a wider gap than was recorded for all 2007 (Figure 3.10.4). The current account deficit was an estimated 25.0% of GDP in January–June 2008, more than double the year-earlier level.

Increased inflows of foreign direct investment (FDI) and disbursements of official development assistance financed most of the current account deficit. The overall balance of payments recorded a small surplus. Gross official reserves increased slightly from \$21.0 billion at the beginning of the year to \$21.4 billion at end-June 2008 (Figure 3.10.5).

Early in the year, the authorities relied primarily on monetary policy to rein in inflation and the trade deficit. The State Bank of Viet Nam raised its policy interest rates (base rate, discount rate, and refinancing rate) and increased reserve requirements for banks in early February, and imposed a ceiling on deposit rates in late February. It also issued central bank bills in March, which commercial banks were required to buy. These measures had a limited immediate impact on inflation and the trade deficit, but put a great strain on the banks.

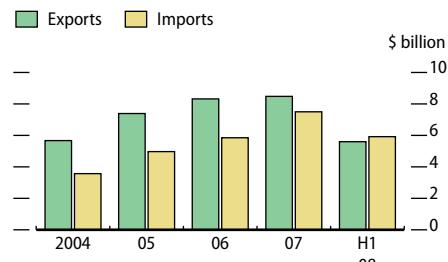
In April, the Government essentially changed its top policy priority from maintaining high rates of economic growth to curbing inflation and the trade deficit. The central bank hoisted policy interest rates, thereby raising a ceiling on lending rates, in May and again in June (when it lifted the base rate to 14.0%). The ceiling on deposit rates was abolished.

Moreover, the Government tightened fiscal policy as well as control over what had become an aggressive investment expansion by state enterprises. It increased some taxes (such as a tariff and excise tax on cars and export taxes on oil and coal) and stepped up tax collection efforts. It slashed administrative and capital expenditures (but raised targeted social assistance). Public investment projects, including those of state enterprises, were reviewed, and in many cases canceled or postponed. State enterprises reportedly suspended almost 610 projects worth \$2.1 billion in the second quarter of 2008. Accordingly, the fiscal balance turned from a deficit of 5.5% of GDP in 2007 to a surplus of 0.4% of GDP in the first half of 2008 (Figure 3.10.6).

The dong came under strong downward pressure in June, after official statistics showed inflation rising sharply in May and a big trade deficit in January–May. At that time, international rating agencies downgraded the outlook for Viet Nam from stable to negative. Several foreign analysts predicted that the economy faced a balance-of-payments crisis and that the authorities would devalue the currency. With interest rates negative in real terms, stock prices weak, and the real estate market cooling, investors switched significant funds from dong-denominated assets into foreign exchange, gold, and other goods that could serve as a hedge against inflation and dong devaluation. Demand for foreign exchange surged and the black market exchange rate depreciated substantially (Figure 3.10.7).

The Government responded swiftly. The central bank adjusted its reference exchange rate by about 2.3% in several steps, widened the dong's daily trading band against the dollar from 1.0% to 2.0% (around the reference rate), and increased the supply of foreign exchange in the

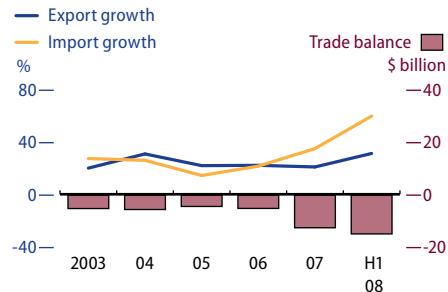
3.10.3 Exports of crude oil and imports of oil products



Source: General Statistics Office of Viet Nam, available: <http://www.gso.gov.vn>, downloaded 29 August 2008.

[Click here for figure data](#)

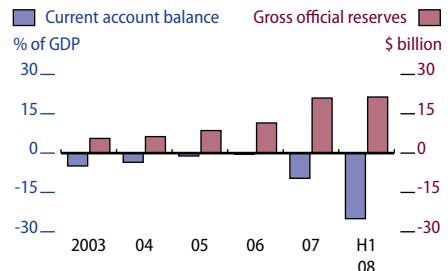
3.10.4 Annual trade indicators



Source: General Statistics Office of Viet Nam, available: <http://www.gso.gov.vn>, downloaded 29 August 2008.

[Click here for figure data](#)

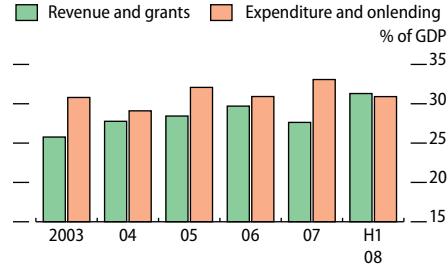
3.10.5 External indicators



Sources: State Bank of Viet Nam local data releases; staff estimates.

[Click here for figure data](#)

3.10.6 Government finance



Note: Expenditure and onlending data include off-budget items.

Sources: Ministry of Finance local data release; staff estimates.

[Click here for figure data](#)

official market. The Government also made a commitment not to devalue the dong sharply, and issued data that showed that the conditions for a balance-of-payments crisis were not in place. By late July, the foreign exchange market had stabilized and the black market rate fell close to the central bank's reference rate. In other signs that the macroeconomic situation was improving, money supply growth slowed to an annualized rate of 8.5% in the first half of 2008 from 46.1% in 2007 and monthly inflation, especially food price inflation, slowed significantly in June and July. Although administered fuel prices were raised substantially in the second half of July (Box 3.10.1 above), monthly inflation in August was not much higher than in July, and food price inflation moderated further.

As expectations of a substantial devaluation subsided, precautionary and speculative imports declined and capital started moving back into dong-denominated assets. Partly for this reason, growth of imports decelerated markedly in May–August 2008, and the monthly trade deficit narrowed from \$3.4 billion in March to less than \$1 billion in July and August (Figure 3.10.8). Bank deposits in dong increased and interest rates declined in July and August. The yield on the 5-year government bond dropped to less than 17% by mid-August, after rising to about 20% in mid-June from 8–9% early in the year (Figure 3.10.9). The VN Index of the Ho Chi Minh Stock Exchange recovered to over 500 in the second half of August, having plunged by about two thirds to 366 in the 8 months to June.

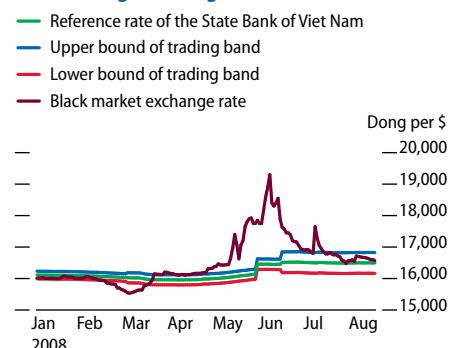
In a sign that foreign investors remain optimistic about Viet Nam's prospects, new FDI commitments rose to \$45.3 billion in January–July 2008 from \$20.3 billion in all 2007 (Figure 3.10.10). Licenses were issued for several multibillion-dollar FDI projects in the oil and gas sector, heavy industry, and services.

Prospects

The baseline assumptions for the rest of 2008 and 2009 are that the Government will continue to give precedence to curbing inflation over stimulating growth until inflation is reduced to single digits; the central bank will continue strengthening prudential supervision of banks and—if any bank becomes financially distressed—will act swiftly to prevent a systemic banking crisis; the Government will further improve timely disclosure of economic data to reduce rumors in financial and commodity markets; there will be no sharp adjustments in the reference exchange rate; Dung Quat oil refinery (the country's first, with capacity to process 140,000 barrels of crude oil a day) will start operating in early 2009; there will be no major damaging domestic supply-side shocks; and the external environment will evolve in accordance with the expectations of this *Update*.

On these assumptions, the macroeconomic situation is expected to improve further. Nevertheless, the GDP growth forecast for 2008 is taken down to 6.5%, (Figure 3.10.11) from 7.0% in April, given that the outcome for the first half was in some respects worse than expected and that the external outlook has deteriorated since April. The anti-inflation measures will further slow growth of domestic demand in the second half relative to the first. Domestic fixed investment will decelerate or even decline as a

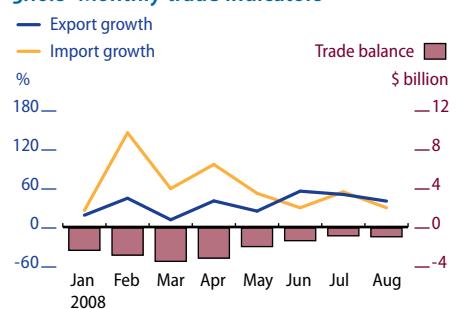
3.10.7 Dong exchange rates vs dollar



Sources: State Bank of Viet Nam local data releases; staff observations.

[Click here for figure data](#)

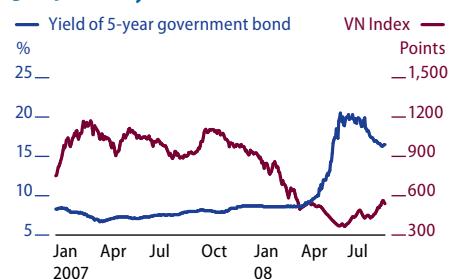
3.10.8 Monthly trade indicators



Source: General Statistics Office of Viet Nam, available: <http://www.gso.gov.vn>, downloaded 29 August 2008.

[Click here for figure data](#)

3.10.9 Bond yield and VN Index



Sources: Bloomberg; CEIC Data Company Ltd.; both downloaded 29 August 2008.

[Click here for figure data](#)

result of the cuts in many public projects, the cooling real estate market, and the rise in the cost of borrowing. As expectations of persistent high inflation and sharp devaluation subside, firms will draw down inventories that were built up in the first half.

Growth of consumption will slacken primarily because of a reduction in government consumption. Import growth will decelerate on slowing investment and consumption and falling inventories. At the same time, the anticipated weakening of external demand and a further decline in crude oil production will moderate export growth. Net imports of goods and services will grow at a slower pace than in the first half of 2008 but—for the whole year—will increase substantially relative to 2007.

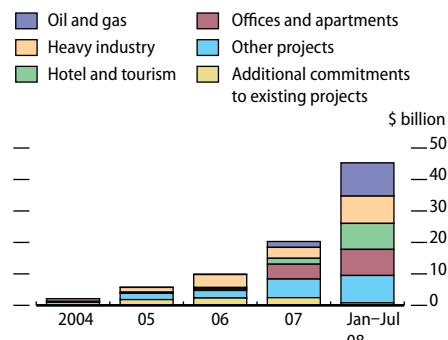
GDP growth in 2009 is now forecast to moderate further, to 6.0%, instead of rebounding as projected in *Asian Development Outlook 2008* (*ADO 2008*) in April. This is because the Government is expected to maintain an anti-inflation stance, and external demand is likely to remain sluggish. Growth of consumption and domestically financed investment is likely to slow further next year. Net imports of goods and services will shrink, largely on a narrowing of the merchandise trade deficit. This will not, however, fully offset the slowdown in growth of consumption and investment. FDI inflows will remain strong, but their growth will be increasingly constrained by the capacity of the economy to absorb them.

Inflation on a year-on-year basis is expected to peak at more than 30% in November, and then decline fairly fast. For all 2008, inflation is forecast at 25.0%, up from 18.3% in *ADO 2008* because of higher than expected inflation in the first half. Significant price pressures will continue into 2009, maintained by the higher fuel prices and likely wage increases. The forecast for year-average inflation in 2009 is raised to 17.5%, from 10.2%.

The current account deficit for this year is now forecast at 13.5% of GDP, compared with the April forecast of 10.3%. As discussed above, import growth should decelerate in the second half, but exports will also soften, keeping the full-year trade gap wide. Strong inflows of FDI and other foreign capital will keep the overall balance of payments in surplus. Next year's current account deficit is now projected at 7.0% of GDP (against 9.4% in *ADO 2008*). Exports of crude oil will fall because of the continuing decline in output and the scheduled start of domestic oil processing. Other exports will grow at a slower pace than in 2008, due to weaker external demand. Growth of imports will decelerate significantly as aggregate demand moderates and imports of oil products decrease. Inflows of FDI and portfolio investment are expected to be more than enough to finance the current account deficit.

Risks to this outlook are tilted to the downside. Weaknesses in the banking system pose a potential threat to continued improvement of the macroeconomic situation. Some banks have low levels of capital and weak risk-management capacity, and their lending decisions are not always based on commercial considerations. Nonperforming loans can be expected to increase in the context of the declines in stock and real estate prices, hikes in interest rates, and general slowdown in economic growth. Concerned about such weaknesses, the State Bank of Viet Nam is strengthening prudential supervision and has suspended licensing new banks so that it can focus on supervising existing ones. If a bank becomes

3.10.10 New foreign direct investment commitments



Sources: General Statistics Office of Viet Nam, available: <http://www.gso.gov.vn>; staff estimates.

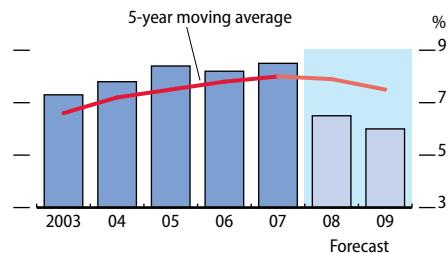
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3.10.1 Selected economic indicators (%)

| | 2008 | | 2009 | |
|-----------------------------------|----------|--------|----------|--------|
| | ADO 2008 | Update | ADO 2008 | Update |
| GDP growth | 7.0 | 6.5 | 8.1 | 6.0 |
| Inflation | 18.3 | 25.0 | 10.2 | 17.5 |
| Current acct. bal. (share of GDP) | -10.3 | -13.5 | -9.4 | -7.0 |

Source: Staff estimates.

3.10.11 GDP growth



Sources: Asian Development Outlook database; staff estimates.

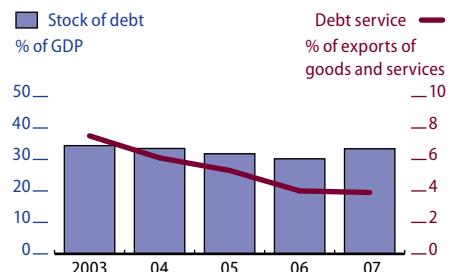
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financially distressed, the central bank is likely either to provide liquidity support, or initiate a merger with a healthier bank, (or both), to ensure that the bank does not cause a systemic crisis.

There is a risk that—as inflation eases, the trade deficit narrows, and growth moderates further—the authorities may loosen monetary and fiscal policies and boost public investment to spur growth. If this occurs, GDP growth and inflation would be higher and the current account deficit wider in 2009 than now forecast.

Despite the challenges, the medium- to long-term growth prospects remain good. Accession to the World Trade Organization in 2007 has provided a long-term impetus to economic and institutional reforms that will enhance efficiency and growth prospects. These reforms have slowed somewhat in 2008 because of the macroeconomic turmoil and unfavorable market conditions for privatizing state enterprises, but are likely to pick up once the economic situation stabilizes and market conditions improve. Furthermore, FDI inflows have surged in recent years. External debt is moderate; the stock increased to 33.4% of GDP by end-2007 from 30.2% a year earlier (Figure 3.10.12). Concessional medium- and long-term loans from development agencies account for most of the debt, while short-term debt is estimated at less than 1% of GDP. External debt service amounts to about 4% of exports of goods and services.

3.10.12 External debt



Sources: Ministry of Finance local data releases; State Bank of Viet Nam local data releases; staff estimates.

[Click here for figure data](#)

Part 4

Technical note



Asian Development Outlook growth and inflation forecast errors

Introduction

This technical note is the third of a series of such notes that evaluates the forecast performance of the *Asian Development Outlook* (*ADO*). Previous evaluations have focused on measuring forecasting quality. Current- and next-year forecasts of real gross domestic product (GDP) growth and inflation were assessed in terms of numerical and directional accuracy. Two points emerge. First, forecast accuracy has improved over time although there is a tendency for *ADO* to underpredict growth and overpredict inflation. Second, although *ADO* has been fairly successful in predicting the direction of change, large forecast errors are still observed during sharp changes in outcomes, especially during downturns.

Working from the above results, this note identifies the possible sources of forecast errors. Given that the structures of both local and global economies have been changing, is there a relationship between the behavior of other macroeconomic variables and forecast errors? And if so, how can this information be used to improve forecasting?

General statistical features of forecast errors

Inference in this note will be drawn from a sample of 15 economies in developing Asia¹ with available forecasts for real GDP growth and inflation for the period 1990–2007. Forecasts are compared to first-release actual figures of GDP growth and inflation to avoid mixing the question of forecast quality with problems of data revisions.

As in previous technical notes, forecast errors are defined as outcomes less forecasts, so that a positive error indicates underprediction and a negative error indicates overprediction. Two types of forecast errors are considered—current- and next-year. The current-year forecast error in year t is the difference between the actual number in year t and the forecast made in *ADO* year t . The next-year forecast error is the difference

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between the actual number in year t and the forecast made in ADO year $t-1$. As an example, the current-year forecast error in GDP growth in 2007 is the difference between actual growth in 2007 and the forecast made in ADO 2007. The next-year forecast error is the difference between actual growth in 2007 and the forecast made in ADO 2006.

Seven general measures to evaluate forecasts of real GDP growth and inflation of the 15 economies as a whole, for the period 1990–2007, are presented in Table 4.1.1. The mean forecast error measures the average deviation of the forecast from its realization. It is commonly used to measure forecast accuracy but suffers from sensitivity to extreme values as it may give misleading results if positive and negative forecast errors cancel each other out. Alternative measures that disregard arithmetic signs are the mean absolute error (MAE) and the root-mean-square error (RMSE). The MAE gives equal weight to all errors while the RMSE gives greater weight to large errors. This means that the RMSE is most useful when large errors are particularly undesirable.

Used together, the MAE and the RMSE can be used to evaluate the variation in the forecast errors. The greater the difference between these two measures, the greater the variance in individual errors. The variance of forecasts errors should be expected to decline as the forecast horizon shortens.

The last four measures as given in Table 4.1.1 are often used to check on the presence of bias and to evaluate the efficiency of forecasts. The fraction of positive errors indicates the degree of overestimation or positive bias. This is further tested by regressing the forecast error on a constant α . Unbiasedness requires $\alpha=0$.

4.1.1 Forecast errors, 1990–2007

| | Real GDP growth | | Inflation | |
|-----------------------------|-----------------|----------------|------------------|------------------------|
| | Current-year | Next-year | Current-year | Next-year |
| Mean | 0.24 | -0.23 | -0.40 | -0.12 |
| Mean absolute error | 1.51 | 2.05 | 2.15 | 3.21 |
| Root mean square error | 2.32 | 3.32 | 4.17 | 6.22 |
| Fraction of positive errors | 0.66 | 0.52 | 0.39 | 0.47 |
| α | 0.24 (1.73) | * (-1.13) | -0.23 (-1.60) | -0.40 (-0.31) |
| β | 0.05 (1.96) | ** (-1.76) | -0.06 (-0.36) | * (0.70) |
| δ | 0.06 (0.95) | 0.14 (2.32) | ** (4.86) | 0.27 *** (-0.89) |

Notes: *, **, *** denote significance of the coefficient at the 90%, 95%, and 99% levels, respectively.

α = Coefficient obtained by regressing forecast errors on a constant. β = Coefficient obtained by regressing forecast errors on the forecasts. δ = First-order autocorrelation.

Source: Staff calculations.

The tests for efficiency involves regressions of the forecast errors on the forecasts themselves and the current forecast error on its lag value. Efficiency requires that both β and δ are not significantly different from zero (OECD 1993). In other words, the forecast error should be uncorrelated with the forecast and should be independent of past error values.

Forecast errors for real GDP growth

The current-year mean forecast error is relatively small, at less than a quarter percentage point. It is positive with ADO forecasts underestimating real GDP growth by 0.2 percentage points on average.

The majority of the current-year forecasts are underpredicted, as shown by the high fraction of positive errors. This positive bias is reaffirmed by the statistical significance of α . Aside from being biased, current-year forecasts are found to be positively correlated with the forecast (β being significantly different from zero). In other words, current-year forecast errors are predictable and a forecaster can very well reduce the errors by not making large forecasts.

Next-year mean forecast errors are negative. But this does not mean that next-year's overall mean forecast error is smaller and hence more accurate than current-year forecasts. It is just that large positive and negative forecast errors cancel each other out. In fact, the MAE and the RMSE are larger for next-year forecasts and their difference higher, suggesting greater volatility of the errors. Though not biased like current-year forecasts, they are nonetheless inefficient as next-year forecast errors are negatively correlated with the forecast and positively correlated with its past values (i.e., β and δ are both statistically significant).

Forecast errors for inflation

A negative overall mean forecast error suggests a general tendency for ADO to overpredict inflation. But again this measure may be affected by the presence of outliers as indicated by a relatively large RMSE. In terms of the proportion of current-year forecasts making positive errors, only 39% are underestimates. The proportion increases to 47% for next-year forecasts. Both current- and next-year forecasts are unbiased but the former do not take sufficiently into account the size and structure of past errors (in most cases, overpredictions of inflation). The forecasters may have failed to realize that the inflation environment has already changed and the parameters on which they are basing their forecasts are no longer consistent with it.

Magnitude of forecast errors

Although forecast errors are small on average, their range varies widely across countries and years. Furthermore, large forecast errors tend to be concentrated in certain years (Table 4.1.2), suggesting a possible case for analyzing domestic and external developments. For example, both GDP growth and inflation forecasts tend to be overestimated in 1997 and 1998 when the Asian financial crisis revealed fundamental weaknesses in the structure of several regional economies. Southeast Asian currencies came under severe speculative attack and depreciated substantially. (There were also some contagion effects as the crisis was not limited to Southeast Asia.) Some countries simultaneously implemented tight monetary policies to counter capital outflows and stabilize their currencies. In contrast in 1999, growth was underpredicted while inflation remained overpredicted as forecasters failed to anticipate the speed and magnitude of recovery that resulted from expansionary macroeconomic policies, improved external demand, and the lowering of prices due to increased agricultural production and exchange rate stability.

4.1.2 Years with large forecast errors

| Economy | GDP growth | | | | Inflation | | | | Economy | GDP growth | | | | Inflation | | | | |
|---------|--------------|---|-----------|---|--------------|------|-----------|------|---------|--------------|------|-----------|------|--------------|------|-----------|------|---|
| | Current year | | Next-year | | Current year | | Next-year | | | Current-year | | Next-year | | Current-year | | Next-year | | |
| PRC | 1990 | - | 1990 | - | 1990 | - | 1993 | + | PAK | 1993 | - | 1992 | + | 1990 | - | 1990 | - | |
| | 1991 | + | 1992 | + | 1991 | - | 1994 | + | | 1997 | - | 1993 | - | 1992 | + | 1991 | + | |
| | 1992 | + | 1993 | + | 1993 | + | 1995 | + | | 2001 | - | 1997 | - | 1994 | + | 1995 | + | |
| | 1997 | - | | | 1994 | + | 1997 | - | | 2004 | + | 2001 | - | 1995 | + | 1999 | - | |
| | | | | | | | 1998 | - | | 2005 | + | 2004 | + | 1996 | - | 2000 | - | |
| | | | | | | | 1999 | - | | 2005 | + | 1998 | - | 2005 | + | 1999 | - | |
| HKG | 1998 | - | 1998 | - | 1990 | + | 1991 | + | | | | | | 2005 | + | | | |
| | 1999 | + | 2000 | + | 1991 | + | 1999 | - | | | | | | | | | | |
| | 2000 | + | 2001 | - | 1999 | - | 2002 | - | SRI | 1990 | + | 1996 | - | 1990 | + | 1990 | - | |
| | 2001 | - | 2004 | + | 2000 | - | | | | 2001 | - | 2001 | - | 1991 | - | 1991 | + | |
| | | | | | | | 2001 | - | | 2006 | + | 2006 | + | 1999 | - | 1995 | + | |
| KOR | 1990 | + | 1998 | - | 1990 | + | 1990 | + | | | | | | 2003 | - | 1999 | - | |
| | 1998 | - | 1999 | + | 1992 | - | 1991 | + | | | | | | 2004 | + | 2000 | - | |
| | 1999 | + | 2000 | + | 1995 | - | 1993 | - | | | | | | 2007 | + | 2005 | + | |
| | | | | | | 1998 | - | 1999 | - | INO | 1997 | - | 1998 | - | 1998 | + | 1998 | + |
| | | | | | | 2001 | + | 2005 | + | | 1998 | - | | | | | | |
| TAP | 1991 | + | 2001 | - | 1991 | - | 1991 | - | MAL | 1998 | - | 1998 | - | 1990 | - | 1998 | + | |
| | 2001 | - | 2007 | + | 1992 | + | 1994 | + | | 1999 | + | 2000 | + | 1991 | + | 2000 | - | |
| | | | | | 1994 | + | 1997 | - | | 2001 | - | 2001 | - | 1999 | - | 2001 | - | |
| | | | | | | 1997 | - | 2003 | - | | | | | 2000 | - | 2005 | + | |
| | | | | | | 2004 | + | 2004 | + | | | | | 2005 | + | 2006 | + | |
| | | | | | | 2005 | + | | | PHI | 1990 | - | 1991 | - | 1992 | - | 1990 | + |
| BAN | 1991 | - | 1990 | + | 1990 | - | 1990 | - | | 1991 | - | 1992 | - | 1993 | - | 1991 | + | |
| | 1994 | - | 1991 | - | 1991 | - | 1993 | - | | 1992 | - | 1998 | - | 2004 | + | 1992 | - | |
| | 1996 | + | 1999 | - | 1992 | - | 1995 | + | | 1998 | - | 2004 | + | 2005 | + | 2007 | - | |
| | 1998 | - | 2002 | - | 1995 | + | 1998 | + | | 2004 | + | 2007 | + | | | | | |
| | 1999 | + | 2004 | + | 1998 | + | 2001 | - | | 2007 | + | | | | | | | |
| | 2000 | + | 2006 | + | | | | | SIN | 1993 | + | 1994 | + | 1998 | - | 1990 | + | |
| IND | | | | | | | | | | 1998 | - | 1998 | - | 2004 | + | 1994 | + | |
| | 1991 | - | 1991 | - | 1991 | + | 1991 | + | | 1999 | + | 2000 | + | 2007 | + | 1998 | - | |
| | 1994 | + | 1997 | - | 1994 | + | 1994 | + | | 2001 | - | 2001 | - | | | 1999 | - | |
| | 1997 | - | 2002 | - | 1996 | - | 1996 | - | | | | | | | | 2002 | - | |
| | 2000 | - | 2005 | + | 1997 | - | 1997 | - | | | | | | | | 2004 | + | |
| | 2002 | - | 2006 | + | 1999 | - | 1998 | - | | | | | | | | | | |
| | | | | | | | 1999 | - | THA | 1997 | - | 1997 | - | 1998 | - | 1998 | + | |
| NEP | | | | | | | | | | 1998 | - | 1998 | - | 1999 | - | 1999 | - | |
| | 1990 | + | 1991 | + | 1990 | - | 1991 | + | | 1999 | + | 2003 | + | | | 2000 | - | |
| | 1998 | - | 1995 | - | 1991 | + | 1992 | + | VIE | 1990 | - | 1991 | - | 1990 | - | 1990 | - | |
| | 2002 | - | 1998 | - | 1993 | - | 1993 | - | | 1991 | + | 1992 | + | 1991 | - | 1991 | + | |
| | | | | | 2000 | + | 1994 | + | | 1992 | + | 1993 | + | 1994 | + | 1992 | - | |
| | | | | | 2005 | - | 1998 | - | | 1997 | - | 1997 | - | 1998 | - | | | |
| | | | | | | 1999 | + | 2000 | - | | | | | 1999 | - | | | |
| | | | | | | 2001 | - | 2006 | + | | | | | 1999 | - | | | |

+ = underestimation; - = overestimation. BAN = Bangladesh; PRC = China, People's Rep. of; HKG = Hong Kong, China; IND = India; INO = Indonesia; KOR = Korea, Rep. of; MAL = Malaysia; NEP = Nepal; PAK = Pakistan; PHI = Philippines; SIN = Singapore; SRI = Sri Lanka; TAP = Taipei, China; THA = Thailand; VIE = Viet Nam.

Note: "Large" in the table title denotes a forecast error differing by more than one standard deviation from the mean.

Source: Staff calculations.

Large forecast errors were made not only during the financial crisis but also during the early 1990s, when many countries were adversely affected by generally slower growth in the world economy and higher oil prices following the onset of the Gulf crisis.

Sources of forecast errors

The estimation procedure in this note follows essentially that of Andersen (1997) who analyzed the relationship between next-year forecast errors and financial developments using individual time-series data of the G7 countries. His results show that unexpected changes in nonfinancial variables are the primary source of forecast errors. However, forecasts can also be improved by using information on changes in the yield curve and information on movements in exchange rates and asset prices.

This note regresses forecast errors not only on financial and monetary variables but also on variables that pertain to domestic and political stability, globalization, and external vulnerability. Data are pooled across countries and across years to overcome sample size problems and provide more robust estimates. Separate regressions on current- and next-year forecast errors on real GDP growth and inflation are done.

$$Y_{it} = \alpha + W_{it}'\beta + X_{it}'\gamma + Z_{it}'\delta + \lambda_i + \varepsilon_{it}$$

where

| | | |
|---------------|---|---|
| Y | = | forecast error on real GDP growth or inflation for country i for year t |
| W | = | vector of variables representing domestic factors |
| X | = | vector of variables representing external factors |
| Z | = | vector of “technical” variables |
| λ | = | cross-section differential intercepts |
| ε | = | random error of regression |

Domestic factors

| | |
|-----------|---|
| %ΔM2 | annual percentage change of M2 or M3 money supply |
| LENDRATE | lending rate |
| EXCHRATE | annual average exchange rate |
| EXCHVOLA | standard deviation of the month-on-month percentage change of the exchange rate |
| STOCKVOLA | standard deviation of the month-on-month percentage change of the stock price index |
| GAP | difference between actual and potential real GDP (constructed using a Hodrick-Prescott filter), expressed as a percentage of potential real GDP |
| OPENNESS | total trade as a percentage of GDP |

Changes in money supply and interest rates capture the effects of changes in monetary policies. Increasing inflation pressures force central banks to tighten monetary policies to damp demand. This in turn negatively affects output. The ability to predict the magnitude and the length of the transmission lags from monetary policy to output and inflation has a bearing on the precision of forecasts.

The exchange rate affects aggregate demand and prices. Depending

on the reasons for and the persistence of exchange rate movements, central banks determine the appropriate monetary policy response. The volatility of exchange rates and stock prices serves as a measure of the economic and political stability of a country (Schwert 1989, Bittlingmayer 1998, Schnabl 2007). The output gap is included in the inflation forecast equation to account for domestic demand pressures. If output gap is positive, meaning there is excess demand, there will be upward pressure on the costs of the factors of production as the economy increases its utilization, which will then lead to higher prices of goods and services.

Trade openness is used as an indicator of trade policy measures in the growth forecast equation. According to di Giovanni and Levchenko (2006) trade openness has a positive and significant effect on output volatility. They estimate its impact to be five times more in developing countries than in developed ones. In the same vein, Bowdler and Malik (2005) find a negative relationship between trade openness and inflation volatility. According to them, trade openness reduces inflation volatility by providing incentives for policy makers to create a more stable macroeconomic framework and by providing a wider variety of goods and services, thus avoiding sector-specific price shocks. Increases in output and inflation volatility add to the complexity of forecasting and consequently the possibility of committing forecast errors.

External factors

| | |
|-------------|--|
| OILVOLA | standard deviation of the month-on-month percentage change of Brent crude prices |
| FOODVOLA | standard deviation of the year-on-year percentage change of the International Monetary Fund commodity food price index |
| DELTAAUSGDP | change in GDP growth of the United States (US) (in percentage points) |

These variables capture the effect of changes in global factors in the accuracy of the forecasts. The change in the real GDP of the US is put as a control variable for the forecast error in the growth forecast equation given the size of the US in the global economy. Indeed, the changing structure of the world economy introduces new and unpredictable sources of error that further complicate the job of the forecaster.

“Technical” variables

“Technical” variables are nonfinancial and nonmonetary variables that try to capture the biases and inefficiencies of the forecasters in making their forecasts. Three variables are included:

| | |
|--------------------|---|
| DELTAGDP/ DELTAINF | change in GDP growth or change in rate of inflation (in percentage points); |
| LAGERROR | lagged forecast error; and |
| ERROR14 | average forecast error for the other 14 economies |

The change in GDP growth or in inflation is included to validate the observation in *ADO 2006 Update* (p. 134) that “forecasts tend to miss the

mark most when there are sharp changes in outcomes.” Forecasters are said to be biased against deviating too much from the mean or against taking extreme positions. This variable can also be a measure of the forecasters’ assessment of the speed by which output or prices respond to policy changes. Past forecast errors are included to test if forecasters make use of past information in predicting the future while the average forecast error for the other 14 economies tests if forecast errors are correlated across economies.

Admittedly, the list of variables is not exhaustive. There are numerous sources of forecast errors and it will be impossible to identify all or even most of them.² Another limitation is borne out by the fact that the dependent variable is a derived variable, i.e., it is the difference between the actual outcome of an unknown real world model and the predicted outcome of a forecasting model. Consequently, it is difficult to assign the precise meaning to an estimated coefficient—whether it is due to a shock or a model specification error (Andersen 1997). The value then of the exercise is to provide guideposts as to how forecasts can be improved.

Empirical results

Tables 4.1.3 and 4.1.4 show the results of pooled regressions for both current- and next-year forecasts over the period 1990–2007. The regressions use the White estimator to correct for heteroskedasticity and serial correlation in the residuals. Corresponding t-statistics are italicized and recorded below the coefficient estimates. The asterisks indicate the rejection of the null hypothesis that the coefficient is equal to zero.

From these tables, one can see the improvement of the estimation as more variables are included. In particular, the inclusion of the technical variables greatly improves the estimation as the standard errors are markedly reduced and R^2 rises significantly. This is more evident in the growth forecast equation than in the inflation forecast equation where one can see the improvement of the adjusted R^2 from 29% to 86% (36% to 95%) in the current-year (next-year) GDP growth forecast error equation versus an improvement from 39% to 64% (35% to 77%) in the current-year (next-year) inflation forecast error equation.

These results highlight the greater difficulty of identifying potential sources of errors in inflation forecasts. This can be attributed to the change in the reaction function of the monetary authorities in response to inflation signals given by the significant variables and to feedback effects of changes in monetary instruments (Andersen 1997). But for both real GDP and inflation equations, the predictive power of the variables chosen is higher for next-year than current-year forecast errors.

Technical variables explain a greater part of the current-year forecast errors for GDP growth but not for inflation. Suppressing financial and monetary variables in the estimation, “technical” variables explain 81% of current-year GDP growth forecast errors as compared to 26% of current-year inflation forecast errors. In other words, domestic variables (which are mostly financial and monetary policy variables) have more influence on forecast errors for inflation than for GDP growth.

4.1.3 Regression results (real GDP growth forecast errors)

| Real GDP growth forecast | Current year | | | Next year | | |
|---------------------------------------|----------------|--------------------|--------------------|-------------------|--------------------|--------------------|
| | A | B | C | A | B | C |
| Common intercept term | 0.62 0.47 | -0.72 -0.56 | 0.67 1.68 | -0.05 * -0.02 | -2.32 -0.99 | -0.51 -0.85 |
| Nonfinancial/technical factors | | | | | | |
| DELTAGDP | | | 0.58 15.15 | *** | | 0.99 39.15 |
| LAGERROR | | | 0.36 12.03 | *** | | 0.73 20.58 |
| ERROR14 | | | 0.05 1.05 | | | 0.11 2.81 |
| Domestic factors | | | | | | |
| %ΔM2 | 0.03 1.41 | 0.03 1.48 | 0.02 2.79 | *** 0.57 | 0.02 0.64 | 0.01 1.55 |
| LENDRATE | -0.13 -2.23 | ** -0.11 -1.93 | * -0.05 -4.63 | ** -0.14 -1.34 | -0.11 -1.03 | 0.03 1.80 |
| EXCHVOLA | -0.38 -5.20 | *** -0.37 -5.21 | *** -0.02 -0.63 | -0.68 -5.80 | *** -0.66 -5.84 | -0.05 -2.00 |
| EXCHRATE | 0.00 -9.97 | *** 0.00 -10.45 | *** 0.00 -3.35 | *** 0.00 -8.93 | *** 0.00 -9.15 | -0.00 -0.87 |
| OPENNESS | 0.01 1.22 | 0.01 1.30 | 0.00 0.30 | 0.02 1.31 | 0.02 1.34 | 0.00 0.35 |
| STOCKVOLA | 0.05 0.94 | 0.05 1.08 | 0.03 2.74 | *** 0.05 0.49 | 0.06 0.58 | -0.01 -0.92 |
| External factors | | | | | | |
| OILVOLA | | 0.09 1.86 | * -0.06 -2.01 | ** | 0.12 1.60 | 0.02 0.57 |
| FOODVOLA | | 0.06 2.20 | ** 0.00 -0.12 | | 0.15 3.81 | *** -0.04 -1.38 |
| DELTAUSGDP | | 0.28 3.42 | *** -0.07 -1.45 | | 0.31 3.97 | *** 0.13 3.31 |
| Adj. R² | 0.29 | 0.31 | 0.86 | 0.36 | 0.39 | 0.95 |
| Standard error | 1.97 | 1.93 | 0.88 | 2.78 | 2.72 | 0.79 |

Notes: *, **, *** denote significance of the coefficient at the 90%, 95%, and 99% levels, respectively. A = Forecast error regressed against domestic factors only.

B = Forecast error regressed against domestic and external factors only. C = Forecast error regressed against all variables.

Source: Staff calculations.

GDP growth

The first set of results (Table 4.1.3, column A) focuses on the influence of domestic factors by suppressing all the other variables. The most significant domestic variable is the movement of the exchange rate, which enters the equation negatively. A more volatile exchange rate is associated with the overestimation of GDP growth. Exchange rate volatility is often linked to uncertainty, which negatively affects growth via its effects on trade, investment, and macroeconomic stability (Schnabl 2007). It is the underestimation of these transmission effects that results in an overestimation of GDP growth. In the same manner, currency appreciation is associated with an overestimation of GDP growth, but the effect is almost nil. The forecasters may be associating a strong currency with strong growth, hence the overestimation of GDP growth. By the same token, a tighter monetary policy, as exemplified by a higher lending

rate, is associated with the overestimation of GDP growth, and in this case, this may reflect the tendency of forecasters to underestimate the damping effect of tight monetary policy on aggregate demand.

The second regression (Table 4.1.3, column B) now adds external factors. The explanatory power of the equation improves, as seen by the increase in the R^2 and the decrease in the standard errors, though the improvement is marginal. The same set of domestic factors is found to be significant. The significance of DELTAUSGDP suggests the tendency for forecasters to underestimate the positive effect of a US economic expansion to Asian economies, while the volatility of global commodity prices makes it more difficult to estimate the pass-through effects of global inflation to the real economy.

Technical variables are then included in the third regression (Table 4.1.3, column C). Note the significant changes in the R^2 and standard errors. Also, some of the domestic and external factors that appear significant in the first two equations are now insignificant or appear with the sign reversed (such as OILVOLA). The most significant variable is the change in the growth rate (DELTAGDP), reflecting the difficulty of predicting sudden and sharp changes in outcomes and the forecasters' reluctance to predict "large" changes relative to historical rates. Past forecast errors also are significant, confirming what was said in *ADO 2006 Update* "that the future is often assumed to be much like the present" (p. 135). Positive correlation between forecast errors and that of the other economies is observed but is statistically insignificant.

In addition to lending rate and exchange rate, changes in money supply and stock price volatility enter the equation positively. A faster growth of monetary aggregates than in the previous period is associated with underestimation of GDP growth. This suggests that forecasters may be underestimating the stimulating effect on spending of a rise in money supply growth. The damping effect of political uncertainty (as captured by the volatility of stock prices) on the real economy is overstated, again leading to an underprediction of real GDP growth.

The change in the sign of the oil volatility variable can indicate possible correlation with the technical variables. Taken as it is, the effect of the uncertainty in the global economy to the real economy (or the vulnerability of the real local economy to global risk factors) is understated, leading to an overprediction. However, despite an R^2 of 0.86, the equation may still be misspecified, as the positive and significant common constant term indicates additional but unknown sources of underprediction.

With regard to next-year forecast errors, only ERROR14 (the correlation with errors of other economies) is added to the set of variables affecting next-year forecast errors. This may reflect the herd mentality of forecasters (their tendency not to go against the tide). This is particularly true for forecasting variables with less available information to base forecasts on. In an earlier study, Ashiya and Doi (2001) link the herd behavior of Japanese economists to the characteristic of Japanese society to criticize nonconformists. They further cite anecdotal evidence of Japanese economists being questioned by supervisors only when they make forecasts different from other forecasters in the same industry. Thus to avoid being in this situation, they make forecasts similar to others'.

4.1.4 Regression results (inflation forecast errors)

| Inflation forecast | Current year | | | Next year | | |
|---------------------------------------|--------------|-------------|-------------|-------------|-------------|-------------|
| | A | B | C | A | B | C |
| Common intercept term | -1.56 | -2.65 | ** 1.75 | -4.53 | *** -6.58 | *** -4.53 |
| | -1.56 | -2.30 | 0.99 | -5.46 | -5.30 | -1.77 |
| Nonfinancial/technical factors | | | | | | |
| DELTAINF | | | 0.32 *** | | | 0.72 *** |
| | | | 4.19 | | | 14.90 |
| LAGERROR | | | 0.16 | | | 0.29 * |
| | | | 1.26 | | | 1.75 |
| ERROR14 | | | -0.13 | | | 0.19 *** |
| | | | -1.00 | | | 2.73 |
| Domestic factors | | | | | | |
| %ΔM2 | 0.07 | 0.07 | 0.03 | 0.13 *** | 0.13 *** | -0.03 |
| | 1.34 | 1.34 | 0.92 | 2.70 | 2.74 | -0.92 |
| LENDRATE | -0.05 | -0.03 | -0.14 | 0.16 * | 0.17 ** | 0.45 ** |
| | -0.74 | -0.46 | -1.40 | 1.84 | 2.09 | 2.21 |
| EXCHVOLA | 0.75 *** | 0.77 *** | 0.52 *** | 0.92 *** | 0.94 *** | 0.18 ** |
| | 4.96 | 5.23 | 3.52 | 5.50 | 6.03 | 2.22 |
| EXCHRATE | 0.00 * | 0.00 | 0.00 *** | 0.00 ** | 0.00 ** | 0.00 *** |
| | 1.66 | 1.58 | 2.70 | 2.20 | 2.56 | 2.64 |
| GAP | 0.01 | 0.00 | 0.05 | -0.09 | -0.09 | -0.01 |
| | 0.14 | -0.05 | 0.76 | -0.71 | -0.78 | -0.24 |
| STOCKVOLA | -0.08 | -0.07 | -0.06 | -0.11 | -0.10 | -0.05 |
| | -0.80 | -0.75 | -0.83 | -1.03 | -0.93 | -0.81 |
| External factors | | | | | | |
| OILVOLA | | 0.00 | -0.25 ** | | 0.11 | -0.01 |
| | | 0.06 | -2.28 | | 1.11 | -0.06 |
| FOODVOLA | | 0.14 * | 0.09 | | 0.15 | 0.04 |
| | | 1.80 | 1.34 | | 1.63 | 0.67 |
| Adj. R² | 0.39 | 0.39 | 0.64 | 0.35 | 0.35 | 0.77 |
| Standard error | 2.81 | 2.81 | 2.20 | 4.60 | 4.60 | 2.80 |

Notes: *, **, *** denote significance of the coefficient at the 90%, 95%, and 99% levels, respectively. A = Forecast error regressed against domestic factors only. B = Forecast error regressed against domestic and external factors only. C = Forecast error regressed against all variables.

Source: Staff calculations.

Inflation

The explanatory variables are similar to those identified for output growth but the results are quite different in the sense that suppression of external factors and technical variables leaves the exchange rate (movement and level) as the only significant factor. Most of the underprediction of inflation is attributed to the underprediction of the impact of the exchange rate on inflation. Although the exchange rate is only marginally significant, the sign of the coefficient implies that the inflation effect of the depreciation of a currency is larger than predicted. The equation including all variables points to an underprediction of the degree of deceleration (DELTAINF), together with an overprediction of the effects of the uncertainty in global oil prices as additional sources of forecast errors.

The result of regressions on next-year forecast errors reveals an interesting result—the lag effects of monetary policy on inflation. This may be compared with the insignificance of the current monetary

policy variables on current-year forecast errors. For next-year forecast errors, regressions on domestic factors only and then on domestic and external factors reveal the same significant effects of money supply growth, lending rate, and exchange rate. The effect of money supply growth is understated. Similarly, the damping effect of tighter monetary conditions (higher lending rate) is overstated (or assumed to happen with a shorter time lag), leading to an underestimation of inflation. Ignoring exchange rate effects on inflation also causes actual inflation to exceed the predicted rate. However, R^2 is only 0.35, suggesting the need to include technical variables in indentifying possible sources of prediction errors.

The significance of money supply disappears when technical variables are included. All technical variables are significant and tend to be underpredicted. The positive significant influence of changes in the inflation rate (in both current- and next-year forecast errors) suggests that forecasters may be overestimating the speed with which inflation respond to changes in monetary policy. Information on past inflation errors is not sufficiently taken into account. Similar to next-year growth forecast errors, there is evidence that next-year inflation errors are correlated across countries, possibly reflecting the inclination not to deviate from majority or consensus opinion.

Although there is much improvement in the explanatory power when external factors and technical variables are included in next-year forecast error equations, the negative significant intercept term is indicative of additional unknown sources of overestimation.

Summary and conclusions

This technical note has examined the relationship between economic and noneconomic factors on the one hand and forecast errors on the other, and identifies the possible sources of such errors. The hope has been to provide ways to improve forecasts of GDP and inflation. Although the type of analysis in the note does not allow unambiguous isolation of the factors that have caused the errors in forecasting, the analysis points to several conclusions that may be worth considering in order to improve GDP and inflation forecasts.

First, the empirical results show that there is a relationship between the behavior of macroeconomic variables and forecast errors. The domestic variables that are most frequently related to forecast errors are money supply, interest rates, and exchange rates. There is also empirical evidence that external factors are relevant to the determination not only of output but also of domestic inflation. These large exogenous shocks can cause a structural break in the economy that requires a new way of looking at things (or in terms of model specification, new parameter estimates), which if not done by the forecaster can lead to large forecast errors. This underscores the importance of monitoring intensively and studying not only local conditions, but also global external developments.

Second, the results show that not only known determinants of output and inflation affect forecast accuracy, but also “technical” variables. In all cases, the explanatory power of the equation significantly increases with the inclusion of these variables. But how can one make use of these variables to improve forecast accuracy? One, recognize that the analysis

of past forecast errors is a way of assessing one's understanding of the economy. As forecast errors must be random, a systematic under- or overestimation of projections implies that one does not fully grasp the workings of the economy. Two, although it is true that it is difficult to predict sudden and sharp changes in outcomes and prices (as confirmed by the significance of DELTAGDP and DELTAINF for both current- and next-year forecast errors), it may well make sense to look back and find out when the mark was missed most, analyze the circumstances leading to and surrounding these exceptional periods, and from this analysis think of ways to improve the forecasts. Three, include past forecast errors in the forecasting method to correct for biases in the forecasts. Granger (1996) discusses various ways of doing this, including the incorporation of past forecast errors of other variables that have been found to have cointegrating relation with the variable being examined. Four, consider the forecasts of others with caution. The significance of ERROR14 shows the tendency of forecasters to move in the same direction as other forecasters. Although there may be some merit to this (especially during times of great uncertainty), as they may have access to other or newer relevant information, this should not be done to the neglect of economic fundamentals. One must also realize that most forecasts are conditional forecasts—they are based on certain assumptions. Therefore, a careful assessment of the underlying assumptions of and the risks surrounding these forecasts is warranted before attaching any weight to them.

Third, financial and monetary policy variables explain more the forecast errors for inflation than those for GDP growth. A possible reason is that financial and monetary policies affect prices (and therefore inflation) more directly than economic growth. Economic growth is based more on structural and institutional factors as it takes more time for the financial and monetary policy levers of the authorities to affect the real sector. The relatively poor fit of the inflation equation may be due to incorrect lag assumptions or unexpected changes in monetary policies or feedback effects of monetary variables. Further work is clearly needed to identify more precisely the channels and assess the transmission mechanisms by which macroeconomic variables affect output and inflation.

Fourth, the presence of forecast errors does not undermine the usefulness of forecasts in guiding policy making. But forecasters must emphasize the conditionality of the projections to avoid being misinterpreted. It will greatly benefit the users of the forecasts if the underlying suppositions on which the forecasts rest and the associated uncertainties are clearly stated so they can properly weigh the risks at stake.

The final point is that one cannot fully automate forecasting. Indeed, although formal modeling techniques are useful, their results should be subjected to reality checks and adjusted accordingly. For countries that do not have enough data to support the formulation of such models, forecasters must make value judgments on the basis of an informed assessment of how things will progress. From the regression exercise done on this paper, it may be worth analyzing the behavior and movements of monetary aggregates, interest rates, exchange rates, global commodity prices, and the US economy, among others. As new information becomes available, existing economic relationships will have to be reassessed.

Endnotes

- 1 Bangladesh; People's Republic of China (PRC); Hong Kong, China; India; Indonesia; Republic of Korea; Malaysia; Nepal; Pakistan; Philippines; Singapore; Sri Lanka; Taipei, China; Thailand; and Viet Nam.
- 2 Errors can primarily be attributed to erroneous assumptions regarding key economic variables and economic policies, unanticipated changes in policies and behavior of economic agents, and revision of data (OECD 1993).

References

- Andersen, Palle S. 1997. "Forecast Errors and Financial Developments." *Bank For International Settlements Working Paper No. 51*.
- Ashiya, Masahiro, and Takero Doi. 2001. "Herd Behavior of Japanese Economists." *Journal of Economic Behavior and Organization*, Vol. 46, pp. 343-346.
- Bittlingmayer, George. 1998. "Output, Stock Volatility, and Political Uncertainty in a Natural Experiment: Germany, 1880-1940." *The Journal of Finance*, Vol. 53, No. 6, pp. 2243-2257.
- Bowdler, Christopher, and Adeel Malik. 2005. "Openness and Inflation Volatility: Panel Data Evidence." *Nuffield College, University of Oxford Economics Working Papers No. 2005-W14*.
- di Giovanni, Julian, and Andrei A. Levchenko. 2006. "Trade Openness and Volatility." *Centro Studi Luca D'Agliano Development Studies Working Papers No. 219*.
- Granger, Clive. 1996. "Can We Improve the Perceived Quality of Economic Forecasts?" *Journal of Applied Econometrics*, Vol. 11, No. 5, pp. 455-473.
- OECD (Organisation for Economic Co-operation and Development). 1993. *OECD Economic Outlook 53*. "How Accurate are Economic Outlook Projections?" Paris, France.
- Schnabl, Gunther. 2007. "Exchange Rate Volatility and Growth in Small Open Economies at the EMU Periphery." *European Central Bank Working Paper Series No. 773*.
- Schwert, G. William. 1989. "Why Does Stock Market Volatility Change Over Time?" *The Journal of Finance*, Vol. 44, No. 5, pp. 1115-1153.

Statistical appendix



Statistical notes and tables

The statistical appendix presents selected economic indicators for 44 developing Asian economies of the Asian Development Bank (ADB), in three tables: gross domestic product (GDP) growth, inflation, and current account balance as a percentage of GDP. The economies are grouped into five subregions: Central Asia, East Asia, South Asia, Southeast Asia, and the Pacific. The tables contain historical data for 2005 to 2007 and forecasts for 2008 and 2009.

The data were standardized to the degree possible in order to allow comparability over time and across economies, but differences in statistical methodology, definitions, coverage, and practices make full comparability impossible. The national income accounts section is based on the United Nations System of National Accounts, while the balance-of-payments data are based on International Monetary Fund (IMF) accounting standards. Historical data were obtained from official sources, statistical publications, and databases, and documents of ADB, IMF, and World Bank. Projections for 2008 and 2009 are generally staff estimates made on the basis of available quarterly or monthly data, although some projections are from governments.

Most countries report on a calendar year basis. Some economies record their government finance data on a fiscal year basis, such as: Armenia; Azerbaijan; Hong Kong, China; Kazakhstan; Kyrgyz Republic; Lao People's Democratic Republic; Samoa; Taipei, China; Tajikistan; Thailand; Democratic Republic of Timor-Leste (hereafter Timor-Leste); and Uzbekistan. Republic of Palau reports government finance and balance-of-payments data on a fiscal year basis. South Asian countries (except for Maldives and Sri Lanka) report all variables on a fiscal year basis.

Regional and subregional averages are provided for the three tables. The averages are computed using weights derived from levels of gross national income (GNI) in current United States dollars (US\$) following the World Bank Atlas method. The GNI data for 2005–2006 were obtained from the World Bank's *World Development Indicators*. Weights for 2006 were carried over through 2009. The GNI data for Cook Islands and Tuvalu were estimated using the Atlas conversion factor. Myanmar and Nauru have no GNI data, and data for these two countries are excluded from the computation of all subregional averages and totals. The following paragraphs discuss the three tables in greater detail.

Table A1: Growth rate of GDP (% per year). The table shows annual growth rates of GDP valued at constant market prices, factor costs, or basic prices. GDP at market prices is the aggregation of the value added of all resident producers at producers prices including taxes less subsidies on imports plus all nondeductible value-added or similar taxes. Constant factor cost measures differ from market price measures in that they exclude taxes on production and include subsidies. Basic price valuation is the factor cost plus some taxes on production, such as property and payroll taxes, and less some subsidies, such as labor-related subsidies but not product-related subsidies. Most countries use constant market price valuation. Fiji Islands, India, Pakistan, and Sri Lanka use constant factor costs, while Maldives and Nepal use basic prices. The series for Timor-Leste is based on non-oil, non-United Nations GDP.

Table A2: Inflation (% per year). Data on inflation rates represent period averages. Except for India, which reports the wholesale price index, inflation rates presented are based on consumer price indexes. The consumer price indexes of the following countries are for a given city or group of consumers only: Afghanistan is for Kabul, Cambodia is for Phnom Penh, Marshall Islands is for Majuro, Solomon Islands is for Honiara, and Nepal is for urban consumers.

Table A3: Current account balance (% of GDP). The values of the current account balance, which is the sum of the balance of trade for merchandise, net trade in services and factor income, and net transfers, are divided by GDP at current prices in US\$. In the case of Cambodia, Lao People's Democratic Republic, and Viet Nam, official transfers are excluded from the current account balance.

Table A1 Growth rate of GDP (% per year)

| Subregion/Economy | 2005 | 2006 | 2007 | 2008 | | 2009 | |
|----------------------------|-------|------|-------|----------|--------|----------|--------|
| | | | | ADO 2008 | Update | ADO 2008 | Update |
| Central Asia | 11.5 | 13.4 | 11.6 | 7.5 | 7.6 | 8.4 | 8.0 |
| Armenia | 13.9 | 13.2 | 13.8 | 10.0 | 10.0 | 8.0 | 8.0 |
| Azerbaijan | 28.0 | 34.5 | 25.4 | 15.7 | 15.7 | 18.0 | 14.0 |
| Georgia | 9.6 | 9.4 | 12.4 | 6.5 | - | 7.0 | - |
| Kazakhstan | 9.7 | 10.7 | 8.5 | 5.0 | 5.0 | 6.3 | 6.3 |
| Kyrgyz Republic | -0.2 | 3.1 | 8.2 | 7.6 | 7.0 | 7.6 | 6.5 |
| Tajikistan | 6.7 | 7.0 | 7.8 | 8.0 | 5.0 | 8.0 | 7.0 |
| Turkmenistan | 12.9 | 11.1 | 11.6 | 10.0 | 10.0 | 10.0 | 10.0 |
| Uzbekistan | 7.0 | 7.2 | 9.5 | 7.8 | 8.0 | 7.2 | 8.0 |
| East Asia | 8.3 | 9.4 | 9.6 | 8.1 | 8.0 | 8.2 | 7.7 |
| China, People's Rep. of | 10.4 | 11.7 | 11.9 | 10.0 | 10.0 | 9.8 | 9.5 |
| Hong Kong, China | 7.1 | 7.0 | 6.4 | 4.5 | 4.5 | 4.8 | 4.5 |
| Korea, Rep. of | 4.2 | 5.1 | 5.0 | 5.0 | 4.6 | 5.2 | 4.5 |
| Mongolia | 7.6 | 8.6 | 9.9 | 9.5 | 9.0 | 9.0 | 8.0 |
| Taipei,China | 4.2 | 4.9 | 5.7 | 4.2 | 4.2 | 5.6 | 4.6 |
| South Asia | 9.0 | 8.9 | 8.6 | 7.6 | 7.1 | 8.1 | 6.7 |
| Afghanistan | 16.1 | 8.2 | 11.5 | 9.0 | 7.5 | 9.0 | 8.3 |
| Bangladesh | 6.0 | 6.6 | 6.4 | 6.0 | 6.2 | 6.5 | 6.5 |
| Bhutan | 6.9 | 7.8 | 17.0 | 14.4 | 14.4 | 7.2 | 7.2 |
| India | 9.4 | 9.6 | 9.0 | 8.0 | 7.4 | 8.5 | 7.0 |
| Maldives | -4.6 | 18.0 | 7.6 | 8.0 | 6.5 | 7.0 | 7.0 |
| Nepal | 2.9 | 4.1 | 2.6 | 3.8 | 5.6 | 4.3 | 5.0 |
| Pakistan | 9.0 | 5.8 | 6.8 | 6.3 | 5.8 | 6.5 | 4.5 |
| Sri Lanka | 6.2 | 7.7 | 6.8 | 6.0 | 6.0 | 6.0 | 6.0 |
| Southeast Asia | 5.7 | 6.0 | 6.5 | 5.7 | 5.4 | 6.0 | 5.4 |
| Cambodia | 13.3 | 10.8 | 10.2 | 7.5 | 6.5 | 7.0 | 6.0 |
| Indonesia | 5.7 | 5.5 | 6.3 | 6.0 | 6.2 | 6.2 | 6.2 |
| Lao People's Dem. Rep. | 7.3 | 8.3 | 7.9 | 7.7 | 7.5 | 7.8 | 7.6 |
| Malaysia | 5.3 | 5.8 | 6.3 | 5.4 | 5.6 | 5.9 | 5.3 |
| Myanmar | 13.6 | 12.7 | - | - | - | - | - |
| Philippines | 5.0 | 5.4 | 7.2 | 6.0 | 4.5 | 6.2 | 4.7 |
| Singapore | 7.3 | 8.2 | 7.7 | 5.2 | 4.2 | 5.8 | 4.6 |
| Thailand | 4.5 | 5.1 | 4.8 | 5.0 | 5.0 | 5.2 | 5.0 |
| Viet Nam | 8.4 | 8.2 | 8.5 | 7.0 | 6.5 | 8.1 | 6.0 |
| The Pacific | 2.7 | 2.2 | 2.4 | 4.4 | 4.8 | 3.3 | 3.4 |
| Cook Islands | 0.0 | 0.7 | 1.3 | 3.5 | 2.5 | 3.5 | 2.9 |
| Fiji Islands | 0.6 | 3.4 | -6.6 | 1.6 | 1.7 | 1.6 | 1.4 |
| Kiribati | 1.6 | -5.2 | 0.5 | 1.0 | 0.6 | 1.0 | 0.8 |
| Marshall Islands, Rep. of | 1.7 | 1.3 | 2.0 | 1.0 | -4.2 | 1.0 | -2.2 |
| Micronesia, Fed. States of | -0.6 | -2.3 | -3.2 | -3.5 | -5.0 | -3.0 | -2.2 |
| Nauru | -14.5 | 5.5 | -26.8 | -2.4 | -2.4 | -4.4 | 1.5 |
| Palau, Rep. of | 5.9 | 4.8 | 2.1 | 2.0 | 1.2 | 3.0 | 2.2 |
| Papua New Guinea | 3.4 | 2.6 | 6.2 | 6.6 | 7.6 | 4.6 | 5.1 |
| Samoa | 4.1 | 1.9 | 6.1 | 3.0 | 3.3 | 3.0 | 2.5 |
| Solomon Islands | 5.0 | 6.1 | 10.3 | 6.0 | 8.0 | 2.5 | 4.0 |
| Timor-Leste, Dem. Rep. of | 6.2 | -5.8 | 7.9 | 6.5 | 6.5 | 4.9 | 4.9 |
| Tonga | -3.3 | 4.4 | -0.3 | 1.0 | 1.0 | 2.0 | 2.0 |
| Tuvalu | 2.0 | 1.0 | 2.0 | 2.0 | 1.2 | 2.0 | 1.6 |
| Vanuatu | 6.5 | 7.2 | 6.6 | 5.7 | 5.7 | 4.3 | 2.9 |
| Average | 8.1 | 8.9 | 9.0 | 7.6 | 7.5 | 7.8 | 7.2 |

- = data not available.

Table A2 Inflation (% per year)

| Subregion/Economy | 2005 | 2006 | 2007 | 2008 | | 2009 | |
|----------------------------|------|------|------|----------|--------|----------|--------|
| | | | | ADO 2008 | Update | ADO 2008 | Update |
| Central Asia | 7.9 | 9.1 | 11.3 | 14.4 | 15.4 | 10.2 | 11.4 |
| Armenia | 0.6 | 2.9 | 4.4 | 5.5 | 6.2 | 5.0 | 5.5 |
| Azerbaijan | 9.6 | 8.3 | 16.7 | 13.0 | 16.0 | 12.0 | 18.0 |
| Georgia | 8.3 | 9.2 | 9.2 | 9.5 | - | 7.0 | - |
| Kazakhstan | 7.6 | 8.6 | 10.8 | 17.4 | 17.4 | 10.7 | 10.7 |
| Kyrgyz Republic | 4.4 | 5.6 | 10.2 | 12.0 | 18.8 | 10.0 | 10.2 |
| Tajikistan | 7.3 | 10.1 | 13.1 | 17.0 | 18.5 | 10.0 | 10.5 |
| Turkmenistan | 10.7 | 8.2 | 6.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| Uzbekistan | 10.2 | 14.3 | 12.3 | 10.9 | 11.0 | 10.5 | 10.5 |
| East Asia | 2.0 | 1.6 | 3.9 | 4.7 | 6.1 | 4.2 | 4.8 |
| China, People's Rep. of | 1.8 | 1.5 | 4.8 | 5.5 | 7.0 | 5.0 | 5.5 |
| Hong Kong, China | 1.0 | 2.0 | 2.0 | 3.4 | 4.3 | 2.8 | 4.5 |
| Korea, Rep. of | 2.8 | 2.2 | 2.5 | 3.4 | 4.7 | 3.0 | 3.8 |
| Mongolia | 12.7 | 5.1 | 9.0 | 10.5 | 25.0 | 9.5 | 12.0 |
| Taipei, China | 2.3 | 0.6 | 1.8 | 2.3 | 3.8 | 1.6 | 2.5 |
| South Asia | 5.3 | 5.9 | 5.5 | 5.5 | 11.8 | 5.6 | 9.2 |
| Afghanistan | 12.3 | 5.1 | 13.0 | 10.2 | 24.0 | 7.2 | 9.5 |
| Bangladesh | 6.5 | 7.2 | 7.2 | 9.0 | 9.9 | 8.0 | 9.0 |
| Bhutan | 4.8 | 4.9 | 5.2 | 4.5 | 10.0 | 4.5 | 7.0 |
| India | 4.4 | 5.4 | 4.7 | 4.5 | 11.5 | 5.0 | 7.5 |
| Maldives | 3.3 | 3.5 | 7.4 | 6.0 | 11.0 | 6.0 | 6.0 |
| Nepal | 4.5 | 8.0 | 6.4 | 7.0 | 7.9 | 6.5 | 8.5 |
| Pakistan | 9.3 | 7.9 | 7.8 | 8.0 | 12.0 | 6.5 | 20.0 |
| Sri Lanka | 11.0 | 10.0 | 15.8 | 16.2 | 24.0 | 14.0 | 18.0 |
| Southeast Asia | 6.3 | 7.1 | 4.0 | 5.7 | 9.4 | 4.7 | 6.9 |
| Cambodia | 5.9 | 4.7 | 5.9 | 5.5 | 25.0 | 5.0 | 15.0 |
| Indonesia | 10.5 | 13.1 | 6.4 | 6.8 | 10.2 | 6.5 | 7.5 |
| Lao People's Dem. Rep. | 7.2 | 6.9 | 4.5 | 5.0 | 10.1 | 6.0 | 11.8 |
| Malaysia | 3.1 | 3.6 | 2.0 | 2.7 | 5.6 | 2.5 | 4.2 |
| Myanmar | 10.7 | 25.7 | 36.9 | - | - | - | - |
| Philippines | 7.6 | 6.2 | 2.8 | 4.0 | 10.5 | 3.6 | 8.0 |
| Singapore | 0.5 | 1.0 | 2.1 | 5.0 | 6.5 | 3.3 | 4.0 |
| Thailand | 4.5 | 4.6 | 2.3 | 4.0 | 7.0 | 3.5 | 5.5 |
| Viet Nam | 8.3 | 7.5 | 8.3 | 18.3 | 25.0 | 10.2 | 17.5 |
| The Pacific | 2.4 | 3.0 | 3.3 | 5.0 | 8.7 | 4.0 | 6.4 |
| Cook Islands | 2.5 | 3.4 | 2.4 | 3.0 | 4.4 | 2.8 | 3.6 |
| Fiji Islands | 2.4 | 2.5 | 4.8 | 4.6 | 7.7 | 3.7 | 4.6 |
| Kiribati | -0.3 | -1.5 | 3.8 | 3.5 | 5.3 | 3.1 | 3.9 |
| Marshall Islands, Rep. of | 4.4 | 4.3 | 3.1 | 3.4 | 22.8 | 2.8 | 12.5 |
| Micronesia, Fed. States of | 4.2 | 4.7 | 3.2 | 3.5 | 5.3 | 2.8 | 3.7 |
| Nauru | 2.7 | 3.5 | 2.3 | 3.0 | 4.5 | 2.9 | 4.0 |
| Palau, Rep. of | 3.9 | 4.5 | 3.2 | 3.5 | 5.3 | 2.8 | 3.7 |
| Papua New Guinea | 1.8 | 2.4 | 0.9 | 5.2 | 9.3 | 4.0 | 7.7 |
| Samoa | 1.9 | 3.8 | 5.5 | 5.1 | 6.5 | 4.1 | 5.2 |
| Solomon Islands | 7.3 | 8.4 | 7.6 | 7.0 | 15.0 | 4.9 | 8.0 |
| Timor-Leste, Dem. Rep. of | 1.8 | 4.0 | 8.7 | 7.0 | 9.0 | 6.6 | 7.8 |
| Tonga | 10.0 | 7.2 | 5.1 | 5.3 | 8.0 | 4.2 | 5.6 |
| Tuvalu | 3.2 | 3.8 | 3.3 | 3.5 | 5.3 | 3.1 | 3.9 |
| Vanuatu | 1.2 | 2.0 | 3.8 | 3.0 | 4.5 | 2.9 | 3.6 |
| Average | 3.4 | 3.3 | 4.3 | 5.1 | 7.8 | 4.6 | 6.0 |

- = data not available.

Table A3 Current account balance (% of GDP)

| Subregion/Economy | 2005 | 2006 | 2007 | 2008 | | 2009 | |
|----------------------------|-------|-------|-------|----------|--------|----------|--------|
| | | | | ADO 2008 | Update | ADO 2008 | Update |
| Central Asia | 0.8 | 2.9 | 1.8 | 3.7 | 10.6 | 4.8 | 9.1 |
| Armenia | -1.1 | -1.8 | -6.2 | -4.5 | -6.0 | -4.9 | -5.5 |
| Azerbaijan | 1.3 | 17.7 | 28.8 | 38.0 | 38.0 | 40.0 | 40.0 |
| Georgia | -11.1 | -15.2 | -19.7 | -13.6 | - | -11.5 | - |
| Kazakhstan | -1.8 | -2.4 | -6.9 | -5.6 | 3.8 | -4.1 | 0.6 |
| Kyrgyz Republic | -1.6 | -10.1 | -6.1 | -14.6 | -8.3 | -17.0 | -7.4 |
| Tajikistan | -2.7 | -2.8 | -11.2 | -15.3 | -10.0 | -11.1 | -8.1 |
| Turkmenistan | 5.1 | 15.4 | 16.8 | 12.0 | 24.0 | 12.0 | 24.0 |
| Uzbekistan | 14.3 | 17.2 | 19.1 | 18.5 | 18.0 | 17.5 | 17.5 |
| East Asia | 6.0 | 7.5 | 8.9 | 7.5 | 6.2 | 6.7 | 4.9 |
| China, People's Rep. of | 7.2 | 9.4 | 11.3 | 9.9 | 8.3 | 8.6 | 6.1 |
| Hong Kong, China | 11.4 | 12.1 | 13.5 | 9.5 | 9.5 | 12.0 | 12.0 |
| Korea, Rep. of | 1.9 | 0.6 | 0.6 | -0.2 | -1.0 | -0.5 | -0.8 |
| Mongolia | 4.6 | 6.9 | 1.8 | 2.0 | -7.3 | 2.0 | -12.4 |
| Taipei, China | 4.9 | 7.2 | 8.6 | 7.3 | 6.0 | 6.6 | 5.7 |
| South Asia | -1.3 | -1.4 | -1.7 | -2.5 | -3.5 | -2.8 | -3.9 |
| Afghanistan | -2.8 | -4.9 | 0.9 | -0.5 | 0.6 | -1.2 | -3.1 |
| Bangladesh | -0.9 | 1.3 | 1.4 | 0.7 | 0.9 | 1.0 | 0.5 |
| Bhutan | -30.4 | -4.3 | 10.5 | 10.1 | 10.1 | 2.4 | 2.4 |
| India | -1.2 | -1.1 | -1.5 | -2.2 | -3.1 | -2.6 | -3.6 |
| Maldives | -36.4 | -33.0 | -40.1 | -45.0 | -50.9 | -40.0 | -40.0 |
| Nepal | 2.0 | 2.2 | -0.1 | 1.0 | 1.9 | 1.0 | 1.5 |
| Pakistan | -1.6 | -3.9 | -4.8 | -6.3 | -8.4 | -5.8 | -8.0 |
| Sri Lanka | -2.7 | -5.3 | -4.2 | -4.3 | -8.2 | -4.2 | -8.4 |
| Southeast Asia | 3.8 | 6.9 | 7.4 | 5.8 | 4.7 | 5.5 | 5.1 |
| Cambodia | -9.4 | -7.2 | -7.8 | -10.6 | -8.1 | -11.1 | -8.2 |
| Indonesia | 0.1 | 2.9 | 2.4 | 1.9 | 1.1 | 1.6 | 1.7 |
| Lao People's Dem. Rep. | -18.7 | -13.4 | -18.6 | -12.2 | -18.2 | -11.4 | -19.8 |
| Malaysia | 14.5 | 16.3 | 15.5 | 11.6 | 16.4 | 11.7 | 16.7 |
| Myanmar | 0.0 | - | - | - | - | - | - |
| Philippines | 2.0 | 4.5 | 4.4 | 4.3 | 1.9 | 4.5 | 1.6 |
| Singapore | 18.6 | 21.8 | 24.3 | 23.2 | 18.0 | 24.0 | 19.0 |
| Thailand | -4.3 | 1.1 | 6.1 | 3.0 | 1.0 | 1.0 | -0.5 |
| Viet Nam | -1.0 | -0.5 | -8.0 | -10.3 | -13.5 | -9.4 | -7.0 |
| The Pacific | 5.0 | 7.3 | 17.1 | - | - | - | - |
| Cook Islands | 13.3 | 14.2 | -4.6 | -6.6 | -8.4 | -6.4 | -3.8 |
| Fiji Islands | -13.3 | -22.6 | -19.3 | -21.0 | -24.3 | - | -23.8 |
| Kiribati | -98.5 | -69.8 | -75.4 | - | - | - | - |
| Marshall Islands, Rep. of | -31.1 | -28.6 | -29.0 | - | -25.1 | - | - |
| Micronesia, Fed. States of | -15.3 | -16.2 | -6.5 | - | - | - | - |
| Nauru | - | - | - | - | - | - | - |
| Palau, Rep. of | -3.3 | -13.3 | 6.0 | - | - | - | - |
| Papua New Guinea | 12.4 | 7.4 | 2.0 | 4.1 | 1.7 | 1.9 | 1.8 |
| Samoa | -6.6 | -10.8 | -4.6 | - | - | - | - |
| Solomon Islands | -1.9 | -14.5 | -10.8 | -28.0 | -28.0 | - | - |
| Timor-Leste, Dem. Rep. of | 82.9 | 162.5 | 295.2 | - | - | - | - |
| Tonga | -2.7 | -9.6 | -9.1 | - | - | - | - |
| Tuvalu | - | - | - | - | - | - | - |
| Vanuatu | -14.6 | -11.3 | -12.4 | - | - | - | - |
| Average | 4.3 | 5.7 | 6.7 | 5.3 | 4.2 | 4.7 | 3.4 |

- = data not available.

