

I. ASIA AFTER THE RECOVERY: MANAGING THE NEXT PHASE

A. Maturing Recovery and Good Near-Term Growth Prospects

The Asia and Pacific region entered 2011 with healthy economic momentum (Figure 1.1). In late 2010, growth accelerated in ASEAN-4 economies, China, Hong Kong SAR, and Singapore, thanks to both domestic demand and exports, and remained robust in India and Korea. In Japan, a pickup in activity emerged in early 2011, but was interrupted in mid-March by the earthquake and tsunami that caused extensive loss of life and property. Spillovers to economic activity in the region through disruptions to Japan's role in regional trade and finance are expected to be manageable. Economic growth remained robust in Asian low-income and Pacific Island economies, as they benefited from strong commodity exports and investment in the mining sector (Lao P.D.R. and Mongolia), textile exports (Bangladesh), and tourism (Cambodia).

Asia's strong economic performance over the last few months reflects the renewed vigor of regional exports, which have accelerated in most of Asia (Figure 1.2). In particular:

- Asian exports have benefited from the global investment cycle. Although the global recovery has been relatively sluggish, investment in machinery and equipment by advanced economies has experienced a sharp turnaround. U.S. machinery and equipment investment, for example, has recovered much faster this time than after any of the recessions since the 1970s (Figure 1.3). Asia has taken special advantage of this cycle, thanks to the large share of machinery and transport equipment (about 60 percent) in

Figure 1.1. Asia: Changes in Real GDP at Market Prices (In percent)

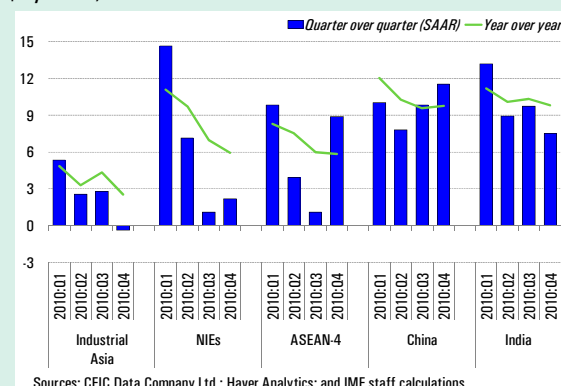


Figure 1.2. Asia: Exports of Goods (January 2008 = 100; seasonally adjusted)

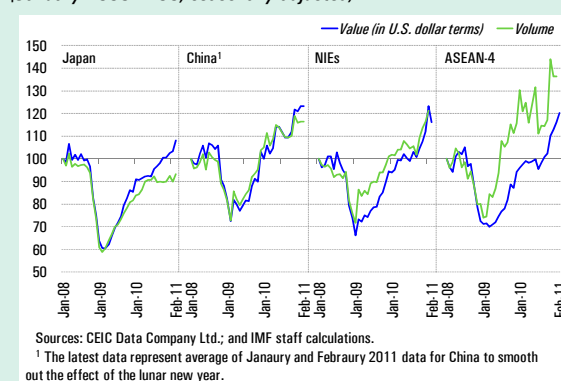
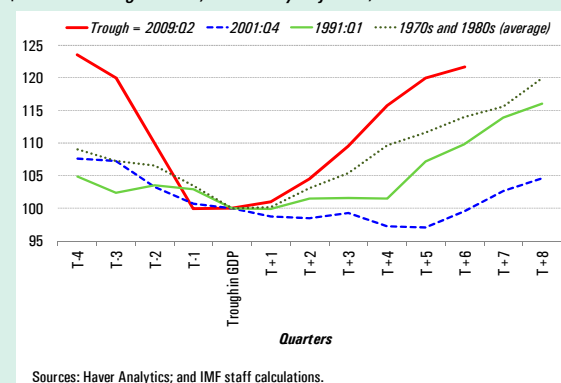


Figure 1.3. United States: Real Private Fixed Investment in Equipment and Software during Business Cycle Recoveries (Levels at trough = 100; seasonally adjusted)

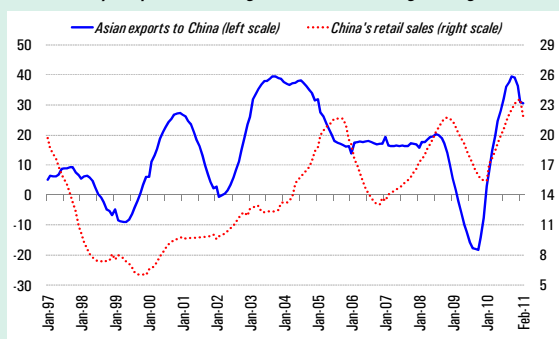


Note: The main author of this chapter is Roberto Cardarelli, with contributions from Stephan Danninger, Souvik Gupta, Adil Mohammad, D. Filiz Unsal, and Olaf Unteroberdoerster.

overall regional exports, and the high import intensity of investment in advanced economies. Asian electronics exports have also benefited from long-term trends, such as the steady increase in the share of electronics in U.S. real personal consumption, notwithstanding the global recession.

- Asian exports have also been increasingly driven by greater final demand from emerging economies within and outside the region. In particular, rapid growth in the rest of Asia's exports to China reflects not only the recovery of trade in intermediate goods, but also the growing role of China as a source of final demand (Figure 1.4).

Figure 1.4. Asia's Exports to China and Retail Sales in China¹
(Year-over-year percent change; 12-month moving average)



Sources: CEIC Data Company Ltd.; and IMF staff calculations.

¹ Asia includes the ASEAN-4, Japan, and the NIEs.

The strength in exports has boosted industrial production in Asia. Inventory-to-shipment ratios have declined since the third quarter of 2010 and, with leaner inventories, firms have reacted to strong sales by accelerating production (Figure 1.5). Helped by favorable weather and a strong run-up in prices, agricultural production also accelerated in late 2010 in many regional economies (particularly India and the Philippines).

At the same time, private domestic demand has also remained strong. Retail sales have continued to grow at double-digit rates in China and several ASEAN-5 economies, boosted by healthy consumer confidence and robust growth in real wages. Machinery and equipment investment has also

continued to recover as Asian firms step up capital spending to meet rising demand amid already high capacity utilization, and infrastructure investment remains strong in several economies (including Australia, China, and Hong Kong SAR).

Domestic demand in Asia has benefited from still-accommodative financial conditions and generally stimulative fiscal policies.

- Despite some monetary tightening in several economies, the real cost of capital remains well below both precrisis levels and historical averages and bank credit has continued to accelerate in the region (Figure 1.6). Corporate equity and debt issuance (local and external) increased strongly during 2010, especially in ASEAN-4 economies, China, India, and Korea, partly reflecting increasing risk appetite from foreign investors (Figure 1.7).
- Upward pressures on nominal exchange rates have abated slightly since October 2010. Following the March 2011 earthquake, the yen appreciated sharply but retreated after coordinated intervention by Japan and other G-7 countries. Overall, since October 2010, the yen has weakened in real effective terms owing to negative inflation (Figure 1.8). In nominal effective terms, exchange rates have also weakened somewhat since October 2010 in China, India, and the ASEAN-5 economies. In real effective terms, however, the weakening has been smaller, owing to high inflation in these economies, and the Indian rupee has actually appreciated. By contrast, nominal effective exchange rates have generally strengthened in Australia and New Zealand, owing to the continued rise in commodity prices, and in the newly industrialized economies (NIEs) (excluding Hong Kong SAR) owing to strong current account surpluses (and policy tightening in Singapore).
- At the same time, fiscal policy continued to be relatively expansionary in 2010 across the region. Only Hong Kong SAR, Korea, Malaysia,

and Vietnam have removed fiscal stimulus at an appreciable pace, as shown by a large negative fiscal impulse in these economies in 2010 (Figure 1.9).

Despite strong employment growth, vulnerable employment and youth unemployment have remained high in many regional economies. The number of workers in vulnerable employment (unpaid family workers, casual workers, and own-account workers) grew considerably in Indonesia and Thailand in 2009 and only partially reversed in 2010. While overall unemployment edged down across the region in 2010, youth unemployment has generally remained flat at rates that, on average, are double the adult unemployment rates. Meanwhile, income inequality and social exclusion are still high in many Asian economies and are a concern for policymakers. The rapid globalization and urbanization that has fueled Asia's development has implied high returns for many workers but has also left behind others, particularly in lagging regions.

Economic growth in the Asia and Pacific region is expected to remain robust during 2011–12. On a sequential basis, growth is expected to accelerate gradually over the course of 2011, leading to annual growth for the region of nearly 7 percent in both 2011 and 2012 (Table 1.1), unchanged from the October 2010 *Regional Economic Outlook*. The pace of economic activity is expected to vary across the region. In particular:

- In Japan growth is expected to moderate from 3.9 percent in 2010 to 1.4 percent in 2011 and rise to 2.1 percent in 2012, as reconstruction spending partly offsets the negative impact of the disruption caused by the earthquake and tsunami. In Australia, growth is expected to accelerate from 2¾ percent in 2010 to 3 percent and 3½ percent in 2011 and 2012, respectively, as the economy continues to benefit from emerging Asia's demand for commodities, and private investment in mining takes over from public demand as the main driver of growth. In New Zealand, growth is expected to slow down from 1½ percent in 2010 to about 1 percent in

Figure 1.5. Asia: Industrial Activity
(Seasonally adjusted)

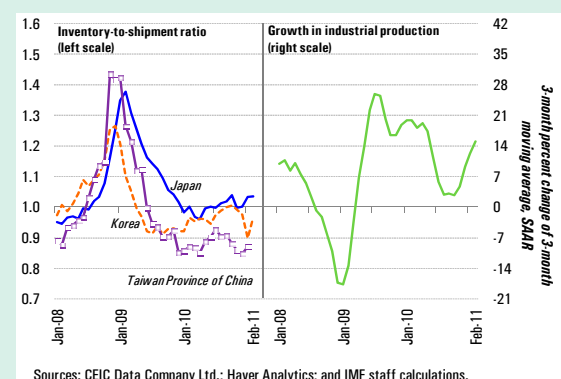


Figure 1.6. Selected Asia: Credit to Private Sector
(3-month percent change of 3-month moving average; SAAR)

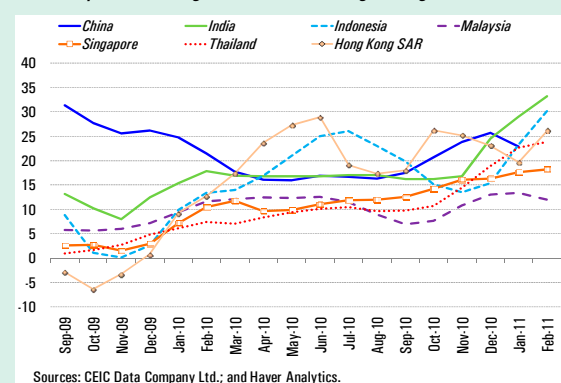


Figure 1.7. Emerging Asia: New Capital Raised by Corporations¹
(In billions of U.S. dollars)

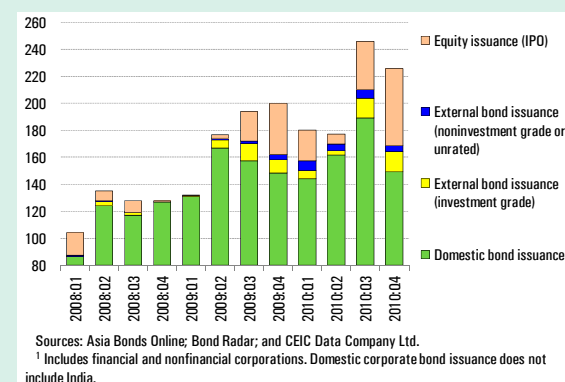
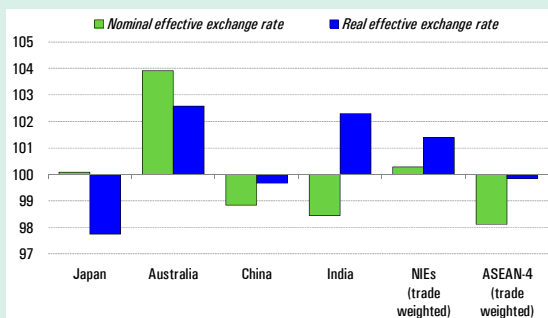


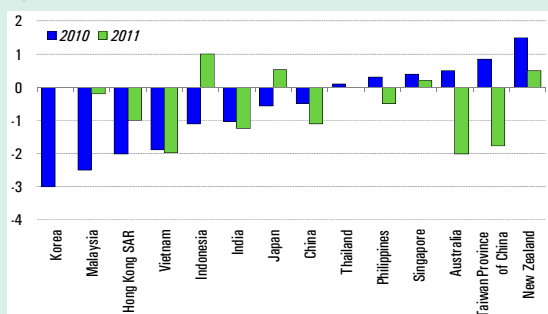
Figure 1.8. Selected Asia: Effective Exchange Rates¹
(Index; September 2010 = 100)



Source: IMF staff calculations.

¹ Increase relative to September 2010 indicates appreciation in effective exchange rate. Data as of March 2011.

Figure 1.9. Asia: Fiscal Impulse¹
(In percent of GDP)



Source: IMF staff estimates.

¹ Based on annual change (calendar year) in general government cyclically adjusted fiscal balance-to-GDP ratios. A negative number implies withdrawal of fiscal stimulus.

Table 1.1. Asia: Real GDP Growth
(Year-over-year; in percent)

	Actual data and latest projections		
	2010	2011	2012
Industrial Asia	3.7	1.7	2.4
Japan	3.9	1.4	2.1
Australia	2.7	3.0	3.5
New Zealand	1.5	0.9	4.1
Emerging Asia	9.6	8.1	8.0
NIEs	8.4	4.9	4.5
Hong Kong SAR	6.8	5.4	4.2
Korea	6.1	4.5	4.2
Singapore	14.5	5.2	4.4
Taiwan Province of China	10.8	5.4	5.2
China	10.3	9.6	9.5
India	10.4	8.2	7.8
ASEAN-5	6.9	5.4	5.7
Indonesia	6.1	6.2	6.5
Malaysia	7.2	5.5	5.2
Philippines	7.3	5.0	5.0
Thailand	7.8	4.0	4.5
Vietnam	6.8	6.3	6.8
Emerging Asia excl. China	8.8	6.5	6.3
Emerging Asia excl. China and India	7.7	5.2	5.1
Asia	8.3	6.8	6.9

Source: IMF, *WEO* database.

2011, reflecting the impact of the earthquakes in September 2010 and February 2011. However, growth is expected to accelerate to 4 percent in 2012, as activity is supported by higher commodity prices, especially for dairy products, and by the post-earthquake reconstruction.

- In emerging Asia, GDP growth is projected at about 8 percent in 2011 and 2012. The projection is close to IMF staff estimates of potential output growth for the region, and only slightly below the 8½ average growth rate during the half-decade preceding the global financial crisis (2002–07). China and India are expected to lead the rest of the region. In China, growth is expected to moderate from 10⅓ percent in 2010 to 9½ percent in 2011–12, as policy tightening slows investment. In India, base effects and policy tightening are projected to slow growth from 10½ percent in 2010 to a more sustainable 8¼ percent in 2011 and 7¾ percent in 2012. In Indonesia, growth should accelerate from 6 percent in 2010 to 6¼ percent in 2011 and 6½ percent in 2012. Meanwhile, in other emerging Asian economies, growth in 2011–12 is projected to moderate from cyclical peaks in 2010 toward potential rates that are slightly lower than precrisis average growth.

Robust demand for consumer durables and the strong investment cycle projected in both advanced economies and emerging markets are likely to further boost Asian exports. As discussed in the April 2011 *World Economic Outlook*, the demand for consumer durables in advanced economies should continue to recover, as household saving rates stabilize, employment conditions gradually improve, and pent-up demand materializes. At the same time, strong corporate profits and balance sheets, as well as easy financial conditions, are expected to boost capital spending in advanced economies. U.S. investment, for example, is expected to expand to a solid 11½ percent pace (quarterly growth, year over year) on average over 2011–12. In addition, Asia is likely to benefit from the strong investment cycle projected in emerging and developing economies

(Figure 1.10). Commodity exporters, such as Australia, Indonesia, Malaysia, and New Zealand, are expected to gain from strong global and regional demand for food and energy (Box 1.1).

Private domestic demand should also remain robust in Asia. This reflects in part the buoyant export outlook as both investment and, to a lesser extent, consumption in Asia is closely correlated with export growth (Figure 1.11).

- **Investment:** The need to maintain and add to the capital stock is high in several regional economies, reflecting both cyclical and trend factors (Figure 1.12). Strong underlying demand has pushed firms close to capacity, especially in Korea, Indonesia, and the Philippines. Investment ratios in the region have yet to recover from their fall during the late 1990s and appear particularly low in the ASEAN-5 economies. An important component of the investment cycle is likely to involve building infrastructure in 2011 and beyond, particularly in ASEAN-5 economies, China, India, and—reflecting the reconstruction after the earthquake—in Japan.
- **Consumption:** private consumption in many regional economies will be supported by continued strength in employment and wages. Boosted by tight labor markets, strong productivity growth and, in a few cases (notably China, India, Indonesia, and Thailand), policy measures that boost household income, nominal wages are likely to continue to outpace inflation, offsetting the negative impact of higher prices on real disposable income and consumption. In Japan, however, sluggish labor markets and the lingering impact on sentiment from the earthquake are expected to remain a key headwind against stronger consumption.

Risks to the growth outlook appear to be more balanced now than they were in October 2010, although new downside risks have surfaced (Figure 1.13). As discussed in the April 2011 *World*

Figure 1.10. Global Investment¹
(Year-over-year percent change)

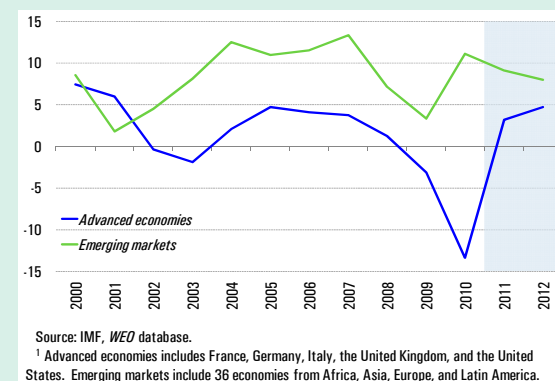


Figure 1.11. Export-Oriented Asia: Private Domestic Demand and Exports¹
(Year-over-year percent change)

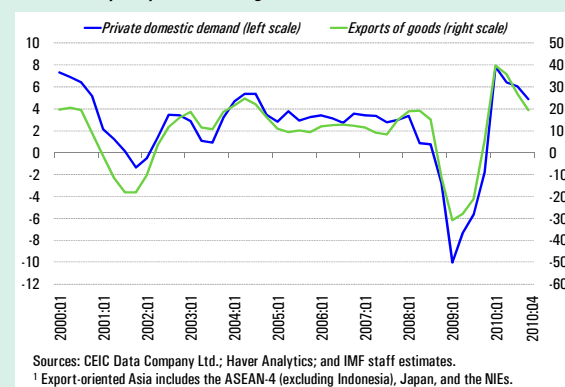
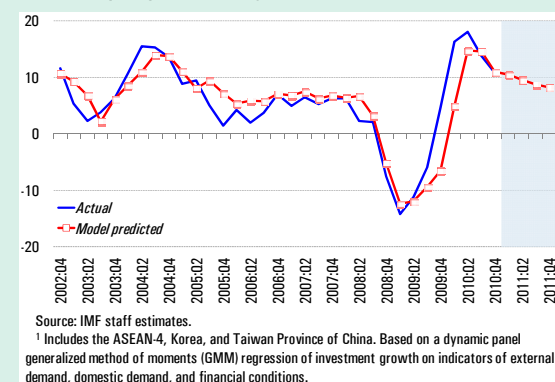


Figure 1.12. Selected Emerging Asia: Private Investment¹
(Year-over-year percent change)



Box 1.1. Spillovers from Emerging Asia to Australia and New Zealand

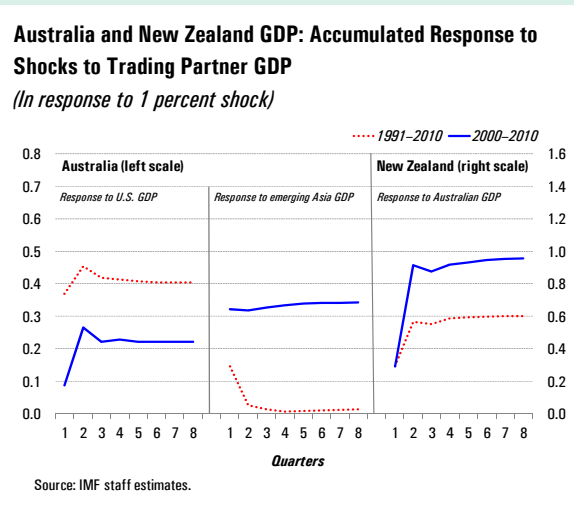
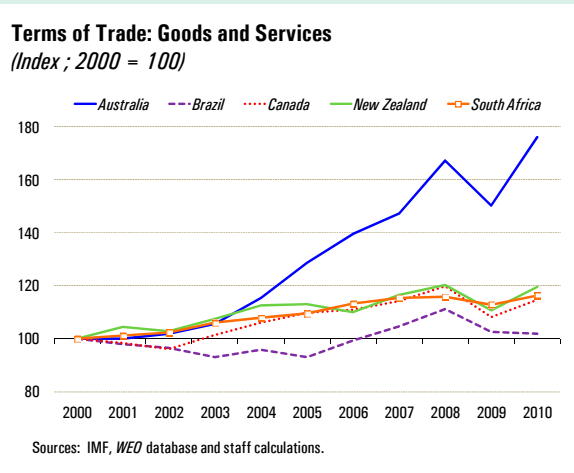
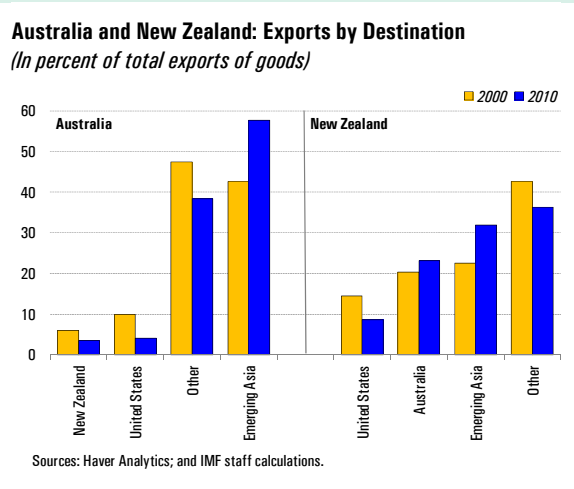
The last decade has witnessed fast-growing trade integration between emerging Asia, and Australia and New Zealand. In 2010, almost 60 percent of Australia’s exports—dominated by commodities—headed to emerging Asia, compared with 40 percent 10 years ago. At the same time, about half of Australia’s imports came from emerging Asia, up from one-third a decade ago. New Zealand’s exports to, and imports from, emerging Asia each have risen from about 20 percent of the total in 1990 to 30 percent and 40 percent, respectively, in 2010 (figure).

Australia has also benefited from emerging Asia’s robust commodity demand and competitively priced manufacturing goods. In particular, urbanization and industrialization in China and India have boosted demand for commodities, especially iron ore and coal that account for one-third of Australia’s exports. As a result, Australia has benefited from substantial terms-of-trade gains over the last decade, compared with commodity exporters in other regions (figure).

The growing integration with Asia and increasing dependence on commodity exports make growth in Australia and New Zealand more vulnerable to swings in commodity demand and prices. A structural vector autoregressive (VAR) approach can be used to assess these shocks.¹ The main results are as follows:

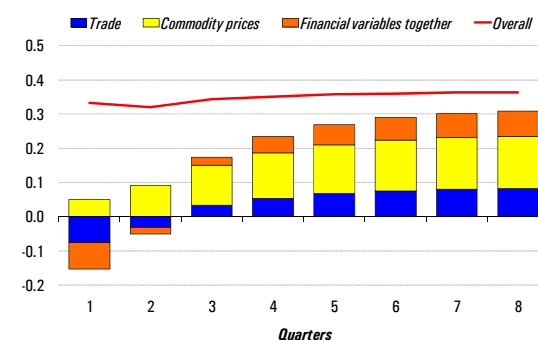
- During the last decade, shocks from emerging Asia have overtaken those from the United States as the most important external factor influencing Australia’s business cycle. For the sample period 1991–2010, a 1 percent shock to U.S. GDP is found to move Australian growth by about 0.4 percent (figure). In contrast, GDP shocks from emerging Asia have an almost negligible impact on Australian growth. This result changes dramatically when limiting the sample period to 2000–10, for which a 1 percent shock to emerging Asia’s growth is found to shift Australian growth by 1/3 percent, whereas the impact of U.S. GDP shocks on Australia is no longer statistically significant.

Note: The main author of this box is Yan Sun.
¹ Based on Sun (forthcoming).



- Commodity prices dominate the transmission of shocks from emerging Asia to Australia. The three transmission channels identified in the model—trade, commodity prices, and financial variables (including interest rates and equity prices)—account for most of the estimated spillovers to Australia. In particular, commodity prices alone explain half of the spillovers from emerging Asia to Australia.
- New Zealand’s business cycle is exposed to emerging Asia mostly through Australia, its single most important trade and financial partner. Shocks from emerging Asia are found to have a negligible direct impact on New Zealand. Rather, New Zealand’s GDP is most responsive to shocks from Australia, and the responsiveness has strengthened to almost “one-to-one” during the last decade. IMF staff analysis also suggests that shocks from Australia to New Zealand have been transmitted mostly through financial variables, as the financial system of New Zealand is dominated by four subsidiaries of Australian parent banks.

Australia: Accumulated Response of GDP to Shocks to Emerging Asia GDP, 2000–10
(In response to 1 percent shock)

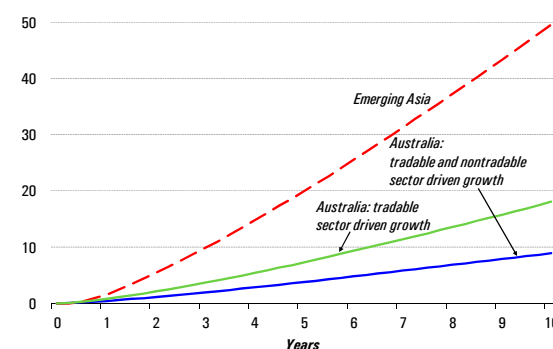


Source: IMF staff estimates.

The long-term trend of continued strong growth in emerging Asia bodes well for Australia. The IMF’s Global Economy Model (GEM) can be used to assess emerging Asia’s impact on Australian long-term growth prospects.² The model captures two main channels through which emerging Asia’s growth can affect Australia: trade integration and terms-of-trade gains.

The simulation suggests that, should emerging Asia continue to grow notably faster than the world average, the impact on Australia will be even larger than in the past. This larger impact reflects both the increase in emerging Asia’s economic size and Australia’s growing integration with emerging Asia. Over the next 10 years, the model suggests that a 50 percent increase in emerging Asia’s real GDP, driven by tradable sector productivity growth, would raise Australian GDP by about 20 percent (figure). However, should emerging Asia’s economic growth become more balanced, with productivity growth in both tradable and nontradable sectors contributing equally, the growth dividend is roughly cut in half, owing to more modest improvements in the terms of trade of Australia.

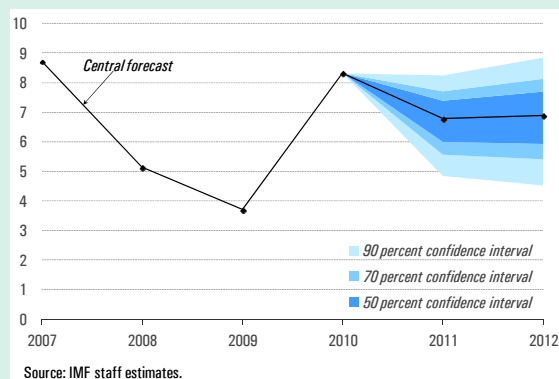
Impact of Emerging Asia's Growth on Australia's Growth
(Percent deviation from baseline)



Source: IMF staff estimates.

² Based on Hunt (2010).

Figure 1.13. Asia: GDP Growth
(Central forecast and 50 percent, 70 percent, and 90 percent confidence intervals; in percent)



Economic Outlook, the prospects for enduring global growth have increased, and uncertainty about the outlook has declined somewhat. Of particular importance for Asia, concerns about the sustainability of private domestic demand in advanced economies have moderated over recent months, and there are upside risks to Asia's export dynamics from a stronger recovery. On the other hand, new downside risks have arisen:

- The turmoil in the Middle East and North Africa region that started in February 2011, and the related risk of further spikes in oil prices, are intensifying concerns in many emerging economies and pose a risk to global growth. The direct impact of higher oil prices on growth is likely to vary across Asia, based on dependence on oil imports, but should remain relatively limited. IMF staff estimates that a further 40 percent increase in oil prices in 2011 relative to baseline forecasts in the April 2011 *World Economic Outlook* (to US\$150 per barrel) would shave between $\frac{1}{2}$ and $\frac{3}{4}$ percentage points off annual 2011 GDP growth in China, Japan, and the NIEs, while it would have a smaller negative impact (up to $\frac{1}{4}$ percentage points) in India and Indonesia, and marginally benefit GDP growth in Australia and Malaysia. However, Asian economies could be severely affected if second-round effects from higher oil prices resulted in a global slowdown, as they are highly dependent on external demand.

- There are also important downside risks to growth in Japan from supply disruptions and longer than foreseen electricity shortfalls related to the earthquake, which would have spillovers to the region. In particular, a prolonged disruption in production and transportation facilities would affect regional production networks by more than anticipated in our baseline. Moreover, the need to replace or at least supplement nuclear power (which represents about 30 percent of Japanese energy supply) with other energy sources, as well as the reconstruction efforts, could pose upward pressure on global commodity prices.
- The global environment is still complicated by significant fiscal and financial vulnerabilities in advanced economies. An escalation of financial tensions in the euro area would affect Asia mainly through the trade channel, as for many Asian economies export exposure to Europe is at least as large as that to the United States (Figure 1.14). IMF staff estimates suggest that the value added embedded in exports to Europe accounts for about 10 percent of total value added produced by the average Asian economy, with a much larger share in the more export-dependent economies (such as Malaysia, Singapore, and Thailand).

B. Pockets of Overheating Across the Region Pose New Risks to the Outlook

Meanwhile, new risks have emerged within Asia from potential overheating pressures in goods and asset markets. Although the magnitude and origin of these pressures vary across economies, they appear to be exacerbated by the procyclical macropolicy stances in the region. In a few cases (such as Indonesia and Korea), the rapid rebound of capital inflows after the global crisis has raised concerns about the impact on domestic financial markets. While these concerns have been somewhat mitigated by the slowdown of capital flows to Asia since late

2010, signs of overheating pressures from domestic imbalances have intensified.

In particular, headline inflation in Asia has accelerated since October 2010, mainly owing to higher commodity prices. For the region as a whole, headline CPI inflation accelerated to 4½ percent (year over year) in February 2011, from about 4¼ percent in October 2010. The degree of acceleration differs widely across Asia, partly reflecting different weights of food and energy prices in CPI indices, with India, Indonesia, and Vietnam (Box 1.2) experiencing relatively higher inflation (Figure 1.15). In Japan, deflation has moderated with the rise of commodity prices, but underlying inflation pressures and expectations remain subdued. In Australia, inflation eased from 3.1 percent in June to 2.7 percent in December 2010, following the appreciation of the Australian dollar. In New Zealand, headline inflation accelerated at end 2010 owing to higher food prices and the increase in goods and services tax rates. Still, spare capacity has helped contain inflation expectations within the 1–3 percent inflation target band.

It appears, however, that higher commodity prices are spilling over to a more generalized increase in inflation. Core inflation has accelerated by about ½ percentage point in the region as a whole since October 2010, and by even more in economies operating closer to full capacity (Hong Kong SAR, Singapore, and Vietnam). In many Asian economies, inflation expectations have accelerated since October 2010 (Figure 1.16) and indicators of cost pressures in the manufacturing sector have increased (Figure 1.17). In China, the underlying inflation momentum picked up at the end of 2010, reflecting the pass-through from higher food prices and strong growth in monetary aggregates (Box 1.3). In Hong Kong SAR, the acceleration of underlying inflation also reflects the strong increase in private housing prices and rentals.

Policymakers have tried to smooth the social implications of higher inflation with a range of measures. In several economies, policymakers have

Figure 1.14. Selected Asia: Exports of Goods to the United States and Europe

(In percent share of total exports of goods; as of 2010:Q4)

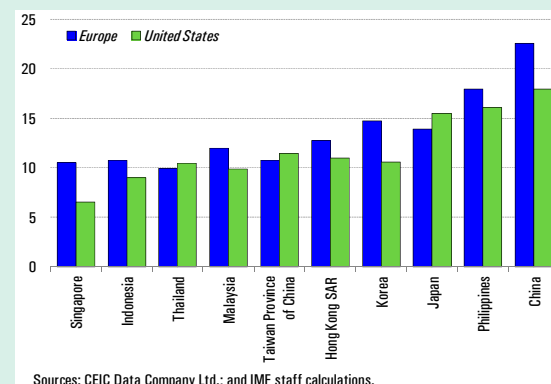


Figure 1.15. Asia: Changes in Headline Inflation since 2009¹

(In percentage points)

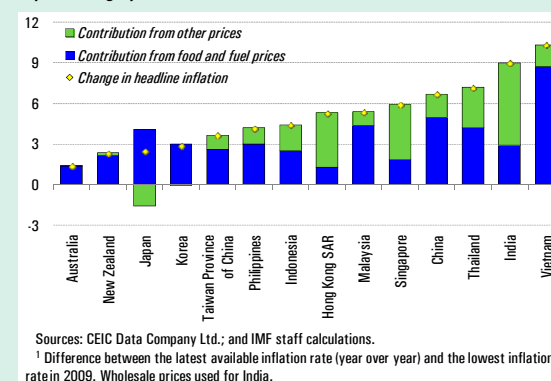
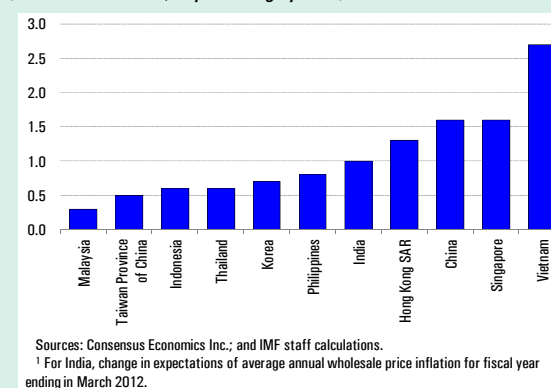


Figure 1.16. Emerging Asia: Changes in Expectations of Annual 2011 Inflation since October 2010¹

(As of March 2011; in percentage points)



Box 1.2. Vietnam: Restoring Macroeconomic Stability

Vietnam has weathered the global crisis well, supported by a substantial fiscal stimulus package, amounting to 5 percent of GDP, and monetary policy easing.¹ Thanks to these measures, GDP still grew by 5.3 percent in 2009, despite the sharp decline in FDIs and external demand, making Vietnam one of the strongest performers in Asia. In 2010, growth accelerated to 6.8 percent, buoyed by strong domestic and external demand.

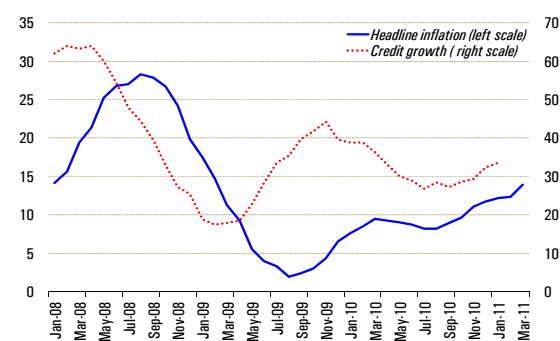
However, the expansionary policies adopted during the crisis have raised macroeconomic risks. Although most fiscal stimulus measures expired in late 2009, monetary policy has remained accommodative. Credit growth remained high in 2010, inflation increased sharply, and the exchange rate and international reserves came under pressure. Market confidence deteriorated, exacerbated by uncertainty over the authorities' policy intentions.

Pressures in Foreign Exchange Market

The Vietnamese dong stabilized after a 2 percent devaluation in August 2010. But the stabilization proved to be short lived, as it was not followed by monetary policy tightening, and the exchange rate came under renewed pressures in October 2010. The gap between the official and the implied market exchange rates widened to 10 percent, as demand for U.S. dollars surged. Apart from the seasonal increase of imports before the Tet holidays, the persistent pressure on the exchange rate reflected rising inflation and the erosion of confidence in Vietnam's external position.

- Inflation accelerated to 13.9 percent (year over year) in March, the highest level in the past 24 months and well above other ASEAN economies (figure). Core inflation (excluding food and fuel) rose to 9.8 percent (year over year). This reflected rising international food and commodity prices, a rapid pass-through to import prices of the weaker market exchange rate, and, more importantly, the strong expansion of bank credit by both regional standards and relative to Vietnam's per capita income.
- Despite a significantly narrower current account deficit (by nearly 3 percentage points) and strong net capital inflows in 2010, the overall balance of payments was driven into deficit by large unrecorded outflows, amounting to US\$13¼ billion (12¼ percent of GDP). These outflows were largely in the form of increased holdings by residents of foreign currency and gold outside the financial sector, and reflect their weak confidence in the Vietnamese dong and, more generally, the Vietnamese banking sector. In response, international reserves are estimated to have declined further to about 1.4 months of imports by end-2010.

Vietnam: Inflation and Credit Growth
(Year over year; in percent)



Sources: Country authority; and IMF staff calculations.

The Policy Response and Outlook

To bring the official exchange rate more in line with the market exchange rate, the authorities devalued the Vietnamese dong by 8.5 percent in February 2011. While devaluation had been long anticipated by market

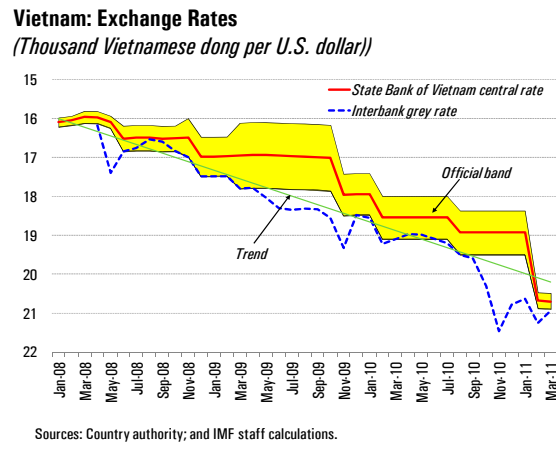
Note: The main authors of this box are Alexander Pitt and Jie Yang.

¹ The base (prime) rate was cut by a total of 700 basis points (bps) between October 2008 and February 2009. Meanwhile, liquidity was injected through open market operations as well as a much lower reserve requirement ratio on the Vietnamese dong.

participants, the scale was larger than expected. At the same time, the authorities narrowed the band from ± 3 percent to ± 1 percent, and indicated that, in future, the official rate would be set more flexibly and be more aligned with market rates (figure).

Subsequently, the authorities announced a series of measures to rein in inflation and increase the supply of foreign exchange to the financial system. At the core of the policy package is a tightening of monetary policy, which intends to reduce credit growth to below 20 percent, close to the projected growth rate of nominal output. Correspondingly, the authorities raised the refinance and discount rates on March 2011 and repo rate on April 2011. In addition, in an effort to increase the supply of foreign exchange to the banking system, the authorities are planning to ban gold bar trading and reduce foreign exchange holdings of state-owned enterprises, and have requested banks to limit lending to nonpriority sectors. The authorities have also announced plans to contain public spending, targeting a faster reduction of the fiscal deficit in 2011. Markets have welcomed the policy package but await implementation. The parallel market rate initially depreciated somewhat from its predevaluation level on expectations of future devaluations, but has since recovered toward the lower end of the exchange rate band.

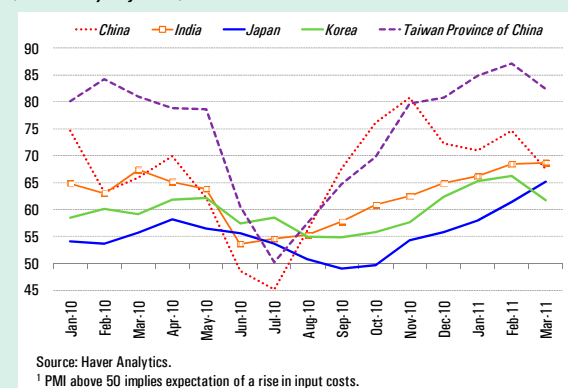
The outlook for 2011 depends critically on whether the new policy package will succeed in restoring policy credibility as well as domestic and foreign investor confidence. Decisive and sustained implementation is therefore critical to reduce inflation, build confidence, and strengthen the external position. In addition, the authorities should stand ready to tighten policies further if necessary. If sound macroeconomic policies are implemented, the outlook for 2011 is broadly favorable. Growth is projected at 6¼ percent, inflation is forecast to decline to 9½ percent by the end of 2011, and reserves are projected to rise.



implemented a range of administrative measures to counter inflation. In Korea, a package of anti-inflation measures was announced in January 2011, including freezes on utility charges and tariff cuts. Similarly, Thailand delayed plans to remove subsidies on fuel and palm oil imports, and Indonesia reduced or eliminated tariffs on many food imports. In other economies (Singapore and Hong Kong SAR), one-off cash transfers and personal income tax rebates were announced to buffer household real incomes from inflation.

Headline inflation is generally expected to increase further in 2011, before decelerating modestly in 2012 (Figure 1.18). In 2011, global food and energy price inflation, projected in the April 2011 *World Economic Outlook* at 24 percent and 32 percent,

Figure 1.17. Selected Asia: Purchasing Managers' Index (PMI)—Input Costs for Manufacturing Industries¹
(Seasonally adjusted)



respectively, will add to inflation pressures in the region. With output gaps estimated to have closed in

Box 1.3. Is China Overheating?

Consumer price inflation in China rose during the course of 2010, and reached 4.9 percent (year over year) in January and February 2011 (figure). On a 3-month sequential basis (seasonally adjusted, annualized), inflation surpassed 8 percent in December 2010 and January 2011. These price pressures were initially seen in raw food, but have begun to spread to other items, notably edible oil and food-related manufacturing and services, as well as housing costs. Even so, about 70 percent of year-over-year inflation is still being driven by food-related items.

The latest inflation expectation survey for urban areas shows that more than 60 percent of the population expects further price increases in the coming months, the highest proportion since 2008.

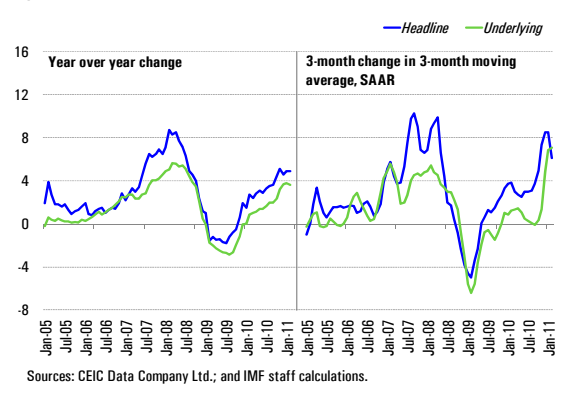
It is, however, premature to say that China is “overheating.” Inflation appears close to peaking, as food supply shocks begin to work themselves out of the system. There are few signs that wage increases are outpacing productivity gains—sequential growth of industrial unit labor cost is around zero and the latest household surveys suggest that wage incomes are still falling as a share of GDP.

To detect overheating, we construct a measure of “underlying” consumer price inflation that excludes both raw food items (which are volatile and dominated by supply disturbances) and administered prices (which tend to move little over time). This measure of inflation has the following properties: (i) it accounts for about one-half of the CPI basket; (ii) it tracks headline inflation well; and (iii) it should provide the clearest indicator of rising demand pressures. On this basis, underlying inflation picked up momentum in late 2010 and has continued to accelerate in 2011. The surge in underlying inflation seems to be a consequence of both a pass-through from the earlier pickup in raw food prices and an unusually strong sequential momentum in broad money (M2) growth during late 2010. Notably, underlying inflation appears to be more broad based now than it was during the inflationary episode in 2007 (figure).

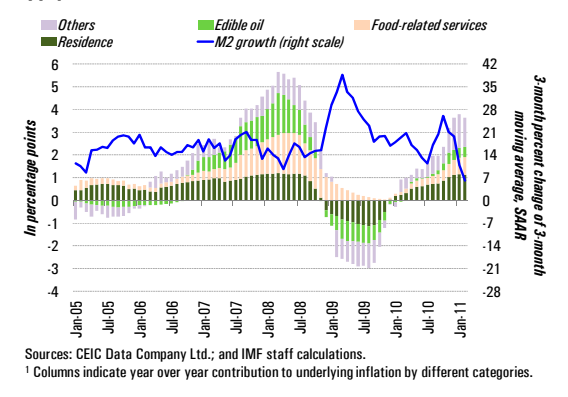
To identify the role of demand in inflation, a model is estimated that relates underlying inflation to M2, fixed asset investment, industrial value added, export demand, raw food price inflation, and world nonfuel commodity prices. The results suggest that shocks to underlying inflation tend to dissipate gradually over approximately 18 months (figure). Raw food prices tend to have a large and persistent pass-through to underlying inflation. Both demand (industrial value added) and monetary shocks affect inflation—Chinese inflation is not, as some would contend, “all food”—but it takes a large and persistent demand expansion to push underlying inflation above its trend. Indeed, price pressures are held down by the impact of China’s high levels of investment, which add quickly to supply capacity.

Note: The main authors of this box are Ashvin Ahuja and Nan Geng.

China: Consumer Price Inflation (In percent)



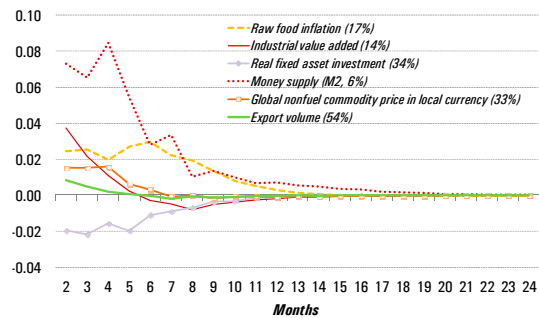
China: Contributions to Underlying Inflation and Money Supply Growth¹



The estimated model can be used to forecast underlying inflation, assuming that industrial value added, fixed asset investment, export volume, and world nonfuel commodity price evolve in line with the current IMF *World Economic Outlook* forecasts; and that M2 grows by 16 percent, in line with the government's target for 2011. Under these assumptions, underlying inflation will peak during mid-2011 (at about 6–7 percent) as raw food inflation and the lagged effects from the 2010 monetary expansion pass through to prices. Underlying inflation will then fall to about 5 percent by end-2011 and continue its decline into 2012.

To summarize, the model indicates that demand factors are playing a role in driving China's inflation, but their impact is limited and will be short lived. The current episode of inflation does not look like a bout of generalized overheating with China's strong growth beginning to bump up against capacity constraints. Barring future supply shocks (either domestically or in global commodity markets), inflation in China is likely to return toward the low single digits in the second half of 2011. Nevertheless, the economy is still vulnerable to further domestic supply shocks and rising global commodity prices, particularly food. In this environment, it will be important therefore to maintain a prudent monetary stance to forestall the possibility that inflation may become more generalized and entrenched.

China: Impulse Response of Underlying Inflation to Shocks¹
(In percentage points; standard deviation of shocks in parentheses)



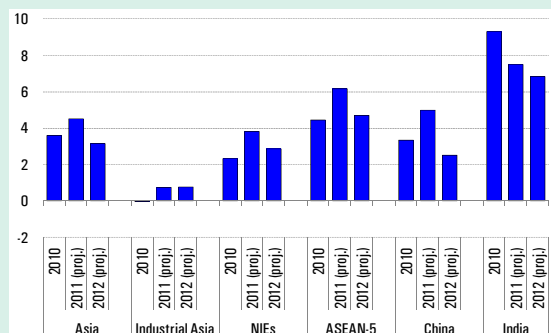
Source: IMF staff estimates.

¹ 3-month moving average of the responses to a 1 percent shock to each of the variables in the chart legend.

many economies by early 2011, demand pressures will also add to core inflation pressures. Inflation is projected by IMF staff to be above or close to the upper range of targets in Australia, India, Indonesia, Korea, the Philippines, and Thailand. In China, inflation is expected to return toward the low single digits in the second half of 2011, as the pass-through from higher food prices and strong monetary growth in late 2010 gradually dissipates. In 2012, the gradual stabilization of global commodity prices and projected further efforts to tighten monetary policy stances in the region should contribute to reduce inflation, which will, however, remain elevated in several economies (Figure 1.19).

Inflation risks remain on the upside. As noted in the April 2011 *World Economic Outlook*, low inventories and limited scope for supply to respond to higher demand mean that the forecasts for commodity prices are exposed to upside risks. Indeed, supply disruptions in the Middle East and the North Africa region could have a far-reaching impact on global oil prices. And concerns about food shortages could lead countries to impose export restrictions or induce speculative demand,

Figure 1.18. Asia: Consumer Prices¹
(Year-over-year percent change)



Sources: IMF, *WEO* database and staff projection.

¹ Wholesale prices used for India.

causing an upward spiral in global prices. A stronger-than-expected increase of commodity prices is likely to affect headline inflation in Asia mainly through two channels:

- *Direct impact on domestic food and energy prices.* Economies that import most of their food or energy, and that rely less on domestic price controls and subsidies, are likely to be more

Figure 1.19. Asia: Headline Consumer Price Inflation
(Year over year; in percent)

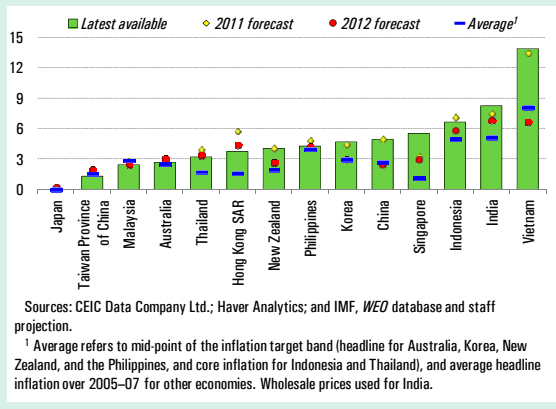


Figure 1.20. Asia: Pass-Through from Global Food and Energy Prices to Domestic Food and Energy Prices¹
(In percentage points)

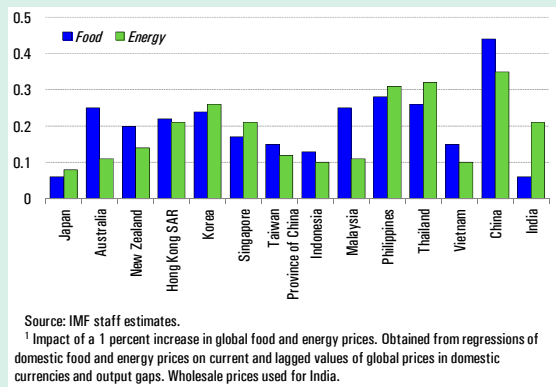
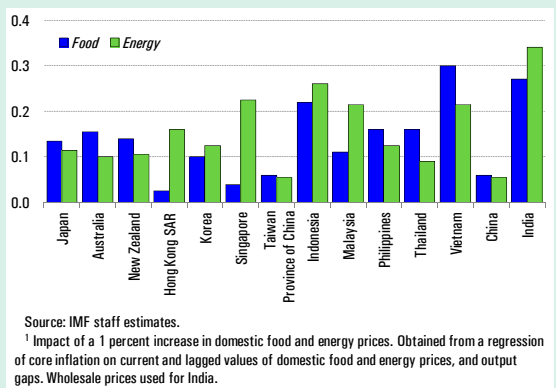


Figure 1.21. Asia: Pass-Through from Domestic Food and Energy Prices to Core Inflation¹
(In percentage points)



affected. Only one-fifth of the increase in global food and energy prices has been reflected in local prices on average across the region over the last decade, but the estimated pass-through has been generally higher in China, the Philippines, and Thailand. Higher global food prices have a more limited impact on India's food prices, which tend to respond more to domestic factors (Figure 1.20).

- *Spillovers to core inflation.* As shown in the October 2010 *Regional Economic Outlook*, changes in food and energy prices tend to have significant second-round effects on inflation in Asia, and these effects tend to be amplified when demand conditions are strong and firms have more pricing power. Although the pass-through from food prices to core inflation depends in part on the weight of food in expenditure baskets, the monetary policy framework (and particularly monetary authorities' ability to control inflation expectations) also plays a role. IMF staff estimates show that India and ASEAN-5 economies appear to have experienced a relatively high pass-through from food and energy prices to core inflation in the last decade (Figure 1.21).

Taking into account both the direct and indirect impact on inflation, a further 10 percent increase in global commodity prices in 2011 would lead to an additional 1 percent increase in headline inflation on average in the region (Figure 1.22). The impact would be larger in China, India, and the ASEAN-5 economies, whereas it would be smaller in industrial Asia and the NIEs.

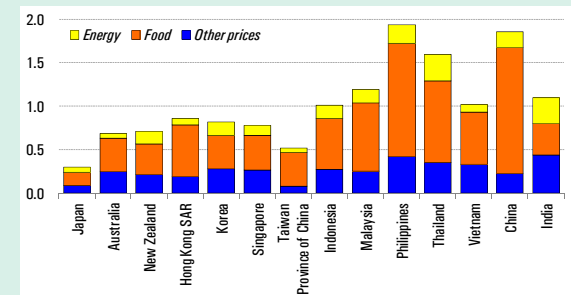
There are also signs that overheating pressures are building up in a few regional asset markets. Although it is hard to identify bubbles, a comparison of some key indicators with their values at previous peaks or at the same stage of the cycle can shed some light on potential risks:

- *Credit dynamics* are particularly strong in China and Hong Kong SAR. In these economies, the

cyclical component of the credit-to-GDP ratio in early 2011 was about 1 and 1½ standard deviation above its historical average, respectively (Figure 1.23). In other economies (India, Indonesia, and Singapore) credit growth accelerated rapidly over the last 12 months. In most cases, this acceleration mainly reflects a pickup of credit to firms (India and Indonesia), but in a few economies (Singapore and Malaysia), it reflects credit to the household sector, in particular mortgages (Figure 1.24). In Hong Kong SAR, loans to the property sector contributed about one-half to the expansion of domestic credit in 2010, prompting the authorities to intervene to tighten mortgage underwriting standards. As a result, mortgage loan-to-value ratios have fallen to 58 percent, the lowest since 2000, and mortgage delinquencies are virtually nonexistent.

- *Property* markets appear relatively buoyant in certain segments in China, Hong Kong SAR, and Taiwan Province of China. Although real house price growth slowed down during 2010, price-to-rent ratios are still relatively high in China and Hong Kong SAR (more than 1½ standard deviations above historical averages). In Taiwan Province of China, real house price growth in late 2010 was faster than during previous cyclical peaks (Figure 1.25).
- There is less evidence that *equity* and *bond* valuations are out of the ordinary, especially after the moderation since early 2011. Equity valuations have moderated in China, India, and ASEAN-5 economies, possibly reflecting concerns that a further pickup of inflationary pressures may induce a stronger monetary policy tightening cycle (Figure 1.26). Bond prices have also generally weakened in the region, as financial markets are pricing in a steepening of the yield curve. In March 2011, forward-looking price-earnings ratios stood above historical averages only in China (Figure 1.27), and even then not abnormally so.

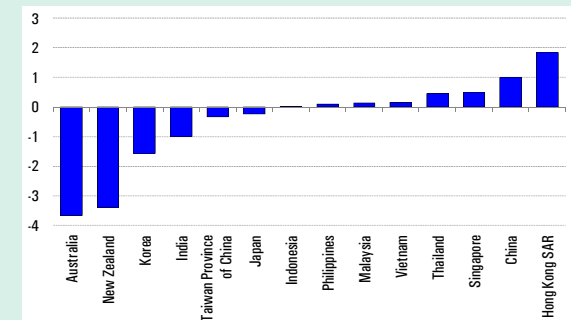
Figure 1.22. Asia: Impact of 10 Percent Increase in Commodity Prices on Headline Inflation¹
(In percentage points)



Source: IMF staff estimates.

¹ Calculated as the sum of the direct pass through from global food and energy prices to domestic food and energy prices, and pass through from domestic food and energy prices to core inflation (second-round effects). Wholesale prices used for India.

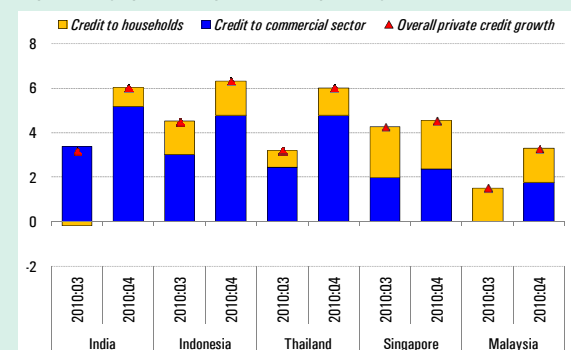
Figure 1.23. Asia: Deviation of the Cyclical Component of Credit-to-GDP Ratios from Long-Term Averages¹
(Number of standard deviations; as of 2010:Q4)



Source: IMF staff estimates.

¹ The cyclical component of the credit-to-GDP ratio is obtained by using the Hodrick-Prescott filter over 1990:Q1–2010:Q4.

Figure 1.24. Selected Asia: Contribution to Growth in Credit to Private Sector
(In percentage points of quarter over quarter growth)



Sources: CEIC Data Company Ltd.; and IMF staff calculations.

Figure 1.25. Selected Asia: Comparing Changes in Current Real Property Prices with Previous Boom-Bust Cycles¹
(Year over year; in percent)

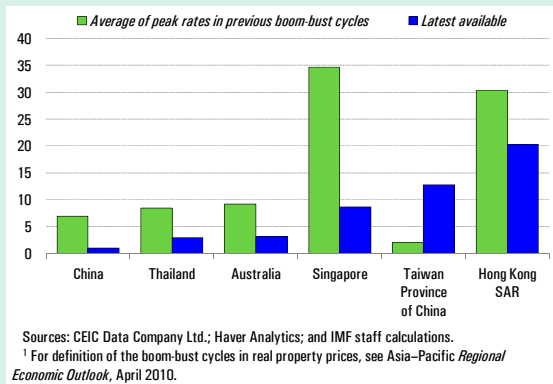


Figure 1.26. Asia: Government Bond and Stock Markets
(Change between October 2010 and March 2011; in percentage points)

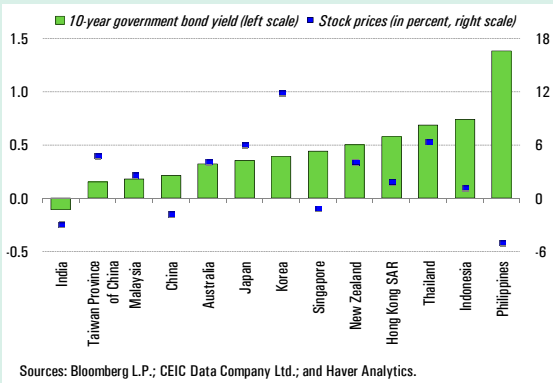
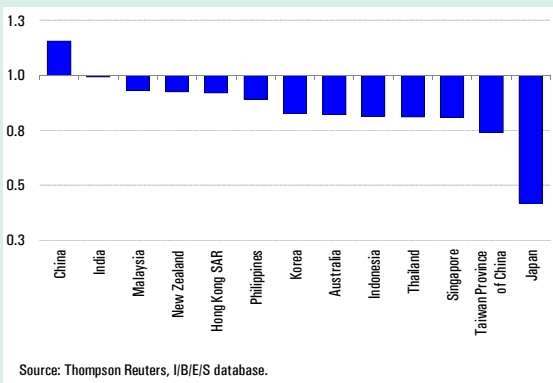


Figure 1.27. Selected Asia: 12-month Forward P/E Ratios
(Relative to long-term average; as of March 2011)



C. Capital Inflows Are Expected to Continue, but at a More Moderate Pace

Foreign capital flows to Asia have generally moderated since October 2010, although they have remained extraordinarily large in a few economies. As a share of regional GDP, net capital flows to Asia have neither reached the peaks of the 1990s nor their level during the period before the global financial crisis (Chapter II). In the fourth quarter of 2010, net capital flows to emerging Asia excluding China declined to about 1½ percent of regional GDP, from the recent high of 4¾ percent (reached in the second half of 2009, Figure 1.28). Portfolio inflows to emerging Asia have slowed since November 2010, possibly owing to investors’ concerns about inflation and the policy response (Figure 1.29). A few economies, however, have continued to experience large inflows. In the last quarter of 2010, net foreign capital inflows have accelerated in Indonesia and the Philippines, where they reached 12- and 8-year highs as a share of GDP, respectively, owing to robust portfolio (bonds and equities) inflows. Net foreign capital flows to China also accelerated in the last quarter of 2010, largely reflecting greater cross-border bank inflows from Hong Kong SAR.

Capital is expected to continue flowing to Asia in the next two years, but at a slower pace than in 2010 and with continued variation across regional economies. In the baseline scenario, capital flows to the region are expected to continue during 2011–12, attracted by strong growth, ample global liquidity, and continued improvement in risk appetite (Figure 1.30). Structural portfolio reallocation toward emerging market assets is also likely to support flows to Asia, as despite a threefold increase during 2004–09, the weight of emerging Asia equities in the Morgan Stanley Capital International (MSCI) all country world index is still only half the share of emerging Asia in global production. Within Asia, portfolio inflows are expected to remain robust in India and ASEAN-4 economies, and to

continue at a somewhat more moderate pace in China.

Nevertheless, greater capital inflow volatility remains a risk for several Asian economies. Sovereign and banking sector risks in the euro area, and large sovereign funding requirements in advanced economies, could raise risk premiums and negatively affect capital flows to Asian emerging economies. A stronger-than-expected recovery and the eventual withdrawal of monetary accommodation in the advanced economies could also cause more volatility in capital inflows. The April 2011 *World Economic Outlook* shows that net capital inflows to emerging economies are highly correlated with global financing conditions—with global interest rates and risk aversion playing an important role. U.S. monetary tightening tends to dampen net flows to emerging economies, particularly when the rate hikes are unanticipated. More volatile capital inflows into Asia could especially affect economies with current account deficits (India and Vietnam), relatively high shares of bonds and equities owned by foreigners (Indonesia and Malaysia), and greater dependence on wholesale foreign bank financing (Australia and Korea). But the impact on economic activity could be felt indirectly across the whole region, as more volatile capital inflows to Asia could hurt both investment and consumption, by increasing the cost of capital and reducing consumer confidence.

Policy responses to capital inflows so far have been appropriately narrowly targeted. Responses have varied considerably across the inflow-receiving countries, but they have been mostly targeted at specific types of portfolio flows, and their impact on domestic financial markets and institutions, rather than at trying to control all flows. The measures have essentially targeted five broad objectives (Table 1.2): (i) to mitigate complications for central bank market operations that stem from inflows to short-term instruments; (ii) to limit inflows to local bond markets; (iii) to reduce risks in both the banking system and the real economy; (iv) to limit

Figure 1.28. Emerging Asia: Net Capital Inflows
(In percent of GDP)

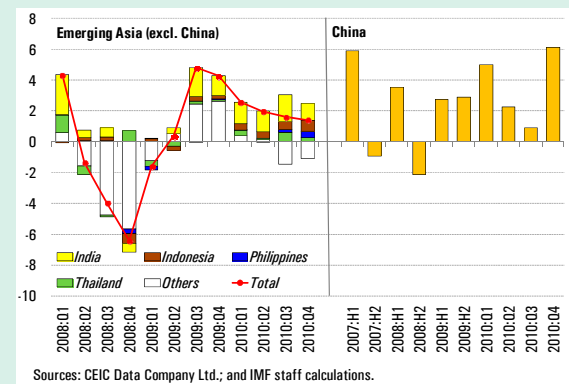


Figure 1.29. Emerging Asia: Equity and Bond Funds — Weekly Net Flows during 2010–11¹
(In billions of U.S. dollars)

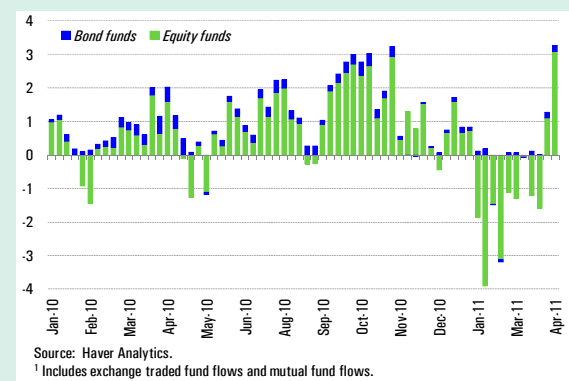


Figure 1.30. Emerging Asia (excl. Hong Kong SAR and Singapore): Net Portfolio Capital Inflows
(In percent of GDP)

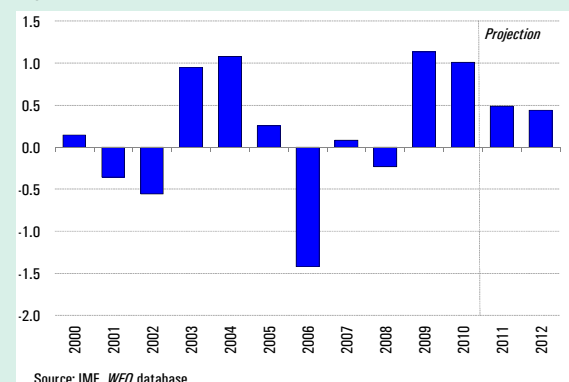


Table 1.2. Capital Flow Management Measures in Asian Economies

Policy tool	Recent examples	Motivation/Objective
Limits to direct and indirect FX exposure	Korea (June 2010): Capped FX forward positions of banks relative to their equity capital. Reduce corporate FX hedging limit from 125 percent to 100 percent of export receipts.	By limiting derivatives positions, the measure indirectly targets a reduction in external borrowing by the private sector, particularly the banking sector. This exposure was also associated with carry trades onshore, including through "over hedging" of U.S. dollar receivables by Korean exporters.
Increase restrictions on external borrowing	India (December 2009): Re-instated interest rate cap on eligible external commercial borrowing that was eliminated during the crisis.	To limit access to foreign credit to best corporate credits and prevent high cost borrowing.
Minimum holding period on central bank bills	Indonesia (June 2010): One month holding period on central bank bills (SBIs) instated for both domestic and foreign investors.	To limit volatility of flows. SBIs had been subject to sharp shifts in positions relative to global risk appetite, as they were used as a carry-trade vehicle. Holding period limits the volatility of flows on exit from positions.
Limited foreign access to central bank instruments	Indonesia (June 2010–present): Phased out one- and three-month SBIs in favor of nine- and 12-month SBIs, and expanded supply of nontradable term deposits up to six months tenor, which are only available to banks operating in Indonesia.	To reduce volatility of inflows, and address concerns that central bank sterilization was attracting further inflows. Short-term SBIs, largely used to sterilize FX intervention, were a favored vehicle for carry trades.
Other restrictions on foreign access	Taiwan Province of China (November 2009): Financial Supervisory Commission (FSC) barred access to time deposit accounts for foreign investors. Taiwan Province of China (November 2010) FSC extended existing investment of nonresident inbound remittances in domestic securities to 30 percent, to include government securities of remaining maturity greater than one year.	To dampen speculative flows. Time deposits are one avenue for carry trades/ currency speculation. Reduced access of nonresidents to government bonds.
Measures to encourage outbound investment by residents	Malaysia (October 2010): Announced that the overseas investment limit of the Employee Provident Fund would be raised from 7 percent to 20 percent. Philippines (November 2010): Increased ceilings on residents' purchase of FX and foreign assets from authorized agent banks. Prepayment of private sector FX loans allowed. Thailand (February, September 2010): Raised ceilings on residents' outward direct investment, lending abroad, and foreign currency holdings.	
Reserve requirements on foreign currency and nonresident accounts	Taiwan Province of China (January 2011): Raised reserve requirement on local currency accounts held by nonresidents to 90 percent on balances exceeding the outstanding balance on December 30, 2010. Balances below end-2010 levels subject to 25 percent reserve requirement. Require reserves for such accounts are no longer remunerated. Indonesia (March 2011): Raised reserve requirement on foreign currency accounts from 1 percent to 5 percent. A further increase to 8 percent is scheduled for June 2011.	To effectively bar banks from offering interest-bearing accounts to nonresidents. Limit bank vulnerabilities to inflow volatility. Reduce incentives for banks to intermediate short-term inflows.
Withholding tax on foreign holdings of government bonds	Thailand (October 2010): Reimposed a 15 percent withholding tax (withdrawn in 2005) on nonresidents' interest earnings and capital gains on new purchases of government bonds. Korea (January 2011): Reintroduced a 14 percent withholding tax on foreign holdings of government bonds and central bank securities.	To slow inflows into government bond markets.

Source: National authorities.

vulnerabilities stemming from private sector external borrowing; and (v) to reduce currency speculation. The limited evidence so far suggests these measures have been more effective in altering the composition of inflows and in preventing overheating in asset markets than they have been in stemming capital inflows (see Pradhan and others, 2011). Only in a few cases have these measures discriminated based on the residency of investors and have generally remained "on the margin," which explains why they have not resulted in a wholesale souring of market sentiments toward Asian economies.

Capital flows to Asia are not only a challenge, but also an opportunity to facilitate medium-term rebalancing. The question is how best to channel capital inflows toward financing broader-based growth, and in particular toward boosting investment. Capital market development could open up additional channels of funding for long-term investment, such as infrastructure, and would also lower the cost of capital and facilitate private investment in general. To seize this opportunity, authorities in the region would need to continue building the basic infrastructure of bond markets and expanding the investor base (Box 1.4).

Box 1.4. Channeling Capital Inflows to Its Most Productive Uses: Developing Corporate Bond Markets in Asia

Large portfolio flows into Asia present an opportunity to channel foreign savings into the most productive investment opportunities in the region and thus facilitate its rebalancing toward domestic sources of growth. In particular, capital inflows could help to address two important bottlenecks to higher investment in Asia: financing constraints for small- and medium-size enterprises (SMEs) and shortfalls in infrastructure.¹

- SMEs, which tend to be more domestically oriented, labor intensive, and in service sectors, generally find it harder to access credit compared with larger firms, which are capital intensive and generally operate in the manufacturing and export sectors (figure).
- Infrastructure in emerging Asia has improved since the 1990s, but it still lags comparator emerging market regions in important respects, especially in ASEAN-5 economies (October 2010 Asia and Pacific *Regional Economic Outlook*). At the same time, in several emerging Asia economies the number of infrastructure investment projects with private participation peaked in late 1997, and has remained significantly lower over the last decade (figure).

Large portfolio inflows could help alleviate these bottlenecks. To facilitate this, authorities in the region may need to further develop bond markets and expand the investor base. This would allow domestic firms to get access to foreign investors participating in these markets, including to finance infrastructure projects.

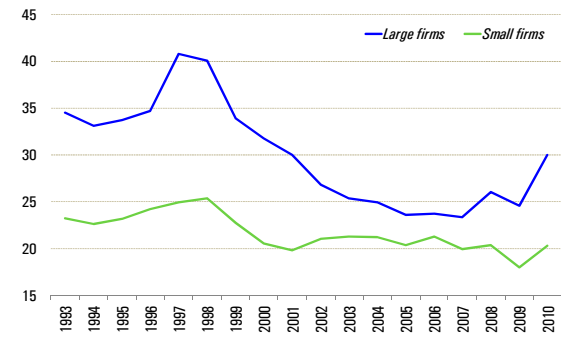
Measures that could help develop bond markets and expand the investor base include (Felman and others, 2010; and Gray, Carjaval, and Jobst, 2010):

- Continuously enhancing and streamlining disclosure requirements for bond issuances, and improving transparency on issuers, for example through standardized reporting and wider credit scoring. This is of particular importance for reducing information gaps and attracting investors to smaller firms.
- Issuing government bonds at longer maturities and ensuring liquidity at the whole maturity spectrum, to facilitate longer-term maturity issuance.
- Allowing highly rated corporate securities to be used as collateral by commercial banks at the central bank facilities.
- Establishing central clearing counterparties, to reduce counterparty risks. Such counterparties would enforce the specific terms of contracts until maturity, as well as guarantee the fulfillment of the contracts.

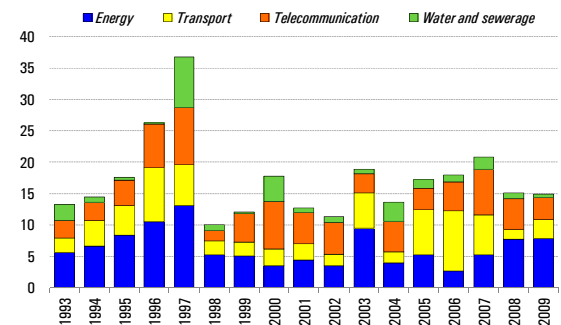
Note: The main author of this box is Sergei Dodzin.

¹ See IMF (2010c).

Emerging Asia: Debt-to-Asset Ratio
(Median, in percent)



Selected Emerging Asia: Infrastructure Investment Projects with Private Participation¹
(In billions of U.S. dollars)



Box 1.4. (concluded)

- Standardizing and consolidating central securities depositories (CSD) and improving cross-border clearing and settlement arrangements, including through links between regional CSDs.
- Streamlining and reducing distortions in tax regimes. In particular, reforming withholding taxes and ensuring comparability of treatment across regional bond markets.
- Strengthening legal and regulatory frameworks for local derivative markets, including by aligning local and international accounting standards, to facilitate the development of hedging mechanisms in local markets.

D. Policy Challenges: Tightening Macroeconomic Policy Stances to Contain Overheating Risks

Against the background of strong economic growth and overheating concerns, the need to tighten macroeconomic policy stances in Asia has become more pressing now than it was six months ago. The extent and pace of tightening that is needed varies across economies. Although many regional economies started making macroeconomic policy conditions less accommodative in 2010, the tightening cycle has generally been slow, possibly reflecting lingering doubts about the strength of the global recovery and of private domestic demand in Asia. As the global recovery has been consolidated, and supply constraints have started to emerge in Asia, a few economies in the region now need to catch up in terms of the pace and size of the required adjustment.

Further monetary policy tightening is necessary in economies facing generalized overheating pressures:

- Taylor rules suggest that, so far, several Asian economies have increased policy rates more slowly than in the past. Policy rates in March 2011 were generally below the levels predicted by IMF staff estimated rules (Figure 1.31), particularly in India, Indonesia, Korea, and Thailand.
- Real policy rates are still negative in several regional economies, including China, Korea, and India, and much lower than historical averages in Indonesia (Figure 1.32). Even if signs of

overheating are mixed, keeping real interest rates too low for too long could contribute to financial instability, through a deterioration of the quality of capital spending, resource misallocation, higher leverage, and asset price bubbles. In Australia and New Zealand, where banks have shifted toward medium-term wholesale funding and retail deposits, the increase in bank funding costs has made monetary conditions tighter than policy interest rates alone would suggest.

Exchange rate appreciation should be a key line of defense to avoid overheating. Exchange rate appreciation would tighten monetary conditions and reduce the burden to be borne by interest rate tightening. Despite recent appreciations, real effective exchange rates remain close to precrisis levels in many emerging Asian economies, and in a few cases (Hong Kong SAR, Korea, and Vietnam) significantly below those levels (Figure 1.33). Indeed, Asia's shares of the U.S. and E.U. import markets are currently at precrisis levels, despite the recent appreciation. And for many regional currencies, strong current account surpluses continue to be a more important source of excess demand, and reserve accumulation, than net capital inflows (Figure 1.34). The increase in foreign reserves since mid-2010 in many emerging Asian economies partly reflects positive valuation effects from higher asset valuations in advanced economies. But it also suggests that exchange rate appreciation pressures have continued to be met by intervention in foreign exchange markets.

The administrative measures that several Asian policymakers have implemented to counter food

price inflation may have only a temporary impact on inflation and will impose fiscal costs over the medium term. Given the limited impact and distortionary nature of these measures, it might be preferable to respond to higher global commodity prices by accommodating the first-round pass-through into domestic prices and stand ready to tighten policies to avoid second-round effects that could lead to a more persistent rise in inflation.

In economies that still face large capital inflows, macroprudential measures can usefully complement monetary policy in addressing specific financial vulnerabilities and concerns. Over 2010, concerns that wider interest rate differentials could give rise to further capital inflows induced several regional central banks to keep policy rates low, even as capacity constraints and core inflation pressures started to surface. Strong inflows into bond markets also compressed long-term yields, raising doubts on whether policy rate increases could tighten the monetary stance. Still, a combination of monetary tightening and prudential measures would be effective in dealing with domestic overheating pressures and threats to financial stability from volatile capital inflows:

- Reduced uncertainty about the strength of global recovery and prospects for an earlier-than-expected start of the tightening cycle in the United States and other advanced economies could give Asian central banks more room to tighten. Indeed, long-term yields have increased in Asia over the last few months, in line with the moderation of capital flows to the region. Nonetheless, Chapter II suggests that an effective tightening of the monetary policy stance in Asia will require higher short-term interest rates.
- In regional economies that face signs of overheating in asset markets, monetary policy tightening could be complemented by measures that address specific financial stability risks. Many of the prudential measures adopted in Asia in 2010 were designed to minimize the

Figure 1.31. Selected Asia: Policy Interest Rates
(In percent)

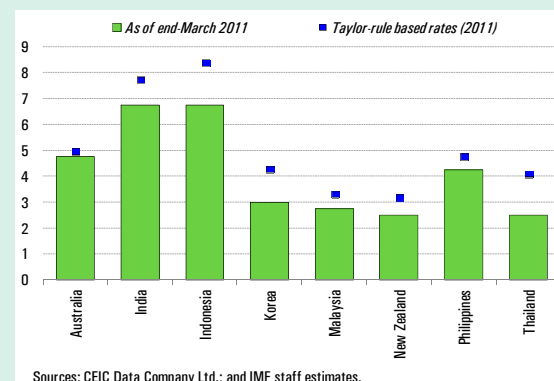
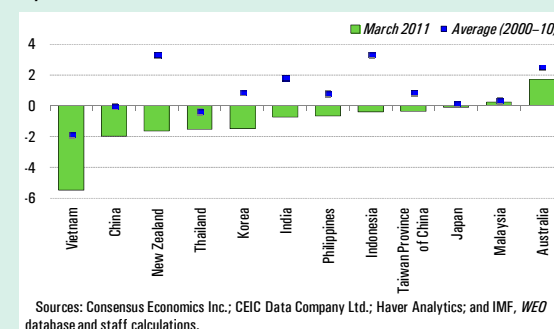


Figure 1.32. Asia: Real Policy Rates¹
(In percent)



¹ Real policy rates are defined as nominal policy rates adjusted for one-year ahead inflation expectations (from WEO database for 2011 and Consensus Inc. for other years). Wholesale prices used for India.

Figure 1.33. Asia: Real Effective Exchange Rates
(Percent change between peak in 2007–08 and March 2011; increase implies appreciation)

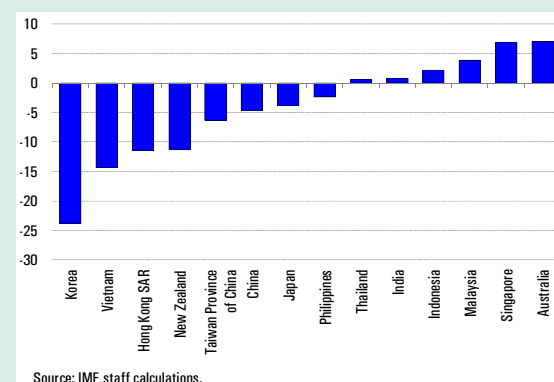
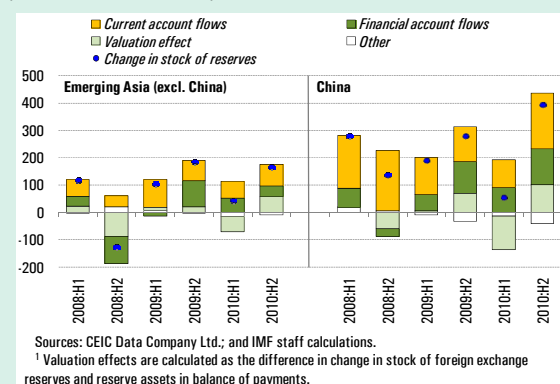


Figure 1.34. Emerging Asia: Sources of Change in Stock of Foreign Exchange Reserves¹*(In billions of U.S. dollars)*

risks to financial instability from large capital inflows, particularly in the case of a sudden reversal. Although it is too early to assess the effectiveness of these measures, Chapter II suggests that they may help reduce economic volatility by targeting the impact of capital inflows on specific asset markets and leverage.

Several economies in the region have room for further fiscal consolidation. In a few economies (Indonesia, Singapore, and Taiwan Province of China), fiscal policy is expected to add stimulus in 2011, while other economies (including Australia and China) are expected to withdraw fiscal stimulus in 2011. But, generally, fiscal stances in the region are still accommodative: IMF staff estimates of cyclically adjusted fiscal balances for 2011 show generally lower surpluses or higher deficits relative to precrisis (2002–07) averages (Figure 1.35). Fiscal consolidation would also expand fiscal space and increase the scope for governments to respond effectively to potential future shocks. For economies benefiting from higher commodity prices, such as Australia and New Zealand, some of the boost to government revenues could be saved in order to ensure a more equal distribution of its benefits across generations and reduce long-term fiscal vulnerabilities from an aging population and rising health care costs.

A tightening of macroeconomic policies is a priority also in most Asian LICs. In some

economies, there is an immediate need for monetary tightening (Bangladesh and Nepal), whereas in others, the critical need is for fiscal policy tightening (Cambodia, Lao P.D.R., Mongolia, and Sri Lanka). Enhancing fiscal revenue is important for fiscal consolidation and would help create fiscal space for much needed development spending. Policies also need to be geared toward addressing longer-term issues, including public financial management (Nepal and Lao P.D.R.); natural resources management (Papua New Guinea); and enhancing banking supervision and risk-management practices (Lao P.D.R. and Cambodia).

E. The Economic Impact of Japan's Earthquake-Related Tragedy

The earthquake and tsunami that devastated much of Japan's northeast coastal region in March 2011 resulted in terrible human losses and will impact economic activity over the coming months, not only in Japan but also in other Asian economies. In particular, industrial production will be affected by the physical destruction of infrastructure and production facilities, widespread electricity shortages, and the ripple effect across productive sectors through the supply chain. At the same time, consumer and business sentiment could also suffer, given the size and duration of interruptions in normal activity and the concerns about radiation contamination that have followed the crisis at the Fukushima nuclear plant.

The experience after the Great Hanshin-Awaji (Kobe) earthquake in January 1995 may provide some clues as to the economic impact of this recent tragedy. In the case of the Kobe earthquake, industrial production declined by 3 percent in the first month after the earthquake but rebounded quickly, and reached pre-earthquake levels within one quarter. Reconstruction led to an investment boom and, as employment rose and confidence strengthened, retail sales began to rise again after one quarter. As a result, GDP growth picked up in 1995 to 1.9 percent from 0.9 percent the previous year. The quick turnaround was also helped by ample private sector capacity in other regions, and

limited nationwide damage to power generation and transportation infrastructure.

However, the Great East Japan earthquake differs in several critical dimensions from previous ones. First, at between 3 and 5 percent of GDP, initial estimates of the damage to infrastructure are about twice as large as those caused by the 1995 Kobe earthquake (Figure 1.36). The area affected by electricity supply interruptions is also much larger, and includes the entire Kanto region around Tokyo, which accounts for around 40 percent of GDP. Restoration of capacity is likely to take longer this time, due to severe damage to thermal and nuclear power plants and to key component suppliers in the area, especially in electronics and automobiles, implying possibly greater supply disruptions in the production chain than after the Kobe earthquake. Finally, macroeconomic policy space is more limited with interest rates near the lower bound and public debt at very high levels.

Taking into account these differences, IMF staff have revised growth in 2011 down to 1.4 percent from 1.6 percent in their pre-earthquake scenario. The downward revision reflects both a substantially larger decline in activity than after the Kobe earthquake, which would be partially offset by a sizable policy response. More specifically, private domestic demand in 2011 is expected to decline by 1 percentage point, as a result of the severe damage to capital and electricity supply. But growth is expected to be lifted by a stronger contribution from the public sector, in particular through a series of fiscal packages (estimated at 0.8 percent of GDP) primarily targeted at infrastructure investment. While the reconstruction costs will add to the fiscal deficit in 2011, the amounts are likely to be manageable and the spending will be temporary. In 2012, growth is expected to accelerate to 2.1 percent on the back of reconstruction efforts.

Easy monetary conditions are also expected to support activity. The Bank of Japan acted decisively to stabilize financial markets following the earthquake, expanding its balance sheet by more than 10 percent through short-term liquidity

Figure 1.35. Asia: General Government Cyclically Adjusted Fiscal Balances¹
(In percent of GDP)

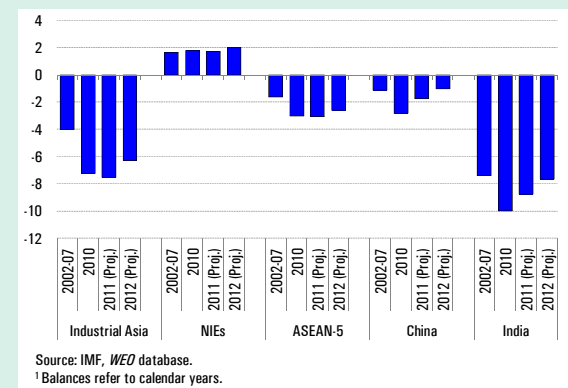
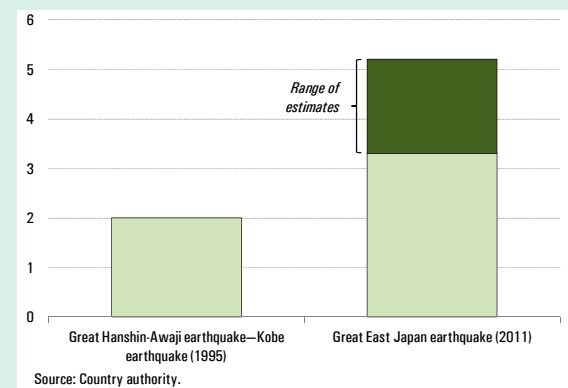


Figure 1.36. Japan: Official Estimate of Damage to Capital Stock following 1995 and 2011 Earthquakes
(In percent of GDP)



injections and doubling the size of its financial asset purchase program to ¥10 trillion. This response builds on a series of monetary easing measures introduced in Japan over the last two years, which have been relatively successful in stabilizing financial markets and reducing risk premiums (Box 1.5). In April 2011, the Bank of Japan also announced a new loan program to assist financial institutions in disaster areas.

There are, however, significant downside risks to the outlook. Unlike after Kobe, lingering uncertainties surrounding the nuclear issue and the interruption of power generation could delay the recovery by disrupting production across the country and weighing on sentiment. In this case, policies to repair damaged infrastructure and

Box 1.5. How Effective Are the Bank of Japan's Monetary Easing Measures?

Faced with a moderating recovery and persistent deflation, the Bank of Japan has expanded its policy toolkit by introducing a broad series of monetary easing measures to achieve sustainable growth and price stability (table). The measures are broad in scope. This box assesses the extent to which the measures have been effective in achieving their objectives, and concludes that the measures have a positive initial impact. It is too early, however, to assess the effect on economic activity and the inflation outlook. The positive impact and relatively modest scale of easing so far would suggest that further targeted monetary easing may help lower risk premiums and catalyze investment.

Bank of Japan Measures

Measures	Description	Date	Current target scale (in trillions of yen)	Actual balance as of March 10, 2011 ^{1,2}
Increase in purchases of government bonds	Expand measures to ensure financial stability.	December 2008	21.6 trillion yen on JGB per year	60 trillion yen
	Subsequent size expansion on Japanese government bond (JGB) purchases.	March 2009		
Fixed-rate funds-supplying operation against pooled collateral	Provide ample funding at low interest rate to banks to ease financing conditions, thereby encouraging the decline of long-term rates.	December 2009	30 trillion yen	25.6 trillion yen
	Subsequent size expansion and maturity extension.	March and August 2010		
Providing support to strengthen the foundations for economic growth	Provide long-term funds at low interest rate to eligible financial institutions to finance actual investment projects in selected industries that support the foundations of economic growth.	April 2010	Not exceeding 3 trillion yen	1.5 trillion yen
	Subsequent announcement of operational framework, principal terms and conditions, and disbursements.	May, June, September, and December 2010		
"Comprehensive Monetary Easing (CME)"		October 2010		
Virtually zero-interest rate policy	Guide expectations on the duration of accommodative stance of monetary policy.			
Asset Purchase Program	Encourage the decline of long-term interest rate and catalyze investors' risk appetite to reduce risk premium.			
	Preempt a deterioration in business sentiment and rise in risk aversion.	March 2011	40 trillion yen	30.3 trillion yen

Source: Bank of Japan.

¹ Outstanding balance of government securities include previous purchases before easing measures introduced. Excluding treasury bills.

² The size of the asset purchase program was expanded by 5 trillion yen to 40 trillion yen on March 14, 2011, of which 30 trillion yen is related to the fixed-rate funds supplying operations.

The easing measures are intended to stimulate growth and overcome deflation by lowering funding costs and boosting private credit through various channels:

- The new funding operations intend to reduce short-term interest rates by providing financial institutions with ample funds at extremely low interest rates.
- Meanwhile, the asset purchase program could ease broad financing conditions by lowering interest rates and serving as a "catalyst" to raise investors' risk appetite.
- The commitment to a virtually zero interest rate policy (VZIRP) could guide expectations on the duration of accommodative stance of monetary policy. As a result, long-term real interest rates could fall, anchoring higher inflation expectations.

Note: The main author of this box is W. Raphael Lam.

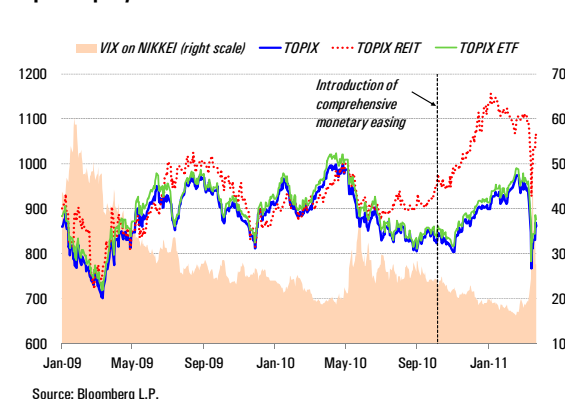
An event study is used to assess the initial impact of the Bank of Japan's measures on funding costs and private credit.¹ The events are selected based on the dates on which the Bank of Japan announced and implemented its new measures since December 2009, and the changes of several high-frequency financial indicators around these events are compared with the changes in a typical trading day.

The result shows that, asset prices have tended to react favorably to the Bank of Japan's measures, although the magnitude of the response appears to be small (figure). Across the identified events, the 10-year JGB yield has cumulatively fallen by more than 20 basis points after the Bank of Japan announcements, and the 2-year JGB yield by more than 10 basis points (figure). This compares with a change of 0.1 basis points in a typical two-day trading window for each variable (figure). The overall effects are statistically significant, but small compared with the effects of monetary easing by other central banks, when controlling for the size of easing.²

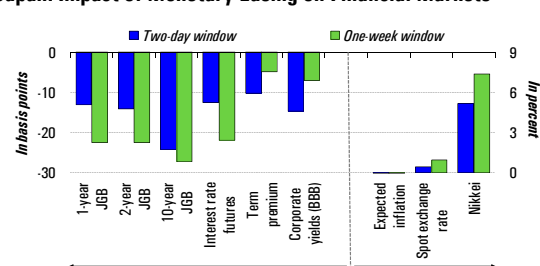
Although yields typically continued to decline in the week after the events, the greatest impact came with the immediate announcement. The term premium also tended to fall, along with a flattening of the yield curve. Corporate yields tended to decline initially, but reverted by the end of the following week. Equity prices have tended to increase by more than 5 percent, and the increase is statistically significant compared with typical trading days. But, monetary easing had almost no measurable effect on the exchange rate or inflation expectations.

Across industries, the Bank of Japan's easing measures were most effective in affecting the financial and real estate sectors (figures on next page). Equity prices of insurance companies and large banks rose strongly relative to the market index (more than 10 percent in total across the events identified) after the Bank of Japan announcement, and the increase persisted through the following week. By contrast, equity prices in other sectors did not show significant excess return (after adjusting for industry-beta) compared with the overall market, which has increased by more than 5 percent. Throughout the periods of the Bank of Japan's easing measures, financing conditions have continued to ease, but credit demand remained weak, continuing to fall on a year-over-year basis.

Japan: Equity Markets



Japan: Impact of Monetary Easing on Financial Markets^{1, 2}



Sources: Bloomberg L.P.; and IMF staff estimates.

¹ Events defined as the announcement dates of powerful monetary easing by Bank of Japan. Impact on both windows for JGBs, interest rate futures, term premium, and Nikkei; and two-day window for corporate yield are statistically significant at 5 percent level.

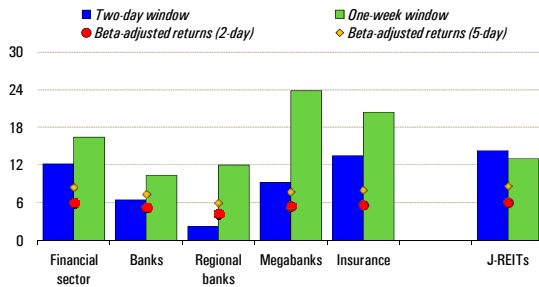
² Interest rate futures refer to 3-month futures and term premium is defined as 10-year net of 2-year sovereign yields.

¹ Each event carries a window of a week or two trading days, around the announcement day. Financial indicators include short- and long-term government bond yields, corporate bond yields, equity price and subindices, term premium, implied volatility, exchange rate, and inflation expectations.

² Using event study methodology, Gagnon and others (2010) and Neely (2010) both find significant impacts on financial markets of the large-scale asset purchase programs by the U.S. Federal Reserve. Specifically, the 10-year Treasury yields fell cumulatively by about 100 basis points between November 2008 and mid-2009, and the term premium also declined following the asset purchases.

Box 1.5. (concluded)

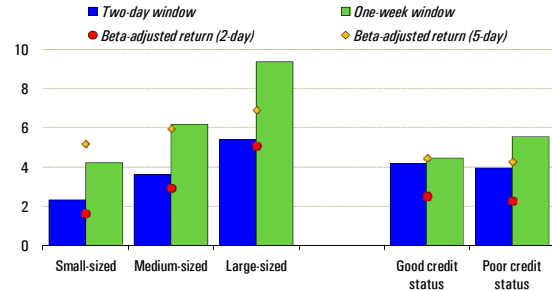
Japan: Cumulative Impact of Monetary Easing Announcements on the Financial Sector¹
(In percent)



Sources: Bloomberg L.P.; and IMF staff estimates.

¹ Events defined as in the text. Beta-adjusted return is calculated as industry beta times market return. Statistical significance at 5 percent level from the adjusted returns are obtained for financial sector (two-day window), and both windows for megabanks, insurance, and J-REITs.

Japan: Cumulative Impact of Monetary Easing Announcements on the Nonfinancial Corporate Sector¹
(In percent; by size and credit status)



Sources: Bloomberg L.P.; and IMF staff estimates.

¹ Impact measured in a 2-day or weekly event window. Beta adjusted return is calculated as industry beta multiplied by the market return. None of these are statistically significant at 5 percent level from the adjusted returns.

Overall, the asset purchase program introduced in October 2010 appears to have lowered the tail risks in financial markets. Implied volatility on asset prices declined significantly following the Bank of Japan's announcement of the asset purchase program, thereby reducing risk premiums and improving investors' risk appetite. Markets' perceived risk of a double-dip recession receded. Reinforcing other favorable external factors, the program likely helped stabilize Japan's economic outlook.

promote reconstruction spending would play an important role in addressing the uncertainties and supporting the recovery.

The impact of Japan's natural disaster is also likely to be felt well outside its geographical borders, mainly through trade channels. To be sure, lower demand from Japan for regional exports will have only a limited impact on other Asian economies, as their exposure to Japan's final demand is small, generally below 5 percent of their GDP. This implies that for each 1 percentage point decline in Japanese final demand, the first-round impact on other Asian economies would generally be less than 0.1 percentage points.

However, a stronger impact could be felt on the supply side. As discussed in Chapter III, Asian economies are highly integrated through cross-border production networks. While these networks have become increasingly centered on China, Japan remains the second most important source of imported intermediate inputs in the region. Accounting for direct and indirect supply linkages,

inputs from Japan account for about 10–15 percent of the value added produced in some Asian economies, including Malaysia, Thailand, and Taiwan Province of China (Figure 1.37). In the near term, the drawdown of inventories could provide an important buffer. Over time there could also be a switch to alternative suppliers, although Japan's status as a highly specialized supplier of electronic components and capital goods suggests limits to this strategy. But more prolonged disruptions to production in Japan could eventually affect other economies along the global supply chain, in particular those industries where Japanese supplies constitute a significant share of global supply, such as advanced materials (e.g., silicon wafers for microchips).

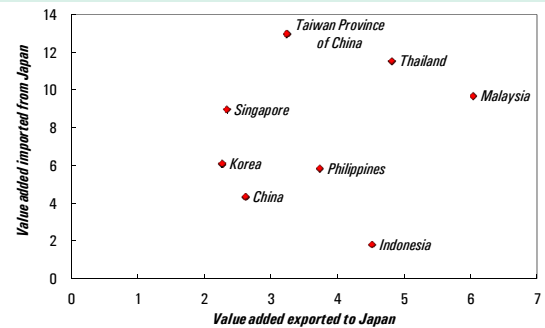
F. Making Growth Balanced and Inclusive Over the Medium Term

Overall in the region, the rebalancing of growth toward private domestic demand may prove only temporary in the absence of measures that address the structural constraints on domestic demand.

- For the region as a whole, gross exports are expected to contribute more than private domestic demand to growth in 2011–12 and more than they did on average during 2002–07 (Figure 1.38). The contribution of private domestic demand to GDP growth is expected to increase significantly only in Indonesia and Malaysia. By contrast, the contribution of gross exports to growth is expected to rise in almost all regional economies, with the exception of Hong Kong SAR, Singapore, and Taiwan Province of China.
- The projected evolution of current accounts in Asia suggests that rebalancing may be slow, although with some differentiation across the region (Figure 1.39). The current account surplus of the Asia and Pacific region as a whole is expected to decline only slightly over the next two years, from about 3¼ percent of GDP in 2009 to 3¼ percent of GDP in 2012. Relative to their average in the precrisis period, external surpluses are expected to increase somewhat in China and to remain stable in the NIEs. They are, however, expected to decrease over the next two years in the ASEAN-5 economies.

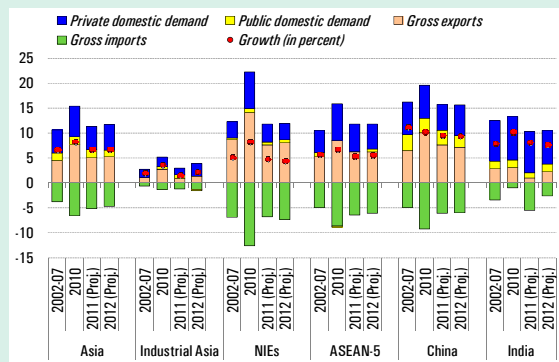
Over the longer term, the main challenge for Asia's policymakers remains to achieve a balanced, sustainable, and more inclusive pattern of growth. As the surpluses of oil-exporting countries narrow marginally, and the balances of other emerging surplus and advanced deficit economies widen, global imbalances, which had declined in 2009 with the collapse in global trade during the crisis, are now foreseen to remain elevated over the medium term (Figure 1.40). The persistence of global imbalances suggests that many of the distortions that characterized the precrisis period remain unchanged, such as undervalued exchange rates in key emerging surplus economies and insufficient domestic saving in advanced deficit economies. Without policies targeted at correcting these underlying distortions, they could threaten global growth prospects. In this regard, it should be noted that IMF staff projections point to a somewhat slower reduction of global imbalances than anticipated in the context of the

Figure 1.37. Selected Asia: Demand and Supply Exposures to Japan
(In percent of total value added)



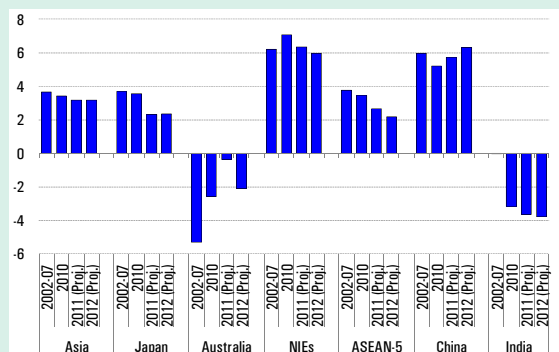
Sources: Japan External Trade Organization (JETRO), Asian Input-Output Table (2000); and IMF staff calculations.

Figure 1.38. Asia: Contributions to GDP Growth
(Year over year; in percentage points)

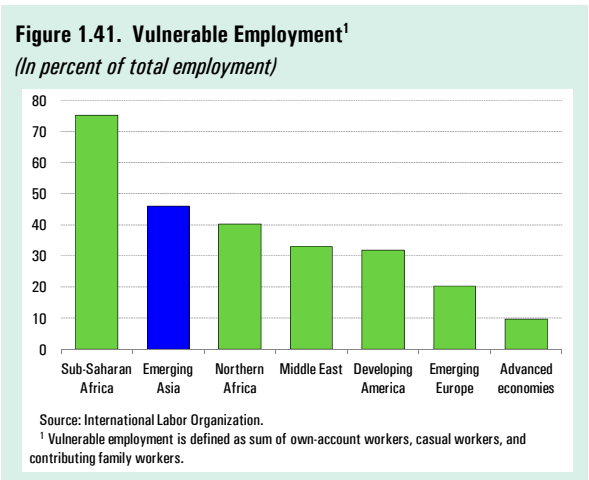
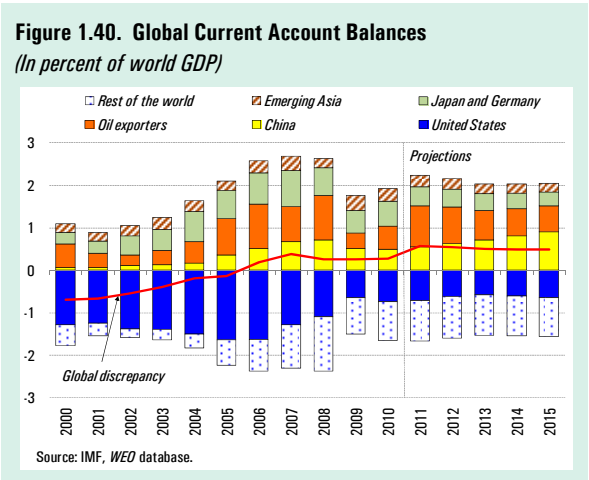


Source: IMF, WEO database.

Figure 1.39. Asia: Current Account Balances
(In percent of GDP)



Source: IMF, WEO database.



November 2011 G-20 Mutual Assessment Process (MAP), which suggests a more optimistic assessment by some G-20 authorities on the effectiveness of the policies envisaged in these economies to secure strong, sustainable, and balanced growth over the medium term.

Policies to strengthen domestic demand in Asian emerging economies are not inconsistent with the

need to tighten the macropolicy stance to deal with overheating risks. Many of these policies are structural and thus should strengthen demand mainly over the medium term; for example, by strengthening social safety nets or boosting investment in infrastructure. Insofar as these policies have a stimulative effect on economic activity in the short term, which adds to an already strong cyclical position, they could be matched by contractionary measures; for example, a reduction in current public spending. Letting the exchange rate appreciate more, on the other hand, would be consistent with a countercyclical macropolicy stance and, at the same time, would facilitate rebalancing toward internal demand.

Although the impact of the crisis on employment in Asia has been smaller than in other regions, a large share of employment remains vulnerable, and income inequality remains high. In contrast to many regions around the world, labor markets in Asia have not suffered a strong impact from the crisis. Aggregate employment figures, however, may underestimate the impact of the crisis on Asian labor markets, given the relatively large size of the informal sector in the region. A relatively high number of workers are in employment categories deemed to be more vulnerable and carrying a higher economic risk (Figure 1.41). This is especially a concern, given the limited scope of social protection programs in emerging Asia. Narrowing income inequality through inclusive labor markets and stronger social protection systems would also be instrumental to a more balanced pattern of growth, one that relies on strong private domestic demand in addition to the traditionally buoyant export sector.