World Economic and Financial Surveys

# Regional Economic Outlook

## Asia and Pacific

### Leading the Global Recovery

### Rebalancing for the Medium Term

APR 10

INTERNATIONAL MONETARY FUND

World Economic and Financial Surveys

# Regional Economic Outlook

# Asia and Pacific

## Leading the Global Recovery
## Rebalancing for the Medium Term

APR 10

INTERNATIONAL MONETARY FUND

Cataloging-in-Publications Data

Regional economic outlook: Asia and Pacific: leading the global recovery: rebalancing for the medium term. – Washington, D.C.: International Monetary Fund, 2010.
p. ; cm. – (World economic and financial surveys, 0258-7440)

Includes bibliographical references.
ISBN 978-1-58906-917-6

1. Economic forecasting – Asia. 2. Economic forecasting – Pacific Area. 3. Economic development – Asia. 4. Economic development – Pacific Area. 5. Capital movements – Asia. 6. Capital movements – Pacific Area. I. International Monetary Fund. II. Series: World economic and financial surveys.

HC412.R445 2010

Please send orders to:
International Monetary Fund, Publication Services
PO Box 92780, Washington, DC 20090, U.S.A.
Tel.: (202) 623-7430 Fax: (202) 623-7201
E-mail: publications@imf.org
Internet: www.imfbookstore.org

# Contents

## Tables



## Figures

# Definitions

In this *Regional Economic Outlook: Asia and Pacific*, the following groupings are employed:

- "Emerging Asia" refers to China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan Province of China, Thailand, and Vietnam.
- "Industrial Asia" refers to Australia, Japan, and New Zealand.
- "Asia" refers to emerging Asia plus industrial Asia.
- "Newly industrialized economies" (NIEs) refers to Hong Kong SAR, Korea, Singapore, and Taiwan Province of China.
- "ASEAN-4" refers to Indonesia, Malaysia, the Philippines, and Thailand
- "ASEAN-5" refers to Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.
- "EU-15" refers to Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.
- "G-2" refers to the euro area and the United States.
- "G-7" refers to Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.
- "G-20" refers to Argentina, Australia, Brazil, Canada, China, the European Union, France, Germany, India, Indonesia, Italy, Japan, Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, and the United States.
- "TED Spreads" refers to the difference between the interest rates on interbank loans and short-term government debt.

The following abbreviations are used:

| | |
|---|---|
| AsDB | Asian Development Bank |
| ASEAN | Association of Southeast Asian Nations |
| BoJ | Bank of Japan |
| CGER | Consultative Group on Exchange Rates |
| CIS | Commonwealth of Independent States |
| CPI | consumer price index |
| DEA | domestically oriented Asia |
| EEA | export-dependent emerging Asia |
| EM | emerging markets |
| ERM | exchange rate mechanism |
| FCL | Flexible Credit Line |
| FDI | foreign direct investment |

| | |
|---|---|
| GDP | gross domestic product |
| GIMF model | Global Integrated Monetary and Fiscal model |
| GMM | generalized method of moments |
| IPO | initial public offering |
| ISIC | International Standard Industrial Classification |
| IT | information technology |
| LIC | low-income countries |
| NIE | newly industrialized economy |
| NPL | nonperforming loan |
| OECD | Organisation for Economic Cooperation and Development |
| P/E | price-earnings |
| PICs | Pacific Island countries |
| PMI | purchasing managers index |
| PPP | purchasing power parity |
| REER | real effective exchange rate |
| REO | *Regional Economic Outlook* |
| RoW | rest of the world |
| SAAR | seasonally adjusted at an annual rate |
| SDR | Special Drawing Right |
| SITC | Standard International Trade Classification |
| SMEs | small and medium-sized enterprises |
| SOE | state-owned enterprises |
| UN | United Nations |
| WEO | *World Economic Outlook* |

The following conventions are used:

- In tables, a blank cell indicates "not applicable," ellipsis points ( . . . ) indicate "not available," and 0 or 0.0 indicates "zero" or "negligible." Minor discrepancies between sums of constituent figures and totals are due to rounding.
- An en dash (–) between years or months (for example, 2007–08 or January–June) indicates the years or months covered, including the beginning and ending years or months; a slash or virgule (/) between years or months (for example, 2007/08) indicates a fiscal or financial year, as does the abbreviation FY (for example, FY2009).
- An em dash (—) indicates the figure is zero or less than half the final digit shown.
- "Billion" means a thousand million; "trillion" means a thousand billion.
- "Basis points" refer to hundredths of 1 percentage point (for example, 25 basis points are equivalent to ¼ of 1 percentage point).

As used in this report, the term "country" does not in all cases refer to a territorial entity that is a state as understood by international law and practice. As used here, the term also covers some territorial entities that are not states but for which statistical data are maintained on a separate and independent basis.

This *Regional Economic Outlook: Asia and Pacific* was prepared by a team coordinated by Roberto Cardarelli of the IMF's Asia and Pacific Department, under the overall direction of Anoop Singh, Kalpana Kochhar, and Mahmood Pradhan. The team included Ashvin Ahuja, Emre Alper, Vivek Arora, Steven Barnett, Nigel Chalk, Marcos Chamon, Pelin Berkmen, Ran Bi, Varapat Chensavasdijai, Rodrigo Cubero, Jonathan Dunn, Leif Lybecker Eskesen, Tarhan Feyzioglu, Sonali Jain-Chandra, Kenneth Kang, Malhar Nabar, Shanaka Peiris, Papa N'Diaye, Runchana Pongsaparn, Romauld Semblat, Chad Steinberg, Murtaza Syed, D. Filiz Unsal, and Olaf Unteroberdoerster. To-Nhu Dao, Souvik Gupta, Adil Mohommad, and Yiqun Wu provided research assistance; Lesa Yee and Imel Yu provided production assistance. Joanne Blake and Julia Lutz of the IMF's External Relations Department edited the volume and coordinated its publication and release. This report includes comments from other departments and some Executive Directors.

# Executive Summary

One year after the deepest recession in recent history, Asia is leading the global recovery. The pace of the recovery in advanced economies has been held back by high unemployment rates, weak household balance sheets, and anemic bank credit, and it remains heavily dependent on macroeconomic policy support. By contrast, activity in many emerging and developing markets has continued to rebound swiftly over the course of 2009 and in the first quarter of 2010, particularly in Asia. The pattern of economic recovery has varied within Asia, with the more domestically oriented economies (China, India, and Indonesia) and Australia escaping a recession, and the more export-oriented economies experiencing a sharply V-shaped business cycle. By the end of 2009, output in most of Asia had returned to pre-crisis levels, even in those economies hit hardest by the crisis.

Asia's faster recovery relative to the rest of the world seems to mark a break from the past. Although Asia's GDP trend growth has exceeded that of advanced economies over the last three decades, this is the first time that Asia's contribution to a global recovery has outstripped that of other regions. Furthermore, while in past recessions Asia's recovery generally was driven by exports, this time it has also been reinforced by resilient domestic demand, particularly household consumption. Finally, while in past recoveries capital was slow to return to Asia, this time net capital inflows to the region have surged, a reflection of extremely high levels of global liquidity but also a testament to Asia's improved resilience and economic framework.

As discussed in Chapters I and II, over the near term, Asia is expected to continue leading the global recovery, for two main reasons. First, the global and domestic inventory cycle is likely to boost Asia's industrial production and exports further for most of 2010 as demand finally recovers in advanced economies. Second, although macroeconomic policies may become less accommodative, private domestic demand is expected to remain robust. With the recovery of economic activity becoming more entrenched, many governments are now planning a gradual withdrawal of both fiscal and monetary policy stimulus. In many regional economies, however, private domestic demand appears to have sufficient momentum to sustain near-term growth, as high asset values, strong consumer confidence, and a gradual improvement in employment conditions are expected to sustain consumption, while the return of capacity utilization to more normal levels is expected to boost investment.

The pace of the recovery will, nonetheless, remain uneven across Asia. In China, growth is expected to return to double digits in 2010, with private domestic demand boosted by measures to increase consumption and private investment. This is having positive spillovers for the rest of the region, as Chinese demand boosts imports, particularly of commodities and capital goods. Given this strength in demand, the authorities have begun to stem the very rapid growth of credit in order to safeguard the quality of bank balance sheets. In Japan, private sector demand continues to face severe headwinds despite the recovery in the export sector, and inflation has fallen back into negative territory, requiring the authorities to reiterate their commitment to prolonged policy accommodation.

Asia's relatively strong cyclical position may pose near-term risks to this outlook, particularly if bright growth prospects and widening interest rate differentials with advanced economies lead to further capital inflows to the region. These inflows could lead to overheating in some economies and increase their vulnerability to a strong upswing in the credit and asset price cycles, with the

propensity for a subsequent abrupt reversal. Although asset-price inflation in Asia has so far been generally contained, the increase in excess liquidity in many regional economies over the course of 2009 raises concerns. Policymakers will need to be attentive to safeguarding the macroeconomy and financial system against the build-up of imbalances in local asset and housing markets.

Over the medium term, Asia's main policy challenge will be to ensure that private domestic demand becomes a more prominent engine of growth. Once the adjustment in inventories has run its course, Asia's exports to advanced economies should moderate somewhat, as domestic demand in these economies is expected to remain below pre-crisis levels, undermining global demand. Even in a best case scenario, China will provide only a partial offset to the weaker demand from advanced economies, given the relatively small size of Chinese consumption and its import of consumer goods. The global crisis has highlighted the importance for Asia of a second, domestic "engine of growth" that can substitute for lost demand from the industrialized world and lessen the impact of external shocks on Asian economies. This private domestic demand will need to be nurtured primarily through a range of structural reforms in the region.

Indeed, Chapter III suggests that Asia has remained heavily dependent on external demand—more than other regions. Rebalancing toward domestic demand will require many regional economies to act across a range of areas. Some economies may need to increase consumption, others will need to increase investment, and many will need to boost productivity in service sectors. A comprehensive package of measures adopted in the region—including fiscal measures, reforms in product, labor, and financial markets and more exchange rate flexibility—will critically contribute to the rebalancing of global demand.

# SECTION A

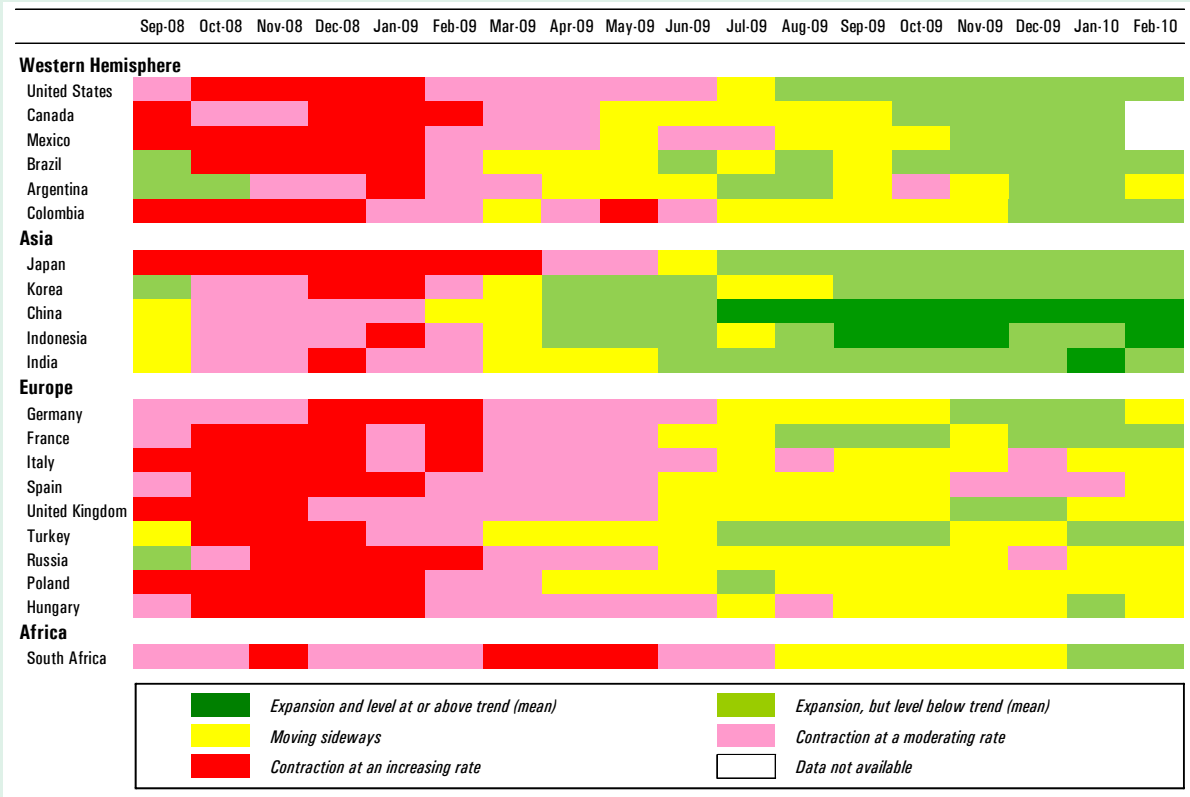
# Asia and Pacific: Leading the Global Recovery

# I. Recent Developments and Main Themes

## A. Overview

One year after the deepest recession in recent history, Asia is leading the global recovery. Activity in many emerging and developing markets has continued to rebound swiftly over the course of 2009. The "green shoots" of recovery that emerged in Asia earlier than elsewhere in 2009 have continued through the first months of 2010 (Figure 1.1). In particular, key economic indicators are now growing at above long-term trends not only in China, but also in emerging Asia's other economies with a large domestic demand base, namely, India and Indonesia. While growth also is solidifying in key Latin American and other emerging and developing economies, emerging Asia is in the lead. In contrast, the pace

**Figure 1.1. Assessing Global Growth Momentum[1]**

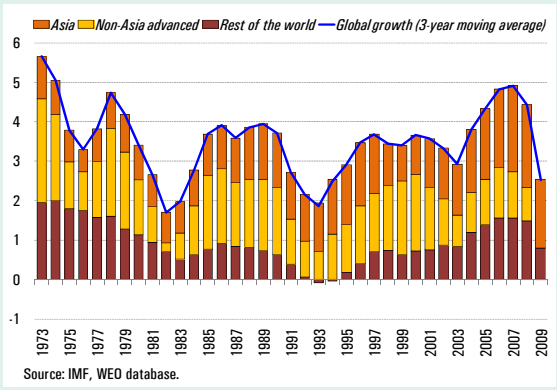



Sources: Haver Analytics; Bloomberg LP; and IMF, Global Data Source database; and staff calculations.

[1] The above figure is based on the four economic indicators, including industrial production, real retail sales, merchandise exports, and purchasing managers index (PMI). Some of the ratings—particularly for recent months—are based on both actual data as well as projections of the underlying variables.

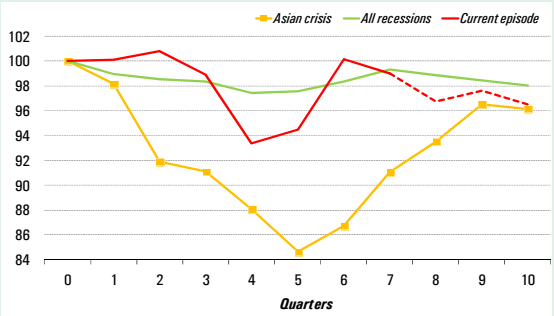
Note: The main authors of this chapter are Ashvin Ahuja, Roberto Cardarelli, Sonali Jain-Chandra, Malhar Nabar, Runchana Pongsaparn, and Olaf Unteroberdoerster.

**Figure 1.2. Contributions to Global Growth**
*(In percentage points)*



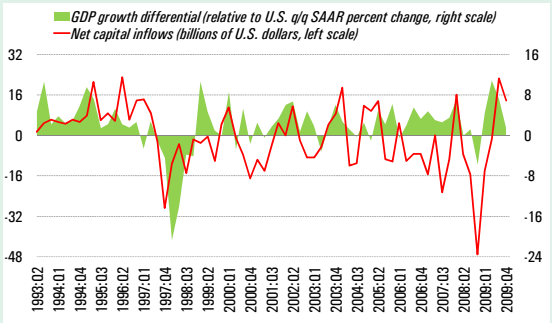

Source: IMF, WEO database.

**Figure 1.3. Asia: Domestic Demand Around Business Cycles[1]**
*(Median; peak of the cycles = 100)*




Source: IMF staff calculations.
[1] See May 2009 *Regional Economic Outlook* for details on business cycle episodes in Asia. Figure includes economies in recession.

**Figure 1.4. Selected Emerging Asia: Growth Differential vis-à-vis the United States versus Net Capital Inflows[1]**




Sources: CEIC Data Company Ltd.; and IMF, *Balance of Payments Statistics*.
[1] Includes Indonesia, Korea, the Philippines, Singapore, Taiwan Province of China, and Thailand. Other economies are not included due to non-availability of data for the entire sample period.

of the recovery in advanced economies outside the region has been weaker, held back by high unemployment rates, impaired household balance sheets, and anemic bank credit. At the start of 2010, the expansion of economic activity was still tentative in key advanced economies, such as Germany and the United Kingdom. Even where the expansion has gathered momentum, as in the United States, it remains sluggish relative to past recoveries and still heavily dependent on macroeconomic policy support (see the April 2010 *World Economic Outlook*). Among the advanced economies in the region, Australia and New Zealand experienced only a mild slowdown in economic activity (Australia escaped the recession altogether) and are recovering rapidly in part due to strong demand from China.

Asia's faster recovery seems to mark a break from the past. Supported by stronger potential growth in emerging Asia, GDP growth has exceeded that of advanced economies over the last three decades. However, the current episode stands out for at least three reasons. This is the first time Asia is leading a global recovery; in all previous global downturns (see April 2008 *World Economic Outlook*) Asia's contribution to global recovery was lower than that of other regions (Figure 1.2). Second, Asia's recovery in previous recessions generally was driven by exports (see May 2009 *Regional Economic Outlook*) but, this time, it also has been reinforced by resilient domestic demand (Figure 1.3). And, third, while in previous crises capital had been extremely slow to return to Asia, this time net capital inflows to the region have surged, a reflection of high levels of global liquidity, but also a testament to Asia's improved resilience and economic framework (Figure 1.4). Still, as argued in Chapter III of this report, Asia's fortunes remain closely linked to the global economy.

In the near term, Asia is expected to continue to lead the global recovery, but with important differences within the region:

- The global and domestic inventory cycle is likely to continue boosting Asia's industrial production and exports for most of 2010, due to stronger-than-expected prospects for final demand in advanced economies.

- Even with a partial withdrawal of policy stimulus, private domestic demand is expected to remain strong. With the recovery of economic activity becoming more entrenched, many governments are planning a gradual withdrawal of policy stimulus in 2010. Based on current budgetary plans, on average, about one-third of the fiscal stimulus injected in 2009 will be withdrawn in 2010. In addition, although some central banks have started removing policy accommodation, monetary policy is unlikely to fully normalize in 2010. At least over the near term, private domestic demand seems to have enough momentum to sustain growth in many regional economies while the effects of the policy stimulus gradually diminish.

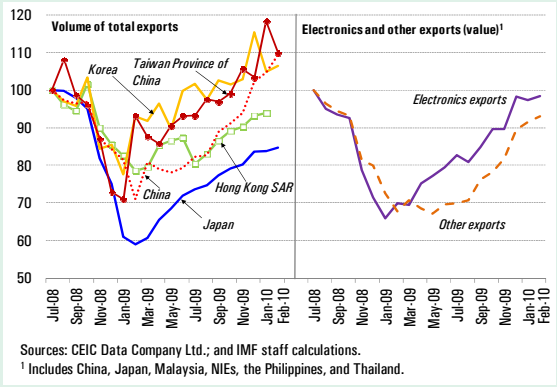
- The pace of the recovery will remain uneven within Asia. In China, growth is expected to return to double-digit figures in 2010, with private domestic demand boosted by measures to increase consumption and private investment. At the same time, the authorities have begun to stem the very rapid growth of credit to safeguard the quality of bank balance sheets. In Japan, private sector demand continues to face severe headwinds and inflation has fallen back into negative territory, requiring the authorities to reiterate their commitment to prolonged policy accommodation.

Somewhat paradoxically, Asia's stronger cyclical position may also pose near-term risks to the outlook—by further intensifying capital inflows to the region. Brighter economic growth prospects and widening interest rate differentials with advanced economies are likely to attract more capital into the region. This could lead to overheating in some economies and increase their vulnerability to credit and asset price booms with the risk of subsequent abrupt reversals (October 2007 *World Economic Outlook*). Although asset price increases in Asia so far have been generally contained, with only a few local exceptions, the increase in excess liquidity in many regional economies over the course of 2009 raises some concerns and policymakers will need to be attentive to safeguarding the macroeconomy and financial system against the build up of imbalances in local asset and housing markets.

Over the medium term, Asia's main policy challenge is to ensure that private domestic demand becomes a more prominent source of growth. Once the adjustment of inventories has run its course, Asia's exports to advanced economies are expected to moderate somewhat, as domestic demand in these economies is not expected to return to pre-crisis growth (see April 2010 *World Economic Outlook*). And China may provide only a partial offset to weaker demand from advanced economies, given the small size of China's import markets for consumer goods. The global crisis also has shown the importance for Asia of a second, domestic "engine of growth" available to smooth the impact of external shocks. This private domestic demand will need to be nurtured through more structural reforms, as discussed in Chapter III.

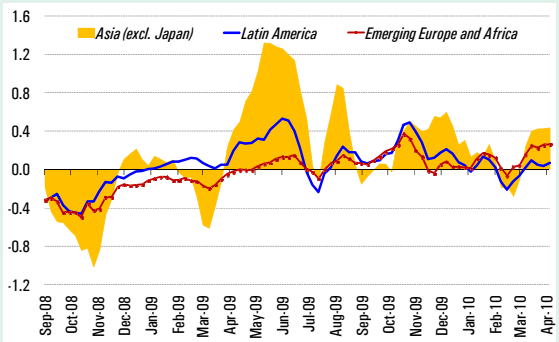
This chapter examines the outlook for Asia over the period 2010–11. The next section provides an overview of major trends in economic activity and financial market conditions since fall 2009. The following three sections then address some of the key questions on the regional outlook: How long will the inventory cycle last? What is the role of China in regional export trends? How strong is "autonomous" private domestic demand in Asia? What are the risks of asset-price bubbles in the region? Chapter II then presents the forecasts and risks to the outlook, and finally turns to the key policy challenges.

**Figure 1.5. Selected Asia: Exports**
*(July 2008 = 100; seasonally adjusted)*



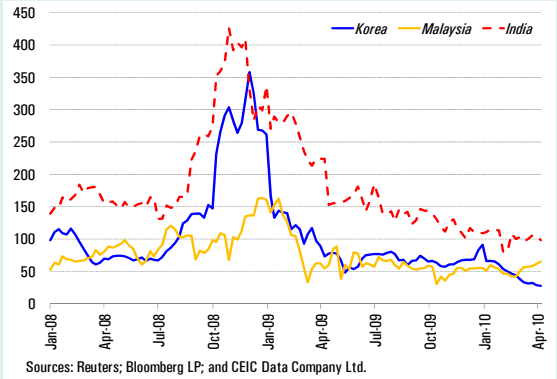

Sources: CEIC Data Company Ltd.; and IMF staff calculations.
[1] Includes China, Japan, Malaysia, NIEs, the Philippines, and Thailand.

**Figure 1.6. Net Flows to Equity Funds**
*(In billions of U.S. dollars; 4–week moving average)*




Source: Emerging Portfolio Fund Research, Inc.

**Figure 1.7. Selected Asia: Corporate Bond (AAA) Spread over Government Securities**
*(In basis points; 5–year maturity)*




Sources: Reuters; Bloomberg LP; and CEIC Data Company Ltd.

## B. Recent Developments

The rebound of Asia's exports has continued at a brisk pace since fall 2009, and export volumes have now returned to pre-crisis levels in newly industrialized economies (NIEs) and China (Figure 1.5). Electronics exports, which comprise about one-third of total exports and rebounded first in 2009, are still growing briskly boosted by the rebuilding of inventories through the supply chain in Asia. But nonelectronics exports also have accelerated since the second half of 2009, as the global recovery gathered momentum. Indeed, exports to both advanced economies (in particular the United States) and China have picked up momentum (on a sequential basis) in recent months.

Financial conditions have remained highly supportive of growth:

- Equity inflows have resumed at a stronger pace in Asia than in other emerging markets, reflecting Asia's brighter growth prospects and healthier fiscal balances. The spike in global risk aversion in early 2010—following worries about the deterioration in sentiment toward the euro area sovereign credit—induced a slowdown in portfolio inflows to the region, but flows have recovered rapidly in recent months (Figure 1.6). In particular, foreign buying in regional bond markets has continued to increase rapidly through 2010 against the backdrop of relatively attractive yields and the region's strong economic fundamentals.

- With corporate spreads declining (Figure 1.7), Asian firms had a strong incentive to increasingly tap domestic bond markets. Corporate issuances also provided a partial substitute for bank lending, which remained generally anemic through the region—though only for larger firms, as small- and medium-sized enterprises (SMEs) remain dependent on bank lending.

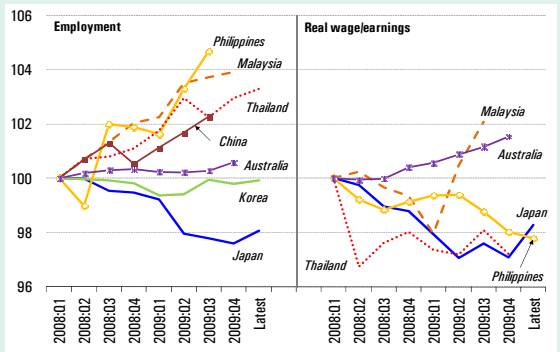
With the continuation of capital inflows and the rebound in exports, exchange rates in the region generally have appreciated further since fall 2009. In particular, currencies have appreciated another 5 percent against the U.S. dollar in Indonesia, Korea, and the Philippines. The renminbi, however, has effectively remained pegged to the U.S. dollar. In real effective terms the appreciation is smaller, with many currencies close to their early 2008 levels, and the Korean won still about 20 percent below that level. The yen remains a notable exception, as it is up about 20 percent since early 2008 both against the U.S. dollar and in real effective terms, while the renminbi is 5 percent weaker than in March 2009 (see Box 1.1) in real effective terms.

Strong exports and easier financial conditions have continued to boost confidence and consumer spending, but business spending has started to recover only recently. Private consumption also benefited from a continued improvement in labor market conditions over the last two quarters, with both real wages and employment growth improving in many Association of Southeast Asian (ASEAN) economies and in China (Figure 1.8). Business spending has started to pick up in Korea and Thailand, as uncertainty over future prospects is dissipating and capacity utilization returns to more normal levels (Figure 1.9).

With growth momentum remaining strong, a few signs of inflationary pressures have also started to emerge. While it remains generally subdued on an annual basis, headline inflation has accelerated on a sequential basis. This partly reflects a recent pick-up in food prices, which remain highly volatile, but also more generalized price pressures from stronger domestic demand, as shown by the pick-up in core inflation, especially in India (Figure 1.10).

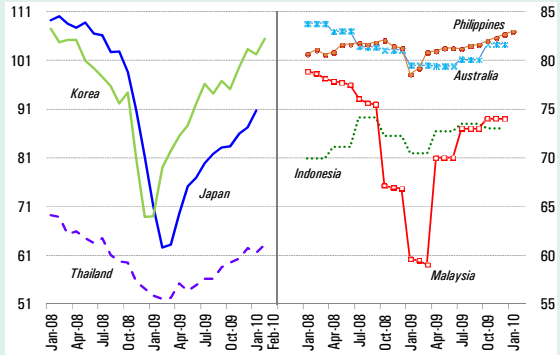
Within this overall recovery, key differences persist across the region. The more export-oriented economies in emerging Asia came out of the recession by the last quarter of 2009—

**Figure 1.8. Selected Asia: Labor Market Conditions**
*(2008:Q1 = 100; seasonally adjusted)*



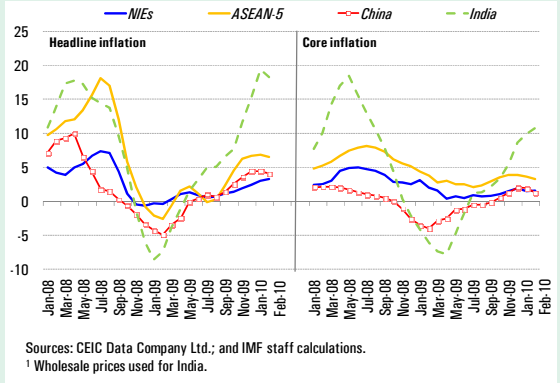

Sources: CEIC Data Company Ltd.; and Haver Analytics.

**Figure 1.9. Selected Asia: Manufacturing Capacity Utilization**
*(In percent; seasonally adjusted)*




Sources: CEIC Data Company Ltd.; and Haver Analytics.

**Figure 1.10. Emerging Asia: Consumer Prices[1]**
*(3–month percent change of 3–month moving average; SAAR)*




Sources: CEIC Data Company Ltd.; and IMF staff calculations.
[1] Wholesale prices used for India.

## Box 1.1. Recent Exchange-Rate Developments in Asia

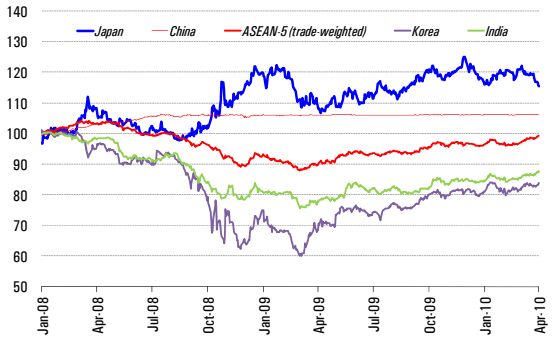
Thus far in 2010, Asian nominal exchange rates have continued on their 2009 upward trend against the U.S. dollar. The Korean won and ASEAN currencies have appreciated owing to the weakness of the U.S. dollar. By contrast, the renminbi has remained effectively pegged to the U.S. dollar, motivated by the authorities' desire to maintain stability during times of heightened global uncertainty. The yen rose to a 14-year high at the end of November 2009, but since has depreciated by around 8 percent partly reflecting lower short-term rates in Japan.

In real effective terms, many regional currencies have moved back closer toward their early 2008 levels. The Japanese yen, however, has appreciated considerably since early 2008. The yen has been among the strongest performing currencies during the global crisis, appreciating by 20 percent since the Lehman Brothers shock as a result of several factors, such as greater global risk aversion (which traditionally favors reserve currencies) and the unwinding of carry trades with the decline in global interest rates. The Korean won, on the other hand, has lost about 20 percent since early 2008, despite reversing much of the losses sustained in the aftermath of the collapse of Lehman Brothers.

Upward pressures on regional currencies were much stronger than implied by exchange rate movements. Indeed, most of the recent appreciation pressures have been absorbed through further reserve accumulation. In 2009, Asian economies accumulated about US$800 billion in official reserves, bringing the stock to some US$5.2 trillion—more than twice the sum of foreign reserves in other emerging markets. About half of this overall amount, however, is accounted for by China.

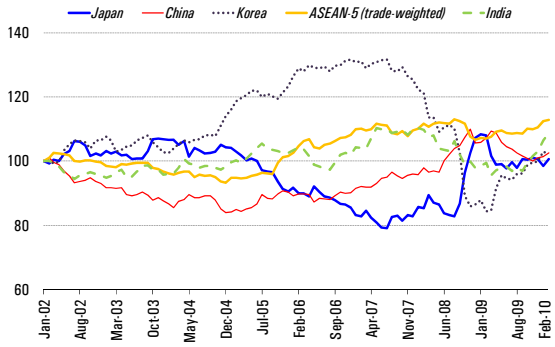
The renminbi appreciated in real effective terms as the global crisis unfolded and the U.S. dollar strengthened, but has depreciated by 5 percent over the past 12 months. The currency is now at around

**Selected Asia: Nominal Exchange Rates Against U.S. Dollar**
*(January 2008 = 100; positive change implies appreciation)*



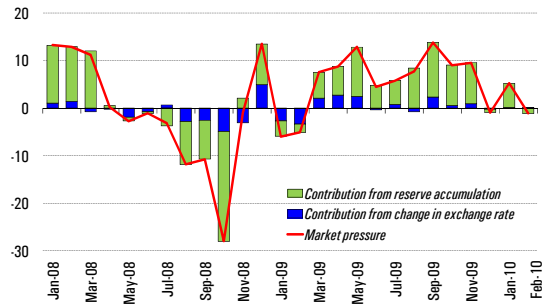

Sources: Bloomberg LP; and IMF staff calculations.

**Selected Asia: Real Effective Exchange Rate (REER)**
*(January 2002 = 100)*




Source: IMF, Information Notice System database.

**Emerging Asia (excl. China): Exchange Market Pressure[1]**
*(Index)*




Source: IMF staff calculations.
[1] The exchange market pressure (EMP) index is defined as: change in nominal exchange rate vis-à-vis U.S. dollar plus ratio of change in international reserves to monetary base.

Note: The main author of this box is Olaf Unteroberdoerster.

the level it reached in early 2002, despite significant productivity gains over the intervening period. Although significant uncertainty surrounds any particular point estimate, a range of indicators suggests that the renminbi remains undervalued. The current account surplus diminished from 11 percent in 2007 to less than 6 percent in 2009 as external demand collapsed, but under current policies, it is projected to reassert itself over the medium term as the global economy recovers. Despite the cyclical decline in the current account surplus, the pace of reserve accumulation has been at record levels, with around US$450 billion added to reserves in 2009.

Over the medium term, currencies in the region are expected to strengthen further. The strong export-led recovery from the global crisis is projected to carry on for the rest of 2010, and foreign capital will likely continue to flow into the region. As discussed in the text, further appreciation of regional currencies would be consistent with the need to safeguard Asian economies against the threat to price and financial stability from the rapid return to potential output levels and the persistence of large capital inflows.

and output is now at or above pre-crisis peaks in all of these economies, except Hong Kong SAR. The economies that escaped recession altogether in 2009, such as Australia, China, India, and Indonesia, have continued to enjoy solid growth. However, the pace and nature of recovery have differed within the region (Figure 1.11):

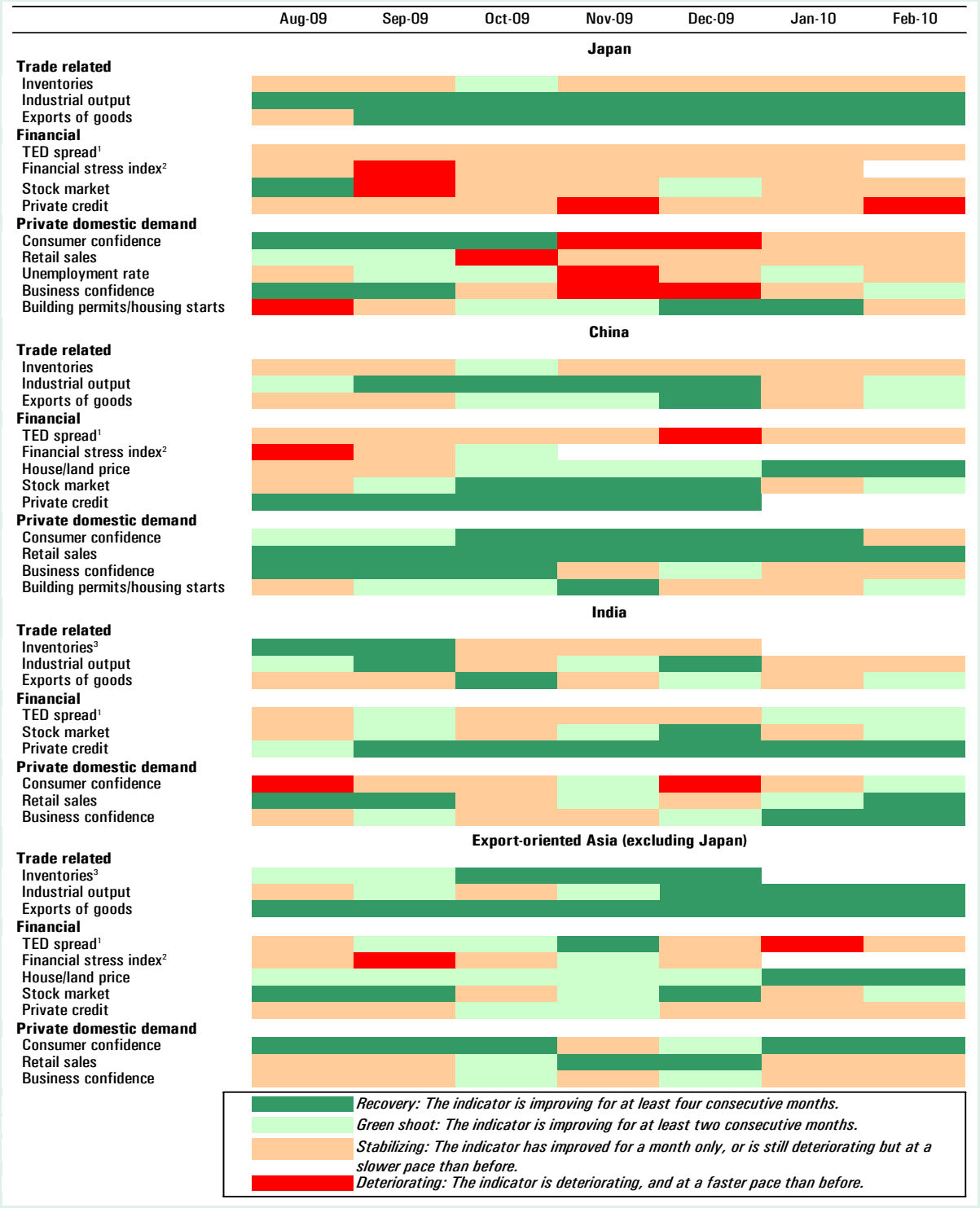
- *Japan*: While the rebound in exports has accelerated over the last two quarters, this has not yet spilled over to domestic demand. Private consumption has been supported by the sizeable fiscal stimulus, but still-ample excess capacity and tight financial conditions for SMEs have weighed down investment (see Box 1.2). Financial markets have stabilized, in line with global developments, but the stock market's rebound (by around 40 percent since the end of 2008) has lagged that in the rest of the region, partly a consequence of the yen's appreciation and weakness in bank shares. Despite capital markets normalizing, bank lending has slowed, mainly because of weak loan demand.

- *China*'s economy has continued to strengthen since fall 2009, with growth becoming more broad-based. Exports accelerated towards the end of 2009 and now exceed pre-crisis levels in volume terms, consistent with expanding industrial output. Meanwhile, private domestic demand has strengthened further, as evidenced by the above-trend growth in retail sales and more buoyant consumer confidence, which both reflect recent improvements in labor markets and continued fiscal support to household income and consumption.[1] Indeed, the stronger-than-expected GDP outturn in the first quarter of 2010 (with growth at the fastest pace since 2007) reflected a strong contribution from consumption. Moreover, while government-led investment has been the main driver of growth for much of 2009, real estate investment rose rapidly in the second half of 2009, boosted by rising house prices in many cities, and still ample credit and liquidity.

- In *India*, the strong growth momentum continued over the last two quarters, as industrial production and export growth gained further strength, while private domestic demand conditions remained very buoyant. Business and consumer confidence, in particular, have continued to improve, and financial conditions have remained favorable since fall 2009—TED spreads have fallen relatively more than in the rest of Asia, credit growth has picked up, and equity prices have remained elevated. As a result, retail sales and business spending have picked up strongly.

[1] In particular, subsidies were provided for purchases of goods and transportation vehicles in rural areas; payments to the poor and elderly were increased; subsidies for health insurance were expanded and a new healthcare reform was rolled out; taxation of labor was reduced; pension coverage and portability were improved; and policies were put in place to discourage layoffs.

**Figure 1.11. Asia: Growth Momentum**




Sources: CEIC Data Company Ltd.; Thompson Datastream; Haver Analytics; and IMF staff calculations.

[1] Three-month (or short-term) money market rate minus equivalent T-bill rate.

[2] See Balakrishnan and others (2009). The index comprises seven variables capturing developments in the banking sector, the securities markets, and the foreign exchange markets.

[3] Based on quarterly data.

## Box 1.2. What is the Outlook for Japan's Domestic Demand?

In Japan, investment activity has fallen by more than 15 percent since late 2008, about 1½ times more than in other advanced regions. Similarly, private consumption declined at a faster pace than in comparator countries, although the gap has narrowed since mid-2009. This box assesses reasons why domestic demand has not recovered to the same extent as in other countries in the region.

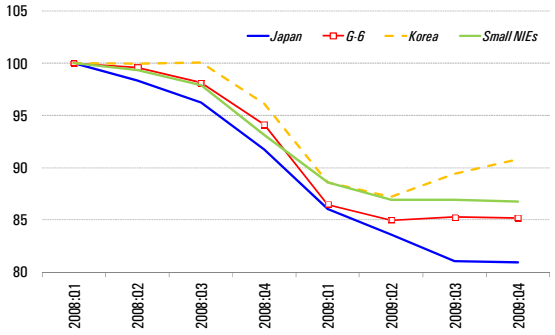
The absence of an autonomous domestic demand recovery in Japan is primarily the result of unfavorable external conditions during the rebound phase. In particular

- The yen appreciated by 17 percent in real effective terms between September 2008 and January of 2009, the largest appreciation among advanced economies. The initial drivers were safe-haven capital inflows, since Japanese banks appeared largely insulated from the financial strains afflicting U.S. and European financial institutions. The unwinding of yen-carry trade positions led to a further strengthening of the yen, as interest rate differentials with U.S. dollars and the euro declined to an all-time low.
- In 2009, Japan's main trading partner demand grew by 1⅓ percent compared to 2–5 percent in Asia's NIEs (Hong Kong SAR, Korea, Singapore, and Taiwan Province of China). This is mainly the result of a lower export share with China and developing Asia (about 26 percent in Japan compared to 32–55 percent in the NIEs in 2007) going into the crisis, reflecting Japan's export orientation towards high-end consumer products.[1]

These two factors had a large impact on exports. Relative to other economies in Asia, Japan experienced the largest decline in exports and also

**Real Gross Investment[1]**

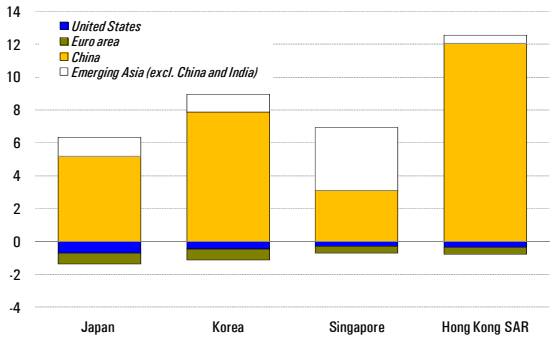
*(2008:Q1 = 100)*




Source: IMF staff calculations.
[1] Small NIEs include Hong Kong SAR, Singapore, and Taiwan Province of China.

**Change in Export Demand from Main Export Partners**

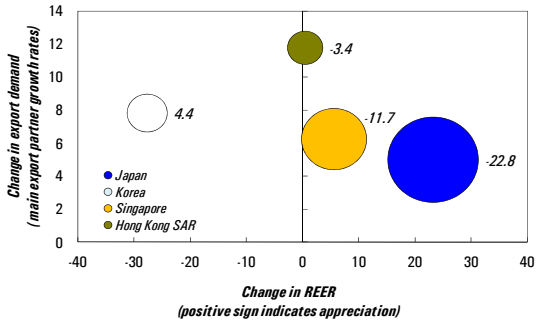
*(2007–2009)*




Source: IMF staff calculations.

**Impact on Export Volume**

*(2007–2009, in percent; size of bubble indicated below implies actual change in export volume)*




Source: IMF staff calculations.

---

Note: The main authors of this box are Pelin Berkmen and Stephan Danninger.

[1] Japan's share of advanced manufacturing products such as cars, IT, and machinery account for a larger share of production than in other G-7 economies (Sommer, 2009), Japan's main export partners are the United States, the euro area, China, and developing Asia excluding India and China, which account for more than 50 percent of the total exports of Japan.

## Box 1.2. *(concluded)*

the least favorable exchange rate and external demand developments. In contrast, Korea underwent a large depreciation and actually recorded positive export growth in 2009.

Against this backdrop, the absence of a domestic demand response in Japan is not entirely unexpected. The current 1-year lag between the start of Japan's export and investment recovery is within historical standards, as in previous episodes of synchronized recessions (1992 exchange rate mechanism (ERM) crisis and 2000–01 recession). Total investment began to recover after 4½ quarters and machinery and equipment investment after 2½ quarters.

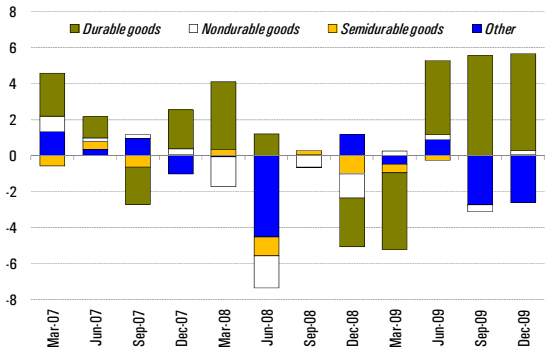
Looking ahead, several factors will likely limit the recovery of domestic demand:

- *Deflation.* Core inflation has fallen rapidly since the beginning of the crisis and is currently in negative territory. By raising real borrowing rates, deflation will weaken the investment recovery. Prolonged deflation would also hamper bank lending, as rising real liabilities of borrowers weigh on repayment abilities.

- *A precarious fiscal situation.* Japan's high fiscal deficit and net public debt (over 10 percent and 105 percent of GDP, respectively, in 2009) may raise concerns about fiscal sustainability, and the anticipation of a sizeable fiscal adjustment in coming years could weigh on the recovery.

- *Low potential growth and a weak labor market.* Japan's potential growth rate is projected to fall from about 1½ percent in 2007 to around 1 percent over the medium term, led by a shrinking labor force and slower capital accumulation dampening the cyclical rebound. Low productivity growth in the domestic service sector (covering 70 percent of overall employment) would slow labor market recovery. Underlying consumption growth—excluding durables—was weak through 2009 and may be further constrained by the likely termination of fiscal stimulus directed at durables in the second half of 2010.

**Japan: Contributions to Final Domestic Consumption Growth**
*(Quarter–on–quarter, in percentage points; SAAR)*




Source: IMF staff calculations.

A broadening of the export-led recovery will depend crucially on whether Japan can rein in deflation and chart a path back to fiscal sustainability and economic growth. Sustained monetary policy accommodation will be key to keeping deflation in check, but a broader macroeconomic policy program would move the economy onto a more vigorous growth path. The main elements are the design of and commitment to a credible medium-term fiscal adjustment path, and the adoption of a comprehensive structural reform program, with supply- and demand-side measures.

Economic recovery in Asian low-income countries (LICs) has proceeded at a slower pace than in emerging Asia, as these economies generally were affected less by the global financial crisis, but also reflecting structural fragilities (see Box A1). The global economic crisis has caused significant setbacks in many of the Pacific Island economies (see Box A2) as incomes there have suffered from a series of factors including: falling remittances, job losses, and pressures on government wages and social and investment spending stemming from government revenue shortfalls. The sharp fall in tourism receipts and in tourism-related investment has also hurt these economies, in particular the Maldives (see Box A3).

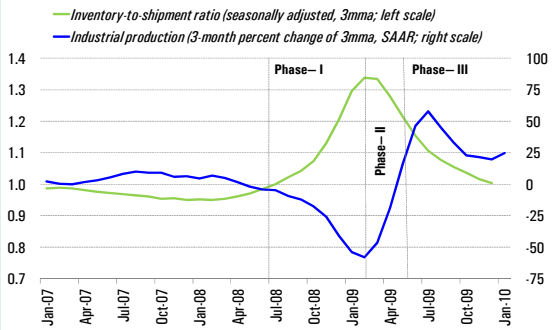
## C. Asia, the Inventory Cycle, and the Role of China

Three factors seem to have played a key role in driving Asia's exports since early 2009, and these also may affect the outlook for exports in the near term. The first is the start of a global and domestic inventory cycle of high-technology manufacturing goods, where many Asian economies have built a strong comparative advantage, such as electronics. The second is the strength of China's final domestic demand during the crisis. And the third is the ability of Asian exporters to increase market shares even through the global downturn.

### Asia and the Inventory Cycle: How Long Will It Last?

Inventory adjustments have substantially amplified Asia's industrial production and export cycle. This cycle typically consists of three stages. When the recession begins, inventories increase as the drop in shipments exceeds that of production, inducing firms to cut production even more to run down stocks—this helps to explain the sharp decline in industrial production in Asia during the latter part of 2008 and early 2009 (Figure 1.12). When the worst of the crisis is over, and demand begins to recover, firms boost industrial production to prevent inventories from falling further—this helps to explain the sharp rebound of Asia's industrial production over the course of 2009, with inventories still declining but at a slower pace. Finally, as final demand regains traction, the need to rebuild inventories sustains, for some time, a higher level of industrial production than warranted by final sales.

**Figure 1.12. Selected Asia: Industrial Production and Inventory Cycle[1]**

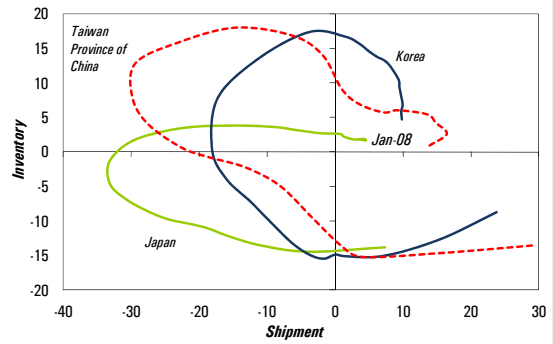



Sources: CEIC Data Company Ltd.; Haver Analytics; and IMF staff calculations.
[1] Includes Japan, Korea, and Taiwan Province of China.

Regression estimates confirm that inventory adjustments tend to feed quickly into industrial production in Asia. In particular, these estimates show that, for every percentage point the inventory-to-shipment ratio deviates from trend, Asian industrial production growth rises or falls by about 0.1 percentage points the following month. This suggests that the inventory cycle may have contributed about one-fourth of the overall rebound of industrial production in Korea since its trough in 2009. GDP releases in the second and third quarters of 2009 show that inventories have indeed started to contribute to growth across a broad range of regional economies (including Australia, Korea, and ASEAN economies), likely reflecting the slowdown in the rate of depletion of inventories and, more recently, the rebuilding of stocks.

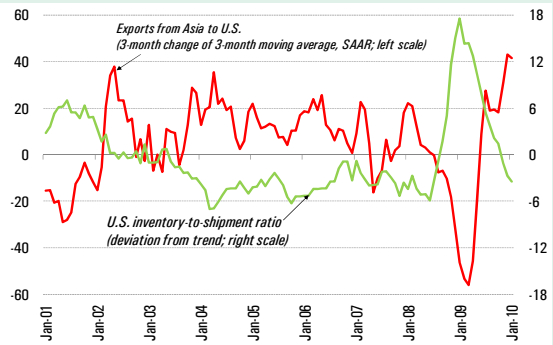
How long can the domestic inventory cycle last? The "inventory clock"—a four-quadrant chart that illustrates both inventories and the dynamics

**Figure 1.13. Selected Asia: Inventory and Shipments**
*(Since January 2008; 3–month moving average of year–on–year percent change, seasonally adjusted)*



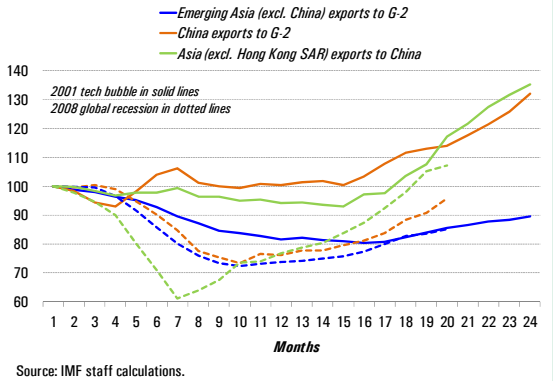

Sources: CEIC Data Company Ltd.; and Haver Analytics.

**Figure 1.14. Asia's Exports to the United States and Inventory Cycle in the United States**
*(In percent)*




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

**Figure 1.15. Asia: Export Links**
*(3–month moving average; pre–downturn peak = 100)*




Source: IMF staff calculations.

of shipments—suggests that Asia's inventory cycle may be far from over. In Korea and Taiwan Province of China, shipments started growing again (on a year-over-year basis) at the end of 2009, but inventories are still somewhat depleted, which means that further restocking is on its way (Figure 1.13). In Japan, aggressive destocking appears to have ended in late 2009, but both manufacturing shipments and inventories are still significantly below trend. Assuming that the cycle will continue at the same speed as in 2009, it will take between two and four quarters for these economies to return to the initial position.

Given Asia's dependence on external demand, the adjustment of inventories abroad also matters. In particular, cyclical variations of U.S. inventories (measured by deviations from trend of the inventory-to-shipment ratio) have generally had a powerful amplifying effect on Asian exports to the United States (Figure 1.14). Staff estimates suggest that, for every percentage point that the U.S. inventory-to-shipment ratio falls below trend, exports from Asia to the United States rise by about 1½ percentage points in the following quarter. With the inventory-to-shipment ratio in the United States running about 5 percent below trend in the first quarter of 2010, inventory adjustments there could add some 7 percentage points to sequential growth of Asia's exports in the second quarter of 2010. Indeed, while the ratio of U.S. imports to retail sales for electronics appeared to plateau at about 10 percent below the long-term pre-crisis average in the fall of 2009, the ratio started rising again towards the end of the year, consistent with further replenishment of information technology (IT) inventories in the United States.

## The Role of China

China's impact on the regional export cycle appears to have changed relative to previous downturns (Figure 1.15).

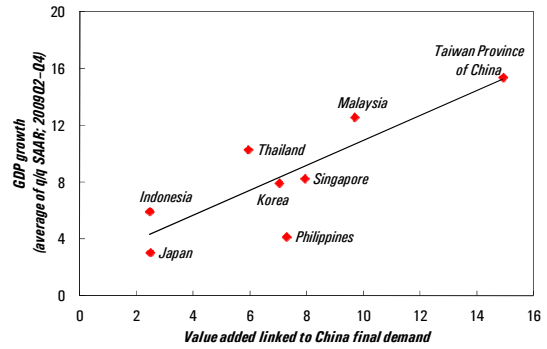
- Exports to the United States and the euro area (G-2) from China and the rest of Asia have declined in tandem during the recent global

crisis, in contrast to the 2001 recession, when China's exports to the G-2 were largely unaffected. The early 2000s marked the beginning of China's rapid integration in Asia's global supply chain and, thus, its growing share in the region's final goods exports. With this process well advanced by the time of this global recession, Asia as a whole is even more coupled to cycles in advanced economies than in the early 2000s. The upshot is that both Chinese and Asian exports are now recovering together.

- While Asia's exports to China fell deeper and faster than China's exports to the G-2 at the beginning of the crisis, during the recovery phase Asia's exports to China have risen about three times faster than China's exports to advanced economies (Figure 1.15). This may reflect that at least part of China's imports from the rest of the region have served China's final domestic demand. Indeed, value-added trade flows—which avoid counting intermediate goods going into Chinese reexports as exports to China—suggest that Asian economies with a larger exposure to China's *final demand* (as opposed to demand from China's *export sector*) have experienced a stronger recovery since the second quarter of 2009 (Figure 1.16).

Consistent with China's dual role as regional trade hub and source of final demand, imports of both intermediary and final goods have increased in recent months. Initially in 2009, China's imports were concentrated on intermediary goods and commodities. Strong commodity imports reflected China's increased final demand, largely related to the infrastructure projects initiated in 2009. But they also may have reflected stockpiling of commodities, both in anticipation of future projects or as a store of value—as suggested by the increasing gap between iron ore imports and domestic steel production. However, imports of final consumer and investment goods also have picked up over the course of 2009 and into early 2010. While, to a large extent, these goods consist

**Figure 1.16 Selected Asia: GDP Growth and Value Added Linked to China Final Demand**
*(In percent)*

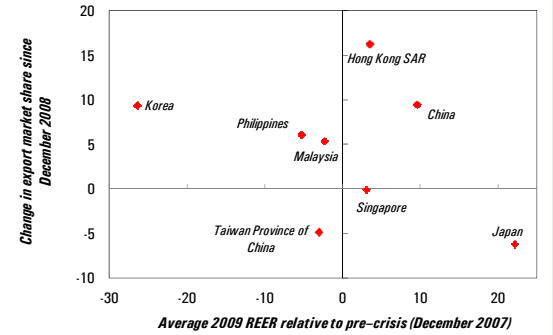



Source: IMF staff estimates.

of machinery used for further processing, and thus ultimately are tied to final demand from outside the region, they also partly consist of consumer electronics, such as telecoms and motor vehicles.

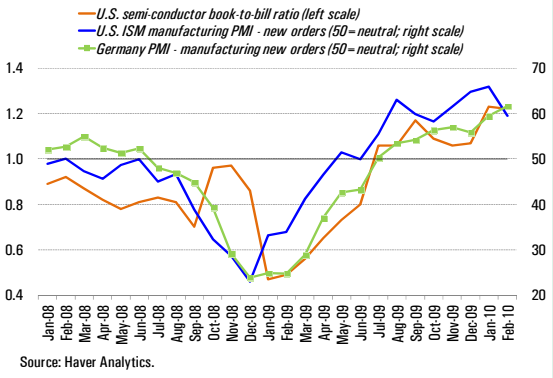
While China's strong growth cannot offset the decline in demand from advanced economies—it remains a relatively small importer of consumer goods—it will benefit some of Asia's exporters. Given the large size of China's imports of raw materials (about one-sixth of the world total), the resilience of China's final demand will remain key for commodity exporters, both in the region (Australia, Indonesia, and Malaysia) and outside. But, it is likely to matter only at the margin for many other regional economies. As noted in the October 2009 *Regional Economic Outlook*, despite recording above-average import growth rates over the last 15 years, China's imports of consumer goods still accounted for only 3 percent of global imports in 2008. However, the recent crisis suggests that emerging Asian economies are well positioned for a rotation of domestic demand from advanced economies to China and other emerging markets. For example, Korea's exports of consumer goods to China have risen from an average 10 percent of its exports to the United States in the mid-1990s to an average of 60 percent during 2006–08. For capital goods, China is already a much larger market for Korea than the United States, receiving more than twice as many exports.

**Figure 1.17. Selected Asia: Change in REER and World Export Market Shares**
*(In percent)*




Sources: IMF, *Direction of Trade Statistics*; and staff calculations.

**Figure 1.18. Asia's Exports: Forward-Looking Indicators**




Source: Haver Analytics.

### Gains in Market Shares

For most economies in the region, the rebound of exports in 2009 also reflected an increase in market shares. What has been driving these results? Part of the explanation may be the ability of Asia's exporters to respond to challenging market conditions by increasing the price competitiveness of their products, expanding the variety of goods exported, and entering new markets (for example, China). This, in turn, has been made possible both by Asia's superior productivity and by still relatively weaker exchange rates than in other regions, which have allowed Asian exporters to cushion the impact on (domestic currency) profits from a reduction in foreign currency prices. Indeed, there seems to be a negative relationship between changes in export market shares in 2009 and changes in REER over the last two years (Figure 1.17).

While the near-term outlook for Asia's exports remains encouraging, export growth should moderate once the inventory cycle has normalized. The inventory cycle is expected to boost production for most of 2010, as final demand in advanced economies will continue recovering and both domestic producers and U.S. importers continue to rebuild their depleted stocks. This is also consistent with key forward-looking indicators of Asia's exports, such as the U.S. book-to-bill ratio and U.S. PMI new orders (Figure 1.18). But, with household saving expected to increase, and investment plans hindered by scarce credit and excess capacity, the recovery of domestic demand in advanced economies is expected to proceed at a relatively sluggish pace over the next two years. As a result, Asia's exports are likely to grow at a somewhat more moderate pace in 2011.

## D. Transitioning from Public to Private Domestic Demand?

A key dimension of Asia's outlook is, therefore, the extent to which private domestic demand will remain resilient as policy stimulus is gradually withdrawn.

Public sector demand has played a large role in the resilience of domestic demand in Asia. Staff estimates based on the IMF Global Integrated Monetary and Fiscal (GIMF) model show that the overall impact on growth in the region of the fiscal packages implemented last year averaged about 1¾ percentage points (Figure 1.19). But the growth impact ranges from about ½ percentage points in the highly open emerging Asian economies (ASEAN-4, Hong Kong SAR, and Singapore), to over 2 percentage points in China, where the fiscal packages focused on high-multiplier infrastructure spending. Interestingly, when spill-over effects from stimulus measures in countries outside Asia are also taken into account, the average impact on Asia increases to about

3½ percentage points—reflecting Asia's high dependence on external demand.

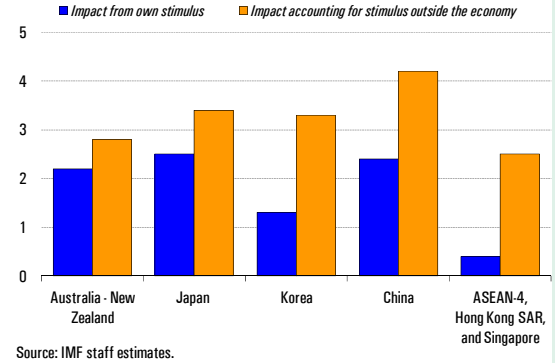
Private domestic demand also gained strength over the course of 2009. The composition of GDP growth from the national accounts shows that private domestic demand (excluding inventories) contributed about 40 percent to GDP growth in 2009 on average in Asia. While the aggregate result is largely driven by the economies with a larger domestic demand base, private domestic demand has still been more resilient in export-dependent Asia (excluding Japan) compared to the Asian crisis (Figure 1.20).

Fiscal measures contributed to the recovery of private consumption in Asia, both by providing direct incentives to consumption[2] and indirectly by supporting employment and disposable incomes.[3] Staff estimates based on a simple econometric model of private consumption in selected Asian economies suggest that fiscal policy may have contributed about one-fourth of the recovery of private consumption in these economies up to the third quarter of 2009 (Figure 1.21).

But "autonomous" private consumption also has strengthened. Two factors are estimated to have accounted for about one-half of the recovery of private consumption:

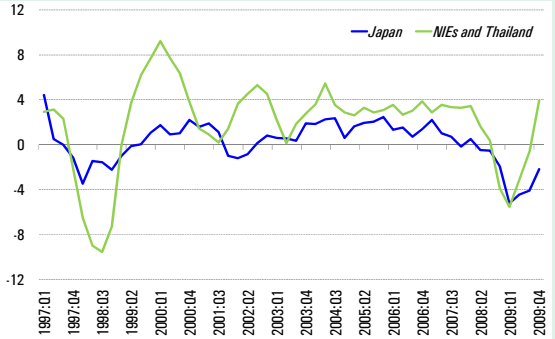
- *The rapid increase in asset prices.* Boosted by large capital inflows, higher equity prices have helped sustain consumer confidence and triggered wealth effects on consumption,

**Figure 1.19. Impact of Fiscal Stimulus on 2009 Real GDP**
*(Deviations from baseline in percentage points)*



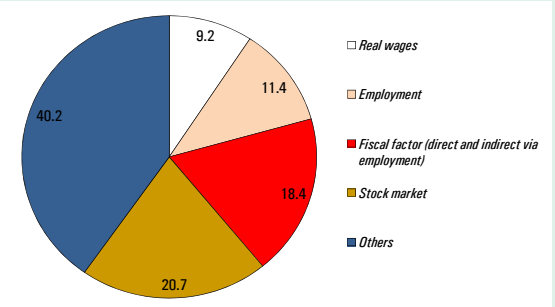

Source: IMF staff estimates.

**Figure 1.20. Selected Export-Oriented Asia: Contribution of Private Domestic Demand (excl. Inventories) to Growth**
*(Year–on–year; in percentage points)*




Source: IMF staff estimates.

**Figure 1.21 Contribution to Recovery of Private Consumption in Asia[1]**
*(From trough to 2009:Q3; in percent)*

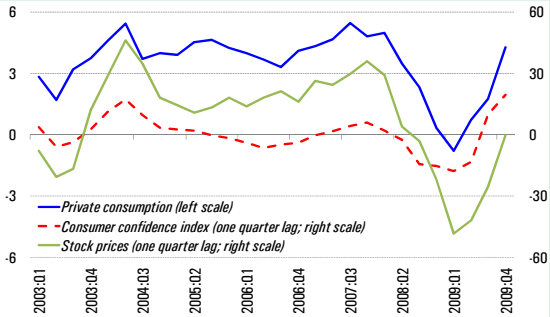



Source: IMF staff estimates.
[1] Estimated using a panel regression on data from Hong Kong SAR, Korea, Malaysia, the Philippines, Singapore, Taiwan Province of China, and Thailand.

[2] For example, through public services' subsidies in Thailand; fuel price subsidies in Malaysia; rural home appliance subsidies in China; and tax incentives for the purchase of motor vehicles or other durables in Korea, Japan, and Taiwan Province of China.

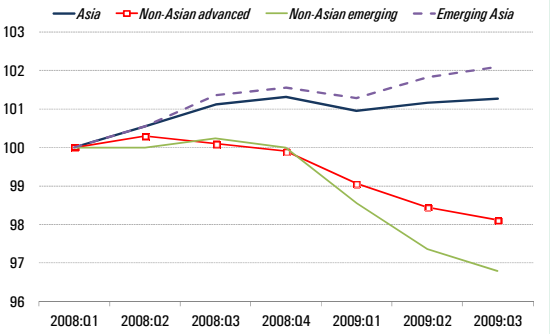
[3] For example, through cash transfers (Australia, Korea, Indonesia, and Thailand), income tax cuts (New Zealand), and subsidies to first-time home buyers (Australia), or through measures aimed at supporting employment levels (Hong Kong SAR, Japan, and Singapore).

**Figure 1.22. Selected Asia: Private Consumption, Consumer Confidence, and Stock Prices[1]**
*(Year–on–year percent change)*



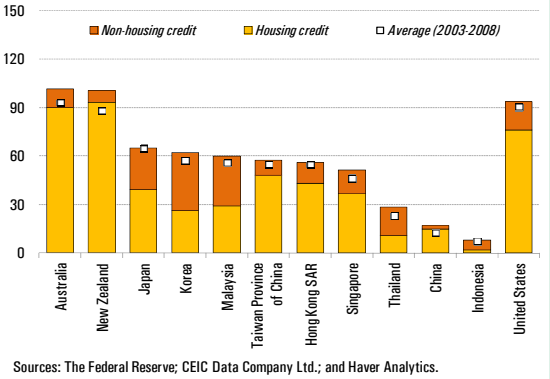

Sources: CEIC Data Company Ltd.; Haver Analytics; and Bloomberg LP.
[1] Includes Australia, Hong Kong SAR, Indonesia, Korea, Malaysia, Taiwan Province of China, and Thailand.

**Figure 1.23. Employment**
*(Index, 2008:Q1 = 100, seasonally adjusted; average across economies)*




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

**Figure 1.24. Household Credit, 2009**
*(In percent of GDP)*




Sources: The Federal Reserve; CEIC Data Company Ltd.; and Haver Analytics.

(Figure 1.22) especially in those economies where stock market capitalization is relatively high, such as in Korea.

- *The improvement in labor market conditions.* Employment levels in the region generally have been more resilient than in advanced economies and other emerging markets (Figure 1.23). Firms in Asia seem to have reacted to the fall in industrial production mainly by hoarding labor and reducing hours worked. With the worst of the crisis over, first hours worked, and then employment and wages, started to pick up, particularly in ASEAN economies. Japan remains a key exception, with few signs of employment picking up, and with wages still falling in nominal terms.

Accommodative monetary policy also contributed to consumption by easing overall financial conditions. Aggressive financial and credit policies have helped limit corporate bankruptcies and the impact of the crisis on employment levels, in contrast to the Asian crisis. The direct impact of lower interest rates on private consumption likely has varied across regional economies, partly as a function of differences in national financial systems. In particular, the effect likely has been stronger in those economies where households have greater access to credit, and thus have a higher debt burden, such as Industrial Asia, Korea, and Malaysia (Figure 1.24). Lower policy interest rates also have boosted equity valuations, which have supported consumption.

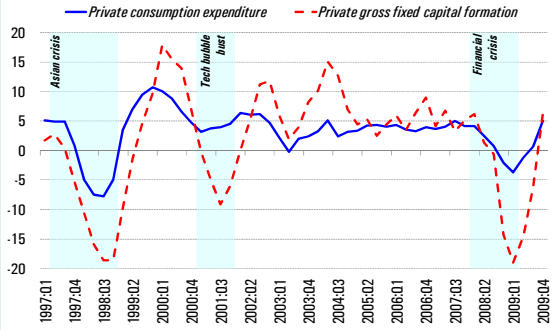
In contrast, private investment fell sharply in export-dependent Asia and only returned to positive territory (on a year-on-year growth basis) towards the end of 2009 (Figure 1.25). The sharp decline is consistent with the strong ties between investment and the tradable sectors in these economies (see May 2009 *Regional Economic Outlook*). As exports collapsed and capacity utilization tumbled, so did private investment, especially in Japan and Korea. With exports

recovering sharply and capacity utilization returning to more normal levels, the investment cycle has began to turn, driven by renewed spending on machinery and equipment in high value-added manufacturing sectors (e.g., automobiles in Korea and semiconductors in Taiwan Province of China). Even in China, investment in the manufacturing sector accelerated in the second half of 2009, though the bulk of the increase in private sector investment has been in the real estate sector (Box 1.3).

This turn in the investment cycle has been helped by a decline in the cost of capital, and took place despite bank credit remaining generally anemic in most of Asia—with the exception of China.

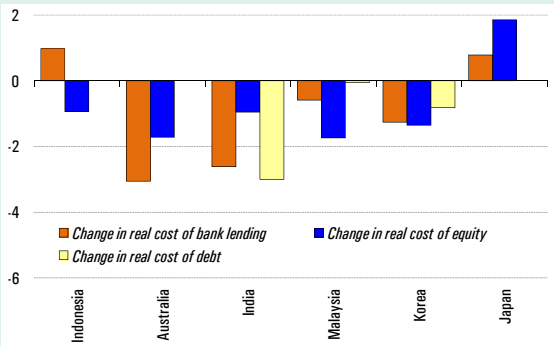
- The cost of capital declined during the course of 2009, freeing up resources for investment (Figure 1.26).[4] Bank lending rates and corporate bond rates have declined following aggressive reductions in central bank policy rates, and remain at much lower levels than before the crisis. The strong increase in equity valuations further reduced the cost of capital. This is in stark contrast with the Asian crisis, when the sudden stop in capital inflows and the associated problems in the banking sector across the region implied very substantial increases in the effective cost of capital for firms, contributing to a further decline in investment. In a few economies, such as Indonesia, lower inflation rates in 2009 (on an annual basis) have partly offset the decline in nominal interest rates, and in Japan negative inflation has led to a marginal increase in the real cost of capital, though the level of financing costs remain low.

**Figure 1.25. Selected Asia: Private Domestic Demand[1]**
*(Year–on–year percent change)*




Sources: CEIC Data Company Ltd.; Haver Analytics; and IMF staff estimates.
[1] Includes NIEs and Thailand.

**Figure 1.26. Selected Asia: Change in Real Cost of Capital**
*(2009:Q4 vis–à–vis average of 2008:Q1 to 2008:Q3; in percentage points)*




Sources: I/B/E/S Inc.; Consensus Economics Inc.; and IMF staff calculations.

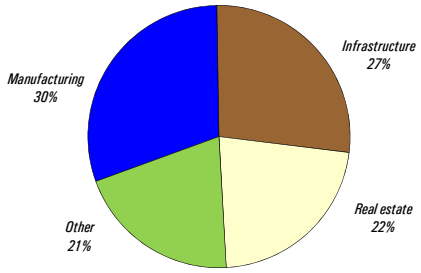
- While bank lending rates declined somewhat, bank credit to the corporate sector remained relatively flat in the second half of 2009 (Figure 1.27). This is another contrast with the recovery from the 2001 recession, when private investment and credit cycles turned almost in tandem in Asia. One possible explanation is that, somewhat like their Western peers, Asian banks have been more reluctant to lend than in previous recoveries, owing to uncertainty about the strength of the recovery and future financial regulation. Indeed, lending to the household sector has been expanding more strongly than to the corporate sector in several regional economies

[4] The real cost of bank lending is the difference between prime bank lending rates and 1-year-ahead inflation expectations from Consensus Economics. The real cost of debt is the difference between yields on AAA corporate bonds and the same inflation measures. The real cost of equity is defined using the same methodology as in the October 2008 *World Economic Outlook*.

## Box 1.3. China: An Extraordinary Investment Response in 2009

China's investment is large by any standard. In absolute terms, it is the largest in the world at US$2 trillion per annum, more than double that of Japan, and making up 18 percent of global capital formation. And, at 44 percent of output, China's investment is higher than anywhere else in the world and more than twice the average of the Organisation for Economic Cooperation and Development (OECD) economies. Real estate, manufacturing, and infrastructure investment each account for roughly a quarter of total investment in China.

**China: Share in Fixed Asset Investment**




Source: IMF staff calculations.

In 2009, China's investment grew at an unprecedented pace—20 percent, double the annual average of the last three decades. And it contributed an unprecedented 8 percentage points to GDP growth.

Investment during 2009 showed four key characteristics:[1]

- Infrastructure investment led the surge in investment, growing at an extraordinary 44 percent. The central government more than doubled its investment expenditure, and local governments brought forward a number of infrastructure projects that had been on the drawing board for a long time. This infrastructure expansion was largely financed by central government bonds and bank credit.

- At the start of 2009, real estate investment was in the doldrums but recovered steadily during the year. This was facilitated by the government reversing course on a number of policies designed to cool the real estate market, including changes to minimum down payments.

- Investment in the manufacturing sector increased by 30 percent, matching the average growth rate of the last five years, despite a precipitous fall in exports.

- By contrast, investment in services remained low. The service sector, excluding utilities, transportation, and real estate, which comprises approximately one-third of output, was the destination for only 12 percent of total investment.

While public and bank financing of investment increased during the year, other sources of financing remained dominant. State financing and bank loans for fixed asset investment surged by more than 50 percent, while foreign financing shrunk. Other sources, including retained earnings, continued to provide three-fourths of all financing for investment.

Total investment growth should remain strong this year but decline below the extraordinarily high level observed last year as the government takes steps to reach its targets for loan and money growth, which are significantly below last year's outcome. The government also intends to limit new starts in public sector projects.

---

Note: The main author of this box is Tarhan Feyzioglu.

[1] Based on urban fixed asset investment figures, which also include purchases of land, old equipment, and buildings.

Real estate investment should continue to increase rapidly this year as developers respond positively to government measures to increase the housing supply, especially at the lower-income level. However, it is far from clear whether these supply measures and measures announced so far to reduce speculative demand, will be sufficient to moderate real estate price increases.

In the coming years, investment growth will likely remain robust but with a transition away from public drivers and toward private sector-led capital formation. Real estate should continue its rapid pace of growth, driven by underlying forces of urbanization and the demand for housing as an alternative investment vehicle. This should support commodity and capital goods imports and build China's capacity in the production of tradable goods.

However, if investment remains oriented toward manufacturing goods catering to external demand, there is a significant risk that existing excess capacity problems, for example, in the production of steel and aluminum, will broaden to more sectors. This in turn will reduce profits, lower return on investment, and raise nonperforming loans (NPLs) in the banking system.

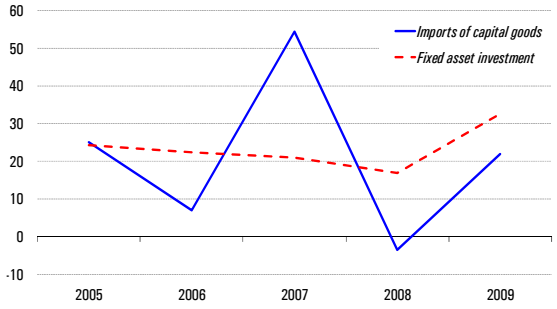
**China: Financing Fixed Asset Investment**

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|
| | (in percent of total) | | | | |
| State budget | 4.4 | 4.5 | 4.2 | 4.7 | 5.2 |
| Domestic loans | 18.8 | 18.5 | 16.9 | 15.7 | 17.2 |
| Foreign capital | 4.2 | 3.8 | 3.5 | 3.0 | 1.8 |
| Self raised | 54.4 | 55.6 | 57.0 | 62.2 | 58.5 |
| Other | 18.1 | 17.7 | 18.4 | 14.4 | 17.2 |
| | (growth in percent) | | | | |
| State budget | 32.9 | 28.9 | 19.1 | 35.7 | 53.7 |
| Domestic loans | 18.8 | 23.6 | 17.5 | 11.8 | 52.4 |
| Foreign capital | 25.9 | 13.2 | 19.0 | 2.7 | -15.6 |
| Self raised | 36.9 | 28.2 | 31.5 | 31.4 | 30.9 |
| Other | 19.4 | 22.7 | 33.2 | -5.6 | 66.7 |

Source: IMF staff calculations.

**China: Real Growth of Imports of Capital Goods and Fixed Asset Investments**

*(Year–on–year; in percent)*



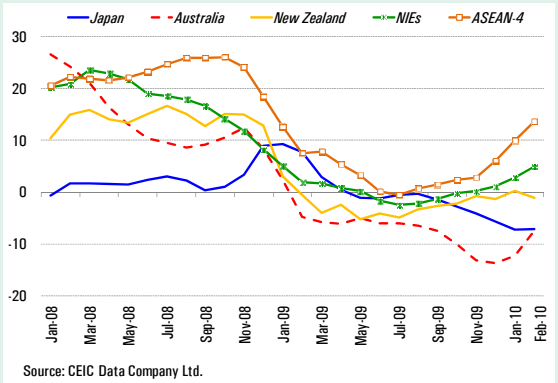

Source: CEIC Data Company Ltd.

(Figure 1.28), consistent with the low risk weighting placed on mortgage loans.

- The pick up of investment in the face of flat bank credit has two potential explanations, not mutually inconsistent. First, large firms entered the current crisis with strong balance sheets and ample cash reserves (Figure 1.29), and thus were able to fund investment through internally generated funds. Second, larger Asian corporates increasingly have tapped into capital markets for their funding needs. In particular, the revival of local currency bond issuance during 2009 indicates

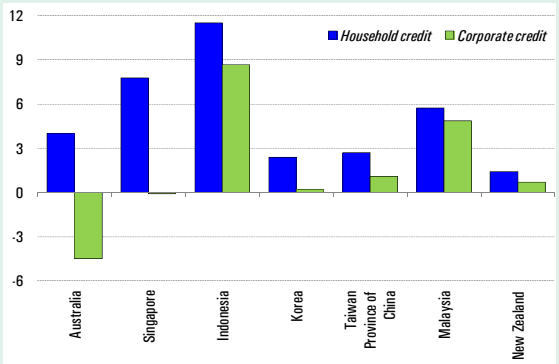
**Figure 1.27. Selected Asia: Bank Credit to Corporate Sector**

*(3–month percent change of 3–month moving average; SAAR)*



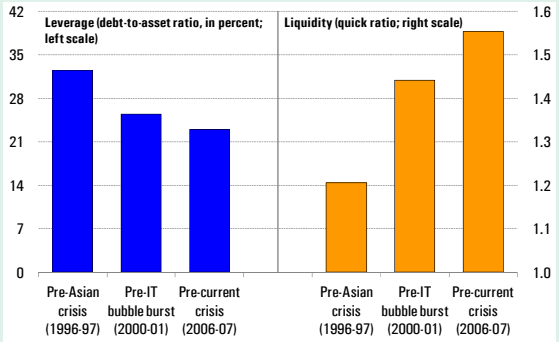

Source: CEIC Data Company Ltd.

**Figure 1.28. Selected Asia: Credit to Households and Corporations**
*(Change between June–December 2009; in percent)*



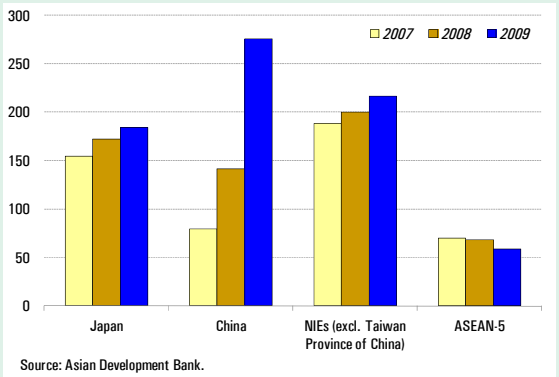

Source: CEIC Data Company Ltd.

**Figure 1.29. Asia: Corporate Balance Sheet**
*(2–year average prior to selected recessions)*




Source: IMF, Corporate Vulnerability Utility database.

**Figure 1.30. Selected Asia: Bond Issuance in Local Currency**
*(In billions of U.S. dollars)*




Source: Asian Development Bank.

that this segment of capital markets has more depth and capacity to absorb new issues than in the past (Figure 1.30). The relatively lower cost and longer-term maturity (usually at three–five years) of bond financing may have provided an incentive for large firms to turn to the corporate bond market—in order to secure relatively cheap, long-term financing for both working and longer term capital investment.

- China remains a notable exception to this story. Total new bank lending rose to about 30 percent of GDP in 2009 and funded infrastructure projects run by local governments (about one-half of the total), as well as other sectors of the economy, including manufacturing and real estate. Concerns over banks' asset quality and local government finances due to excessively rapid growth in new loans have led authorities to target a less expansionary credit policy for this year—overall credit growth for 2010 has been targeted at a lower rate (18 percent of GDP) than last year.

However, a more sustained pick up in investment will require a turn in the credit cycle, especially for SMEs. Unlike their counterparts in advanced economies, banks in Asia have remained well-capitalized and very liquid throughout the crisis—with the growth of nonperforming loans (NPLs) much lower than anticipated at the onset of the crisis. With uncertainties dissipating and macroprudential measures containing growth of mortgage loans going forward, bank credit to the corporate sector should pick up—indeed there are some signs that the corporate credit cycle has started to turn in some regional economies, including India, Indonesia, and New Zealand. This will particularly benefit SMEs, whose access to credit has been most impaired by lower bank lending, even though government guarantee schemes and targeted lending facilities may have partly offset the impact. This is true especially in Korea, where bank lending to SMEs has actually increased relative to large firms (Figure 1.31).

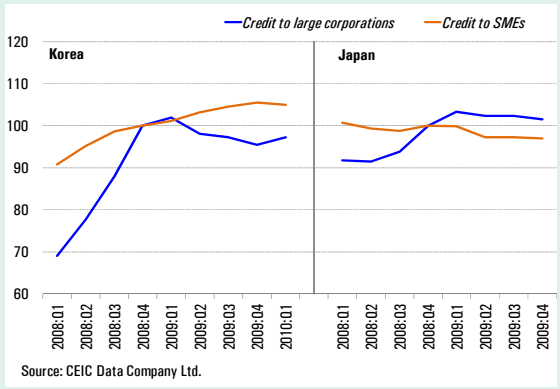
While these measures were timely, given the importance of the SME sector in accounting for a substantial share of employment across the region, their continuation poses fiscal risks and potential distortions (as discussed in the October 2009 *Regional Economic Outlook*). Unwinding this support, however, is likely to prove difficult as long as the overall recovery in credit remains tepid and the durability of the investment turnaround is in question.

Overall, private domestic demand is expected to remain robust over the near term, despite a less accommodative policy framework. The withdrawal of fiscal stimulus in 2010 (based on current budget plans) amounts to about 0.6 percent of GDP, compared with the 2 percent fiscal stimulus injected in 2009 (Figure 1.32). This aggregate measure, however, masks important differences among countries, with a more substantial pace of withdrawal in India and Korea offset by continuing stimulus in China. Staff estimates based on the IMF GIMF model show that the negative impact on growth will be only about 0.3 percent on average for the region, although with a peak of about 1 percent for Korea (Figure 1.33).

## E. Are Large Capital Flows Threatening Financial Stability?

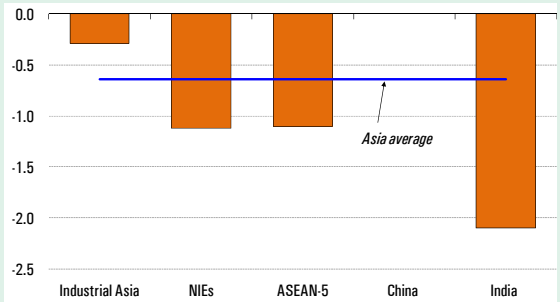
After the sharp flight of capital out of emerging Asia in 2008 and early 2009, net capital inflows rebounded to a historic high in the third quarter of 2009 (Figure 1.34). The turnaround was quicker and larger than in previous instances of reversals of capital inflows, largely due to the rapid normalization of global financial conditions (undoubtedly helped by very low policy rates in the advanced countries). In particular, portfolio and cross-border bank flows have rebounded sharply after the steep retrenchment in late 2008–early 2009. Within Asia, net private capital inflows have been larger in countries with stronger growth prospects, such as China, India and Indonesia, and those with closer trade ties to

**Figure 1.31. Bank Credit to SMEs and Large Corporations**
*(2008:04= 100 )*



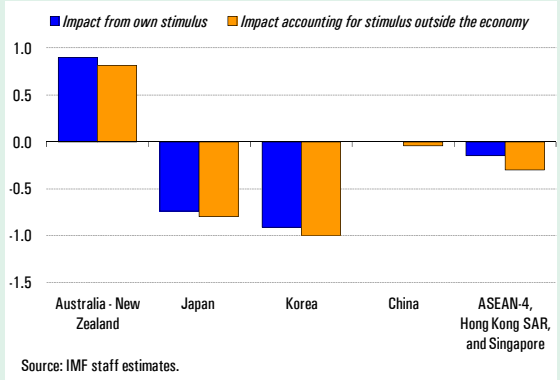

Source: CEIC Data Company Ltd.

**Figure 1.32. Asia: Fiscal Impulse, 2010[1]**
*(In percent of GDP )*



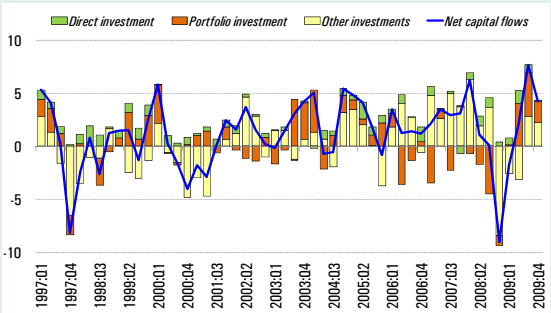

Source: IMF staff estimates.
[1] Change relative to 2009 in structural fiscal balances related to measures taken in response to the crisis. A negative number implies withdral of fiscal stimulus.

**Figure 1.33. Impact of Fiscal Stimulus on 2010 Real GDP**
*(Deviations from baseline in percentage points)*



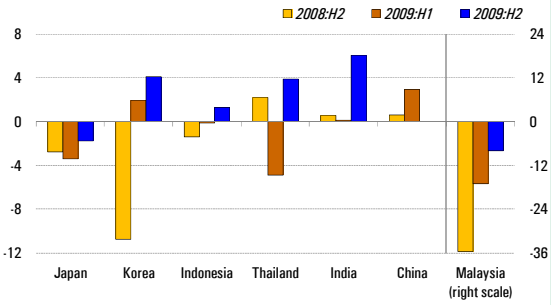

Source: IMF staff estimates.

**Figure 1.34. Selected Emerging Asia: Net Capital Inflows[1]**
*(In percent of GDP)*



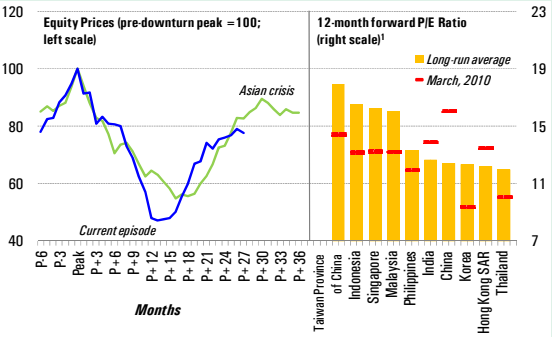

Sources: CEIC Data Company Ltd.; and IMF, *Balance of Payments Statistics*.
[1] Does not include China and Vietnam due to data limitations, and the financial centers, Hong Kong SAR and Singapore.

**Figure 1.35. Selected Asia: Net Capital Inflows[1]**
*(In percent of GDP)*




Sources: CEIC Data Company Ltd.; and IMF, *Balance of Payments Statistics;* and staff calculations.
[1] China's 2009:H2 data are not yet available.

**Figure 1.36. Emerging Asia: Equity Prices and Price-Earnings Ratio**




Sources: I/B/E/S Inc.; and CEIC Data Comapny Ltd.
[1] Long-run average is calculated over the period since late 1980 to June 2008.

China, such as Korea, while Japan continued to experience net capital outflows (Figure 1.35). Staff estimates from a model of the determinants of capital flows to Asia confirm that the two most important factors driving net capital inflows to the region are growth differentials relative to the United States and the degree of global risk aversion. A somewhat smaller role is also played by relatively higher interest rates in Asia, although expectations of exchange rate appreciation of Asian currencies may have boosted carry trade flows to the region.

Despite the slowdown since the end of last year, the outlook for capital inflows remains favorable. A major difference with previous episodes of large capital inflows is that this time real-money investors account for the bulk of new funds, rather than leveraged investors. These inflows are likely to persist, with European and U.S. managers getting larger mandates to invest in Asia, as the region is expected to outperform advanced economies, where monetary policies are set to remain more accommodative. Moreover, with emerging market equities still underweighted in global investor portfolios, even small shifts in portfolio allocations could translate into significant capital inflows to the region.[5] There are also sizeable flows from Japanese institutional investors into emerging Asia, while local pension funds and insurance companies are bringing money back to the region.

Large capital inflows have boosted asset prices but, thus far, asset valuations remain broadly in line with long-run averages, though some signs of stress have appeared. Overall, however, equity prices are not out of line with previous recoveries from deep recessions, such as from the Asian crisis (Figure 1.36). Moreover, forward-looking P/E ratios are above their long-run averages only

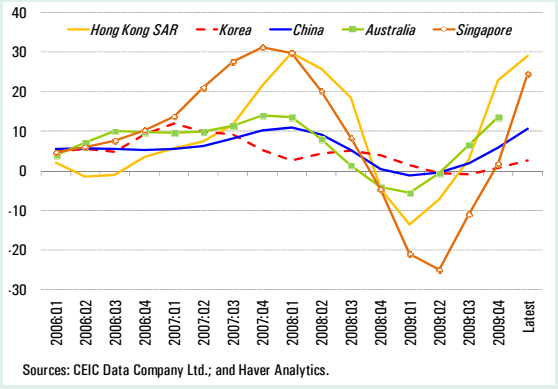
[5] The April 2010 IMF *Global Financial Stability Report* estimates that a 1 percent shift in the holdings of U.S.-based unlevered institutional investors of domestic securities could translate into a US$45 billion reallocation to emerging market securities, in general, suggesting that about US$20–$25 billion of that could go to Asian economies.

in China, Hong Kong SAR, and India. However, this may also reflect "excessively" optimistic earning expectations. Staff estimates, based on the historical relationship between earnings and GDP growth suggest that for many economies in the region earnings forecasts may be more optimistic than implied by IMF *World Economic Outlook* GDP growth forecasts. Moreover, in a few Asian economies (notably India, Indonesia, Korea, and Malaysia) the ratio of 10-year government bond yields and equity earning's yields (the inverse of the P/E ratio) is now higher than its long-run average. To the extent that this average is a valid benchmark, this suggests that either bond prices must increase or equity prices must fall to bring the ratio back in line with its past average. Finally, concerns about excessive increases in property prices are limited to some urban areas in China and high-end luxury segments in Hong Kong SAR and Singapore (Figure 1.37).[6]

However, this should not lead to complacency—if history is any guide, asset price boom and bust cycles tend to develop gradually when paired with capital inflow surges. Episodes of large capital inflows to Asian economies over the period 1990–2009 indicate that asset price booms generally have developed over a longer horizon when associated with large capital inflows (see Box 1.4). Also, previous episodes of large capital inflows that spilled over into unsustainable asset price rises generally coincided with rapid growth in "excess liquidity" (broad-money supply growing much faster than nominal GDP). And during the current episode, excess liquidity has been rising across emerging Asia in recent months (Figure 1.38). This is in part a result of policy decisions to resist exchange rate appreciation pressures by increasing foreign reserves. In particular, China has only partially sterilized the impact of higher reserves on the money supply, de facto choosing to accommodate the robust demand for money associated with the strong growth in economic activity (Figure 1.39).

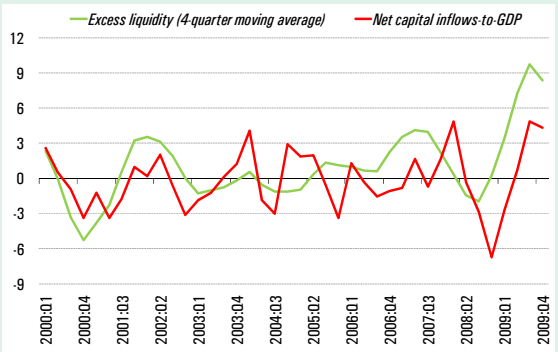
[6] See Chapter II for policy measures to address concerns about property price appreciation in these economies.

**Figure 1.37. Selected Asia: Property Prices**
*(Year–on–year percent change)*



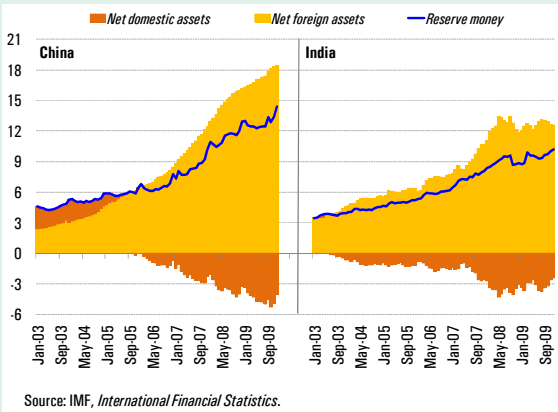

Sources: CEIC Data Company Ltd.; and Haver Analytics.

**Figure 1.38. Emerging Asia (excl. China): Excess Liquidity and Net Capital Inflows**
*(In percent)*




Sources: CEIC Data Company Ltd.; Haver Analytics; and IMF *Balance of Payments Statistics*.

**Figure 1.39. China and India: Composition of Reserve Money**
*(In trillions of national currency unit)*




Source: IMF, *International Financial Statistics*.

## Box 1.4. Lessons from Past Episodes of Large Capital Inflows in Asia

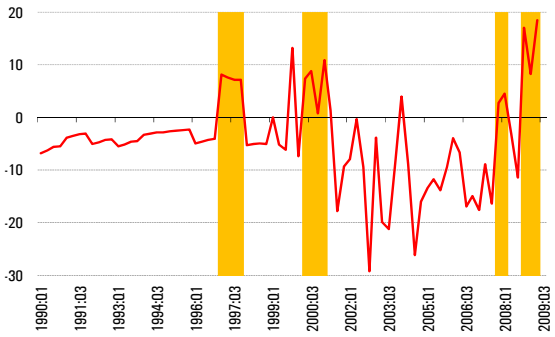
As global risk appetite recovered together with Asia's recovery, capital inflows have returned to the region, reversing much of the sudden stop at the end of 2008. Equity prices have rebounded and property prices have also increased, especially in some local markets. As growth and interest differentials with advanced economies are expected to remain wide in 2010, capital inflows to the region are expected to continue. Will this contribute to an increase in asset prices to levels that will prove difficult to sustain? What are the likely early macroeconomic signals that capital inflows are about to fuel asset price booms and subsequent busts?

To address these questions we look at previous episodes of *large capital inflows* and *extreme asset price swings* in Asia during the last two decades, and analyze the behavior of some key macro indicators around those episodes.[1]

We adopt the following definitions:

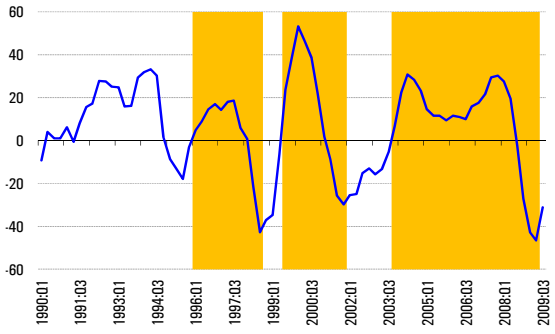
- Large capital inflow episodes are defined as periods when the ratio of net private capital inflow to GDP is significantly above trend (at least one standard deviation above its 8-quarter moving average) and exceeds 1 percent of GDP.[2]
- For equity prices, a bust occurs when the 4-*quarter moving averag*e (4qma) of the annual growth rate of real stock prices falls below 20 percent.[3] The start of the preceding boom phase is deemed to be the first quarter in which the growth rate of prices turned positive in the run-up prior to the bust.
- For property prices, a bust occurs when the *4qma* of the annual growth rate of real property prices falls below 5 percent.[4] The duration of the episode follows the criteria outlined in the case of real equity prices.
- Next, we identify a subset of episodes that include large capital inflows, asset price booms,

**Hong Kong SAR: Net Capital Inflows[1]**
*(In percent of GDP)*




Sources: CEIC Data Company Ltd.; and IMF *Balance of Payments Statistics*.
[1] Identified large capital inflow episodes are shown by shaded areas.

**Hong Kong SAR: Real Equity Prices[1]**
*(Year–on–year percent change ; 4–quarter moving average)*




Sources: CEIC Data Company Ltd.; Haver Analytics; and IMF staff calculations.
[1] Identified boom-bust episodes in real equity prices are shown by shaded areas.

Note: The main authors of this box are Souvik Gupta, Malhar Nabar, and Shanaka Peiris.

[1] The dataset covers the Asian economies (Australia, China, Hong Kong SAR, India, Indonesia, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore, Taiwan Province of China, Thailand, and Vietnam) over the period 1990:Q1–2009:Q3.

[2] If only one quarter separates two adjacent surges, and the net capital flow is positive in that quarter, it gets combined with the two adjacent episodes to form one continuous episode. However, instances of a large inflow immediately followed by an outflow in the next quarter are not identified as an episode (along the lines of the October 2007 *World Economic Outlook* methodology).

[3] This is consistent with Fatas and others (2009).

[4] This is also along the lines of the definition proposed by Fatas and others (2009).

and subsequent busts which begin within six quarters of each other. In other words, an inflow episode is paired with an asset price boom and bust episode if the inflow starts in an interval spanning six quarters on either side of the start of the asset-price cycle. If the inflow episode starts outside of that interval, and there is no ongoing boom and bust episode, it is classified as an "isolated" episode. Similarly, an asset-price boom and bust is associated with an inflow episode if it starts in a window covering the six quarters prior to and following the start of an inflow episode.

Using this definition, we identify a total of 58 capital inflow episodes in the sample, of which 24 are combined with the onset of a stock price boom and bust episode, and 9 are combined with the onset of a property price episode.[5]

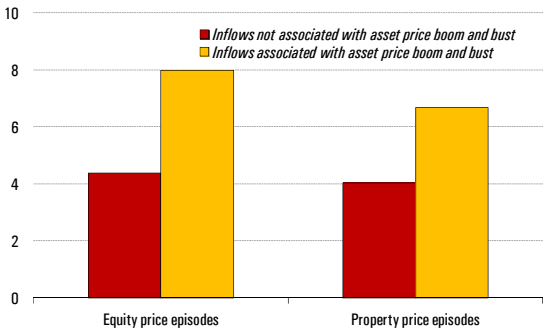
*Asset market booms and bust develop over long periods of time, and last longer when combined with capital inflow episodes.*

These episodes show several interesting patterns. An initial result from the analysis is that asset-price boom and bust cycles generally develop over several quarters. The median duration of a stock-price boom-bust episode is 11 quarters, and that of a property price boom-bust episode is 16 quarters. When asset-price episodes are combined with large capital inflow episodes, they tend to last longer. The median duration for stock-price boom-busts that start within six quarters of a capital inflow episode is 12 quarters, while that of property price boom-busts is 28 quarters.

*Excess liquidity growth is the main factor distinguishing episodes which have both high inflows and asset market booms and busts.*

What distinguishes the combined inflow and asset-price boom-bust episodes from the isolated inflow episodes? We compare the two groups of episodes across a set of macro indicators (real exchange rate appreciation, loan-to-deposit ratio of the banking sector, inflation, reserve accumulation, private sector credit growth relative to GDP growth, and excess liquidity—defined as the difference between year-on-year growth of broad-money supply and of nominal GDP). For each of these indicators, the mean over the six quarters following the start of the inflow episode is calculated in both the paired and isolated groups, and statistical tests are run to assess whether the differences between the two means is significant at the 5 percent level.

**Asia: Excess Liquidity Following Inflow Episodes**
*(In percent: averages across groups of episodes)*




Source: IMF staff estimates.

The results indicate that paired inflow episodes tend to be characterized by significantly higher excess liquidity relative to the group of isolated inflow episodes. This phenomenon is confirmed using the data around the Asian financial crisis: large capital inflows were associated with a spike in excess liquidity growth, and with a continued run-up in asset prices and subsequent decline.[6]

---

[5] The number of stock-price episodes is 46 and the number of property price episodes is 19.

[6] The identified paired inflow episodes are Hong Kong SAR (1997:Q1–Q4), Indonesia (1995:Q4–1997:Q1), Korea (1996:Q2–1997:Q1), Malaysia (1996:Q1–Q4), and Thailand (1995:Q2–1996:Q1). The Philippines also was affected at this time, but the initial onset of large inflows occurred in 1993:Q3. For consistency with the other cases, the time paths for the key variables for the Philippines are tracked over the six quarters prior to and following 1993:Q3.

## Box 1.4. *(concluded)*

By contrast, in episodes of large capital inflows that were not associated with asset-price volatility, excess liquidity generally was lower than in the preceding quarters.[7] In these episodes asset prices rose steadily, even as excess liquidity remained sluggish and capital inflows declined, probably reflecting improvements in underlying fundamentals rather than excessively easy financial conditions.

*Paired inflow and asset cycle episodes are associated with significantly higher intervention to resist appreciation, resulting in higher reserve accumulation.*

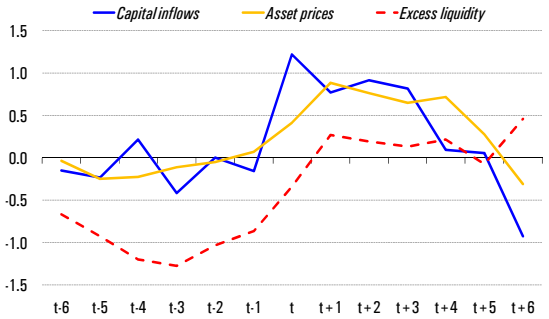
The policy response to inflows also appears to play an important role in distinguishing paired from isolated episodes. Reserve accumulation tends to be significantly higher in episodes where large capital inflows are paired with the beginning of an asset price boom-bust cycle, compared to isolated inflow episodes. This suggests that intervention to resist exchange rate appreciation pressures from large capital inflows also may contribute to the risk.

*Paired inflow episodes are associated with significantly higher inflation.*

We also find that inflation tends to be significantly higher in the aftermath of paired inflow episodes compared to isolated inflow episodes. High liquidity around the time of paired inflow episodes therefore also may be partly due to a relatively more accommodative stance toward general price pressures.

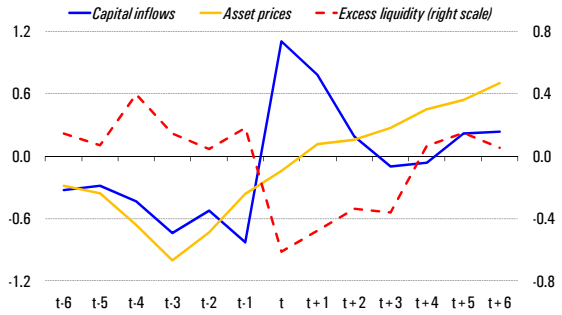
Taken together, the evidence is consistent with the view that the combination of large capital inflows and accommodative monetary policy raises the risk of asset-price boom-bust cycles.

**Asian Crisis: Capital Inflows, Asset Prices, and Excess Liquidity[1]**




Source: IMF staff calculations.
[1] Plotted as number of standard deviations from average for the six quarters prior to and following onset of large inflows at t.

**Isolated Inflow Episodes: Capital Inflows, Asset Prices, and Excess Liquidity[1]**




Source: IMF staff calculations.
[1] Plotted as number of standard deviations from average for the six quarters prior to and following onset of large inflows at t.

[7] The inflow episodes isolated from property and equity-price boom and busts in the sample are—Australia (1993:Q2–1994:Q4 and 2002:Q2–2003:Q3), India (1993:Q3–1994:Q4), New Zealand (1992:Q2–Q4, 1995:Q2–1996:Q1, and 1999:Q1–2000:Q2), Singapore (1993:Q3–1994:Q4), and Taiwan Province of China (2002:Q2–2003:Q3).

# II. Projections, Risks, and Policy Challenges

## A. Projections for 2010–11

GDP growth forecasts for many Asian economies have been revised upward relative to the October 2009 *Regional Economic Outlook*. For the region as a whole, growth now is forecast to be about 7 percent in 2010, 1¼ percentage points higher than projected in fall 2009, and to grow at the same pace in 2011 (Table 2.1). In particular:

- In *China,* GDP growth is expected to accelerate to 10 percent in 2010. The contribution from investment is expected to remain high, though substantially below that in 2009, as the pace of new public and private investment moderates, largely reflecting tightening measures. Buoyed by ongoing structural reforms and fiscal measures, consumption growth should remain relatively robust, while the recovery in external demand implies that net exports would no longer subtract from growth. Rapid growth is projected to continue in 2011 but will be driven more by the private sector, with an increase in private investment offsetting falling public investment levels, and with the contribution of external demand turning positive again (Figure 2.1).

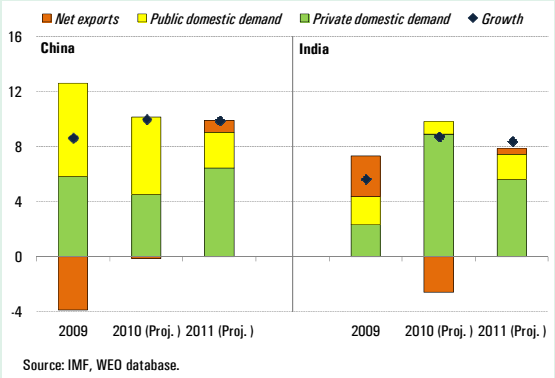
- In *India,* growth is projected to rise to about 8¾ percent in 2010 and 8½ percent in 2011 (from nearly 6 percent in 2009), driven by strong domestic demand. Investment is projected to gather momentum, due to higher corporate profitability and favorable financing conditions, while consumption growth should remain strong on the back of better employment prospects and lower uncertainty. The public sector's contribution should decline as the effect of stimulus measures wanes, while the contribution from net exports also should diminish due to faster imports (Figure 2.1).

**Table 2.1. Asia: Real GDP Growth**
*(Year–on–year; in percent)*

| | 2009 | 2010 | 2011 |
|---|---|---|---|
| | | Latest projection | |
| **Industrial Asia** | **-4.1** | **2.1** | **2.2** |
| Japan | -5.2 | 1.9 | 2.0 |
| Australia | 1.3 | 3.0 | 3.5 |
| New Zealand | -1.6 | 2.9 | 3.2 |
| **Emerging Asia** | **5.7** | **8.5** | **8.4** |
| ***NIEs*** | ***-0.9*** | ***5.5*** | ***5.1*** |
| Hong Kong SAR | -2.7 | 5.0 | 4.4 |
| Korea | 0.2 | 4.5 | 5.0 |
| Singapore | -2.0 | 8.9 | 6.8 |
| Taiwan Province of China | -1.9 | 6.5 | 4.8 |
| China | 8.7 | 10.0 | 9.9 |
| India | 5.7 | 8.8 | 8.4 |
| ***ASEAN-5*** | ***1.7*** | ***5.4*** | ***5.6*** |
| Indonesia | 4.5 | 6.0 | 6.2 |
| Malaysia | -1.7 | 4.7 | 5.0 |
| Philippines | 0.9 | 3.6 | 4.0 |
| Thailand | -2.3 | 5.5 | 5.5 |
| Vietnam | 5.3 | 6.0 | 6.5 |
| **Emerging Asia excl. China** | **2.6** | **6.8** | **6.6** |
| **Emerging Asia excl. China and India** | **0.4** | **5.5** | **5.3** |
| **Asia** | **3.4** | **7.1** | **7.1** |

Source: IMF, WEO database.

**Figure 2.1 China and India: Contributions to Growth**
*(Year–on–year; in percentage points)*

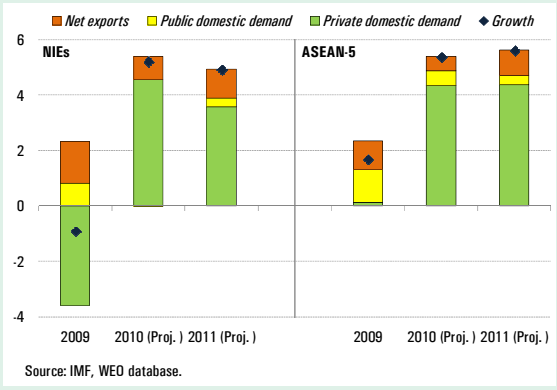



Source: IMF, WEO database.

- Growth in the NIEs (Hong Kong SAR, Korea, Singapore, and Taiwan Province of China) is expected to accelerate to around 5½ percent in

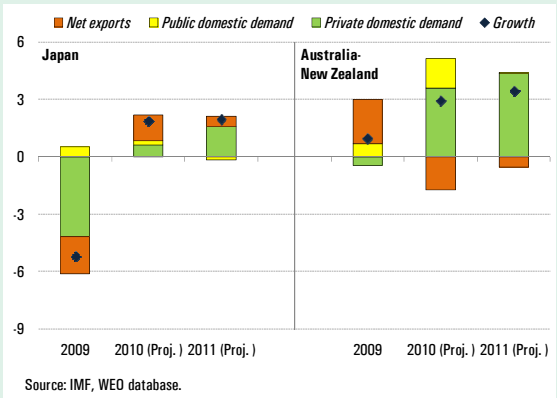
2010 and about 5 percent in 2011, from a contraction of about 1 percent in 2009, driven primarily by a shift from public sector to private sector growth (Figure 2.2). Private investment and stock building, in particular, are expected to support growth in Taiwan Province of China and Korea, while net exports are not expected to contribute significantly in 2010. But as the global economy continues to recover, net exports will contribute to growth in 2011.

**Figure 2.2. NIEs and ASEAN-5: Contributions to Growth**
*(Year–on–year; in percentage points)*




Source: IMF, WEO database.

**Figure 2.3. Industrial Asia: Contributions to Growth**
*(Year–on–year; in percentage points)*




Source: IMF, WEO database.

- In the ASEAN-5 countries, growth is expected to reach about 5½ percent in 2010 and 2011, up from 1¾ percent in 2009 (Figure 2.2). In *Indonesia*, private and public consumption should continue to support the recovery, but investment growth also is expected to pick up strongly. In *Thailand*, without shocks, strengthening domestic demand and inventory restocking are expected to underpin growth through 2010 and 2011. In *Malaysia and the Philippines* recovery will be led by private consumption, thanks to resilient remittances in the former and improving employment conditions and higher commodity prices in the latter. *Vietnam's* growth is expected to accelerate on the back of strong private consumption, a rebound in investment and the recovery of external demand.

- Within Industrial Asia, *Japan's* GDP growth is projected to return to positive territory at about 2 percent in 2010 and 2011, from -5 percent in 2009. Stronger external demand and continued support from policy stimulus are expected to push growth in the first half of 2010, together with a moderate pickup in business investment and higher household transfers. The recovery of domestic demand should continue into 2011, also on account of improving employment growth (Figure 2.3).

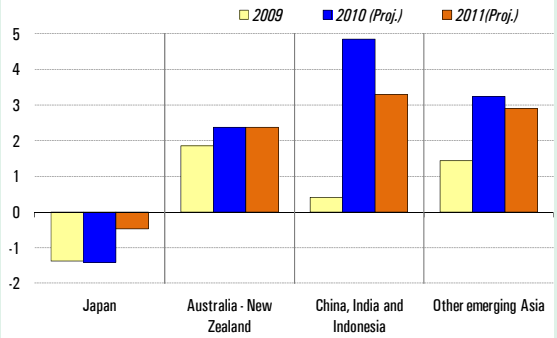
- The *Australian* economy is expected to grow by 3 percent in 2010 and 3½ percent in 2011, with private domestic demand taking over from public demand as a main driver of growth. Private investment, particularly in the resource sector, will be boosted by strong commodity prices and resilient demand from China. Additional stimulus to private investment will also come from the public infrastructure investment, directed at addressing bottlenecks in the supply chain for commodity exports. Despite some negative impact on consumer confidence from rising mortgage rates, household consumption will be supported by real income growth, buoyed by the rebound in labor demand. Economic activity is expected to pick up in *New Zealand*, supported by ongoing fiscal stimulus, relatively low mortgage rates and improved commodity export prices (Figure 2.3).

Inflationary pressures in the region should generally remain contained (Figure 2.4). In China, inflation is likely to remain subdued because of large

excess capacity, despite some near-term pressures due to supply constraints on food. In India, Indonesia, and Vietnam, inflationary pressures are expected to reverse by 2011, as commodity prices stabilize and monetary conditions become less accommodative. In Japan, deflation will recede slowly in 2010, with the labor market stabilizing and investment expected to begin recovering in 2010, but is expected to persist until the middle of 2011. Inflation rates in Australia and New Zealand are expected to remain within their respective target ranges in 2010, reflecting above target inflation going into the downturn, and their experience of milder slowdowns compared to other Asian economies.

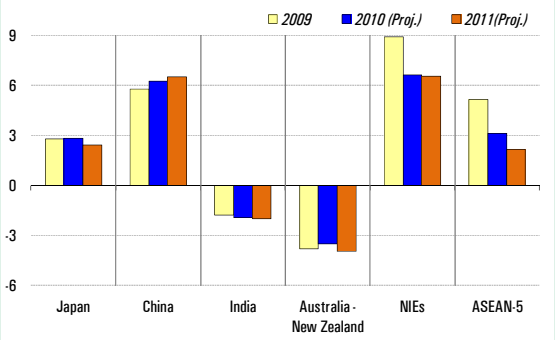
Asia's overall current account surplus is projected to decline slightly over the next two years as a percent of GDP (Figure 2.5).[7] The external surplus is expected to increase slightly in US$ terms (from about US$560 billion in 2009 to US$600 billion in 2011), but to decline as a share of GDP (from 3¾ percent in 2009 to 3¼ percent in 2011). However, this trend masks significant differences. China's current account surplus is expected to expand from US$280 billion in 2009 (5¾ percent of GDP) to nearly US$400 billion in 2011 (6½ percent of GDP), as investment income continues to rise in line with the accumulation of foreign assets and import growth moderates in line with less infrastructure investment. As a result, China will remain the single largest contributor to the region's external surplus, accounting for two thirds of it in 2011. By contrast, Asia's current account surplus excluding China is expected to shrink from about US$280 billion in 2009 to about US$200 billion in 2011. Nearly all major regional economies, from Japan to the NIEs and ASEAN-4, will contribute to this decline, as import growth is expected to outpace the recovery in exports and commodity prices stabilize at higher levels. For Korea, the recent appreciation of the won also will likely contribute to the decline in the current account surplus. On the other hand, India's current account deficit is expected to remain broadly stable, at about 2 percent of GDP over the next two years, while Australia and New Zealand are expected to continue to run current account deficits as foreign capital continues to fund private investment.

**Figure 2.4. Asia: Consumer Prices[1]**
*(Year–on–year percent change)*




Source: IMF, WEO database.
[1] Wholesale prices used for India.

**Figure 2.5. Asia: Current Account Balance**
*(In percent of GDP)*




Source: IMF, WEO database.

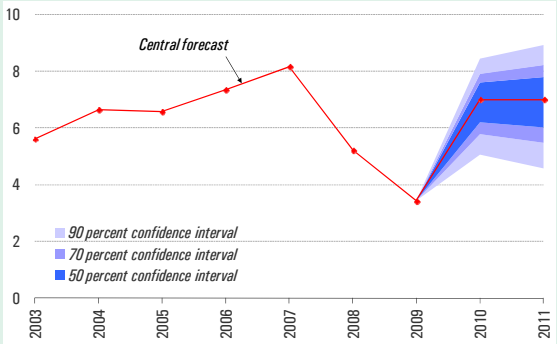
## B. Risks to the Outlook

While the outlook appears less uncertain now than last October, risks remain tilted to the downside (Figure 2.6):

- The main downside risk to the baseline forecasts continues to stem from the fragility of the global recovery. As highlighted in the April

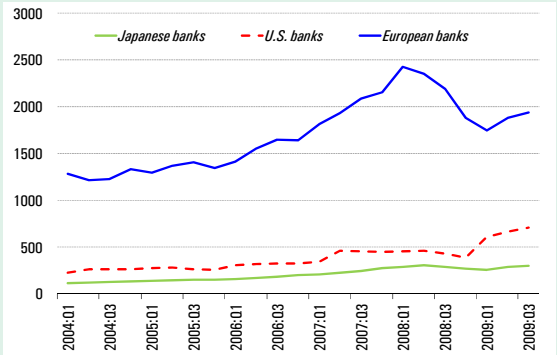
[7] As in the past, these forecasts are based on current policies and assume constant real effective exchange rates.

**Figure 2.6. Asia: GDP Growth**
*(Central forecast and selected confidence intervals; in percent)*




Source: IMF staff estimates.

**Figure 2.7. Outstanding Consolidated Claims of BIS Reporting Banks vis-à-vis Major Asian Economies**
*(In billions of U.S. dollars; immediate borrower basis)*




Source: Bank for International Settlements.

2010 *World Economic Outlook*, while the extraordinary policy support since the crisis began has prevented a greater disruption of economic activity and laid the foundations for the recovery, it also has introduced new risks and fragilities. Importantly, downside risks related to public debt burdens in advanced economies have become sharply more evident. The main concern is that room for policy maneuver in many advanced economies has either been largely exhausted or become much more limited, leaving their fragile recoveries exposed to new shocks. But even in the absence of new shocks, the large gross borrowing requirements faced by some advanced economies, and the need for more ambitious consolidation plans, could affect Asia by undermining the global recovery and increasing risk premiums.

- In the near term, a risk is that market concerns about sovereign liquidity and solvency in the euro zone periphery may turn into a full-blown, contagious sovereign debt crisis (as discussed in the April 2010 *Global Financial Stability Report*). While Greece's sovereign debt situation has not had a major impact on flows to the region—with a very limited rise in sovereign credit default swap (CDS) spreads—the main risk scenario is one of worsening global risk aversion, should the jitters spill over to some of the larger European economies. Moreover, problems in Europe could force a further retrenchment of European banks from the region, possibly reigniting some dollar and euro funding pressures in Asian markets. With European banks providing almost half of cross-border lending to Asia (about US$583 billion at end-September 2009), further balance-sheet deleveraging and some pullback from Asia also could affect funding of some key activities in the region, especially trade financing (Figure 2.7). The increase in global risk aversion and renewed pressures to deleverage could pose particular risks to Asian corporates and banks, as they face relatively higher refinancing needs in 2010 and 2011 than other emerging markets (Figure 2.8).

- A further downside risk for parts of Asia stems from commodity prices remaining stronger than currently expected. As discussed in the April 2010 *World Economic Outlook*, with global demand growth likely to be sustained, food commodity markets may remain tight. In the absence of unanticipated increases in supply, the risk to real food prices remains tilted toward the upside. Greater-than-expected inflationary pressures may in turn induce more aggressive monetary tightening and weaken the virtuous cycle between strong economic activity, buoyant financial markets, and ample consumer confidence, which thus far has sustained private domestic demand in the region.

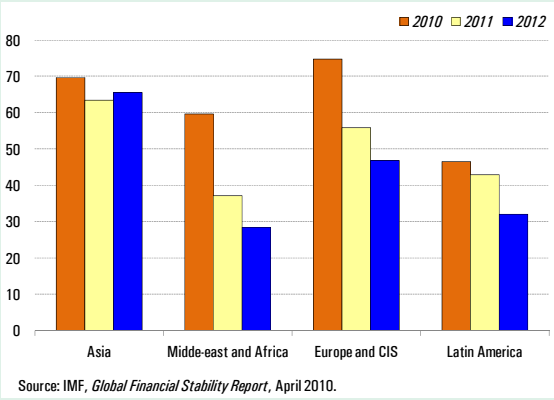
- A marked downturn in China could spill over to much of the region. This could be induced by an overly aggressive normalization of credit conditions, or regulatory tightening in the housing market that sought to avoid a sharp deterioration in the quality of assets held by Chinese banks, or excessive increases in inflation or asset prices. Such a scenario would reverberate across the region, and especially affect economies that have benefited strongly from China's resilient performance so far, particularly commodity exporters (Australia, Indonesia, and Malaysia) and exporters of capital goods (Korea and Taiwan Province of China).

- On the upside, exports could contribute to growth more than currently envisaged in our baseline. This may reflect a stronger-than-expected recovery in advanced economies, in particular a more favorable evolution of private consumption in the United States stemming from a further reduction in uncertainty and stronger-than-expected improvement in financial market sentiment. But it may also reflect a consolidation of the recent gains in Asia's external market shares.

## C. Policy Challenges

The main near-term policy challenge for policy makers is judging the appropriate pace for normalizing monetary and fiscal policy. With private domestic demand gaining strength over the course of 2009 in many regional economies, the risk of "false dawns" (discussed in the October 2009 *Regional Economic Outlook* for Asia and the Pacific) has declined substantially. As a result, policy normalization in Asia may well need to begin sooner than we anticipated in fall 2009, and almost certainly earlier than in advanced economies. But policymakers will have to weigh the strength of Asia's recovery against the fragility of the global recovery, which argues for a cautious and gradual withdrawal of stimulus. Notwithstanding the difficulty of navigating during this period of more than usual uncertainty, most economies in Asia

**Figure 2.8. Emerging Economies: Projected Rollover of Foreign Currency Bonds and Loans by Corporations**
*(In billions of U.S. dollars)*



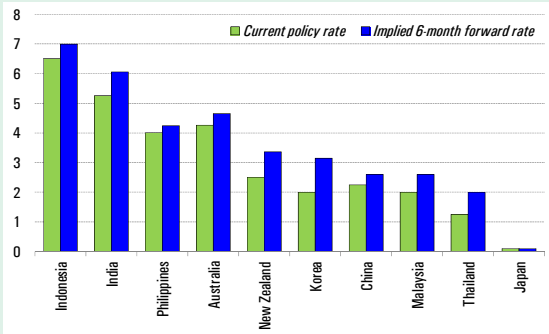

Source: IMF, *Global Financial Stability Report*, April 2010.

are fortunate to have some fiscal and monetary space to respond flexibly to external shocks. Moreover, the appropriate pace of exit will vary across regional economies, in line with the differences in cyclical positions and exposure to the various risks described above.

Indeed, a few economies in the region, including Australia, China, India, and Malaysia, already have started tightening monetary policy. In China and India, central banks have increased reserve requirements in early 2010, in an effort to withdraw liquidity, though these ratios are still well below pre-crisis levels. Australia's central bank has increased the policy rate five times since October 2009, while India and Malaysia have also started raising policy rates in early 2010. In April 2010, the Monetary Authority of Singapore tightened the policy stance by recentering the exchange rate policy band and targeting a "modest and gradual" appreciation of the Singapore dollar in nominal effective terms for the period ahead. The appreciation of nominal exchange rates discussed in Chapter I is also helping to make financial conditions less accommodative in other regional economies.

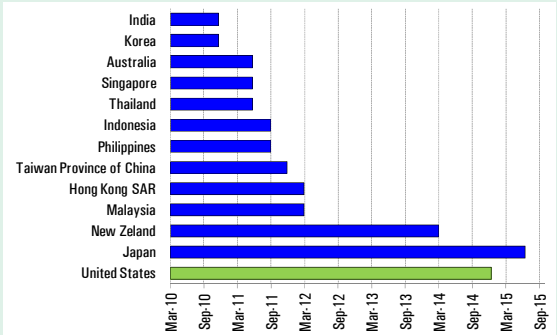
Going forward, the process of monetary policy normalization will need to be guided by several considerations:

**Figure 2.9. Selected Asia: Policy Interest Rate and Implied 6-Month Forward Interest Rate[1]**
*(In percent)*



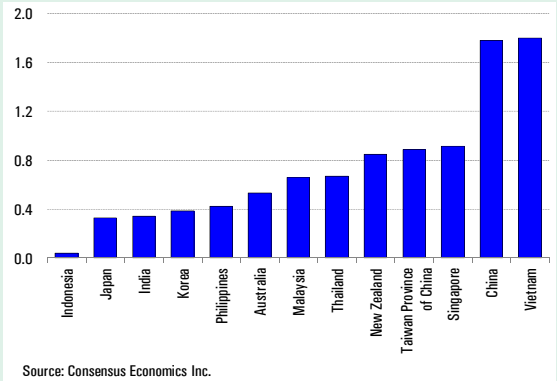

Sources: CEIC Data Company Ltd.; Haver Analytics; Bloomberg LP; and IMF staff calculations.
[1] As of second week of April 2010.

**Figure 2.10. Output Gap: Projected Closure Dates**




Source: IMF staff estimate.

**Figure 2.11. 1-Year-Ahead Inflation Expectation: Change between 2009:Q2 and 2010:Q1**
*(In percentage points)*




Source: Consensus Economics Inc.

- *The degree of monetary accommodation currently in place*, as measured for example by the distance from policy interest rates that are consistent with zero output gaps and stable inflation at around target levels. While estimates of these rates are subject to considerable uncertainty, staff estimates suggest that the distance is relatively large in some regional economies, such as India, Korea, and Thailand (see Box 2.1). In these economies, gradual increases in policy rates such as those expected by markets in April 2010 (Figure 2.9) still would leave monetary policy stances reasonably accommodative, but would help signal the authorities' commitment to safeguard price stability.

- *The pace at which output gaps are closing*. Based on staff estimates, output gaps are expected to close as early as late 2010 in India and Korea, but later in Malaysia (early 2012) and even later in Japan (2015) (Figure 2.10). In economies with a higher degree of slack and a greater exposure to external demand, the pace of normalization may be made conditional on further confirmation that the global recovery is firming up, and that private domestic demand is strengthening.

- *The emergence of inflationary pressures, both in consumer and asset prices*. While part of the recent pickup in inflation can be explained by higher food and energy prices, higher core prices may also reveal upside risks from second-round effects of the more volatile components of consumer price index (CPI) baskets. Indeed, inflation expectations have increased in early 2010 relative to May 2009 in many economies in the region, particularly in China and Vietnam. Clearly, these risks may be exacerbated by the rapidly closing output gaps, so in economies where economic slack is still ample, the normalization of monetary policy can proceed more gradually. On the other hand, indications that excess liquidity may be fueling unsustainable run-ups in asset prices also would require a faster return to more normal monetary policy conditions.

While domestic cyclical considerations may argue in favor of an early monetary tightening, these also should be weighed against the risk of attracting further capital inflows. Large capital inflows may complicate macroeconomic management, because of their potential to generate overheating, increase vulnerabilities to credit and asset price cycles, and lead to steep and sudden real exchange-rate appreciation. An appropriate response against these risks could involve a variety of measures, depending on country circumstances:

- *Macroprudential measures:* Some countries in the region already have in place prudential regulations to slow run-ups in asset prices, especially property prices, caused by excess domestic liquidity and low borrowing costs (Table 2.2). These measures already have had some impact, for example by reducing the growth of mortgage lending in Korea and Singapore (Figure 2.12).

- *More exchange rate flexibility* also can help mitigate capital inflows, for two reasons. First, the higher growth divergence coupled with past resistance to appreciation pressures can lead market participants to expect currencies to strengthen over time. In the near term, the inflows will increase domestic liquidity and asset prices, and the expectation of future currency appreciation will reinforce this upward pressure. Letting the exchange rate appreciate can forestall short-term inflows. Second, without more currency appreciation, the pressure to sterilize the impact on the money supply will continue. While central banks may revert to using reserve requirement rules as a (cheap) sterilization tool, this carries the risk of introducing distortions into the domestic banking system.

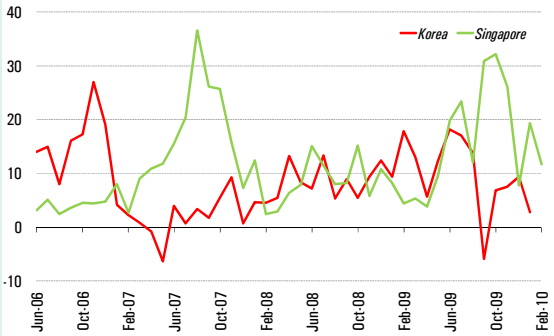
- *The role of capital controls*: in cases where the exchange rate is below its equilibrium value, the first line of defense in the face of large capital flows should be to allow the nominal exchange rate to appreciate while limiting volatility. If, however, inflows prove overwhelming in their speed and size, the authorities could temporarily tighten their existing regime of controls and delay any planned liberalization until the pressure abates. In some cases, countries might also consider liberalizing capital outflows, or financial reforms that may encourage outflows, for example by strengthening asset management, including for public pension funds.

**Table 2.2. Selected Asia: Macroprudential Measures**

| | |
|---|---|
| Hong Kong SAR | Mortgages for luxury properties have been capped at 60 percent of the value of the property.<br>Maximum loan amount for mass-market property has been limited to HK$12 million (US$1.5 million).<br>Stamp duty on sales of more than HK$20 million has been increased by 50 basis points to 4.25 percent.<br>A nonbinding guidance on mortgage rates has been issued to curb excessively competitive lending. |
| Korea | The ceiling on loan-to-value ratios has been reduced from 60 to 50 percent in the Seoul metropolitan area.<br>The area of coverage for the debt-to-income ratio has been expanded to nonspeculative areas and it cannot exceed 55 percent in Seoul, and 65 percent of income in Incheon and Gyeonggi Province. The regulations apply to mortgage loans exceeding 50 million won. |
| Singapore | Interest only loans have been disallowed.<br>Special assistance programs for property developers have been wound down. |
| China | Taxes on the resale of properties within five years of purchase have been increased.<br>The minimum downpayment on first homes larger than 90 square meters has been set at 30 percent. Loan-to-value ratios for second homes have been capped at 50 percent. |

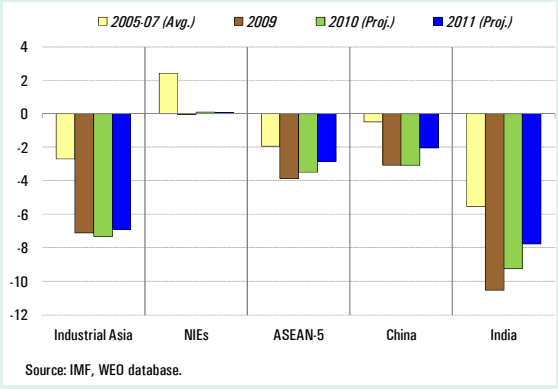
Source: Various news agencies.

**Figure 2.12. Selected Asia: Mortgage Loans**
*(Month-on-month percent change; SAAR)*



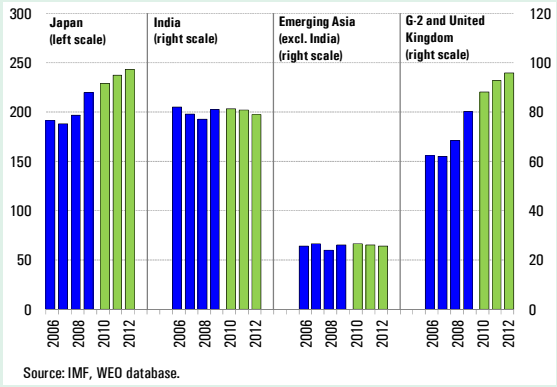

Source: CEIC Data Company Ltd.

**Figure 2.13. Asia: Cyclically Adjusted General Government Balance**
*(In percent of GDP)*



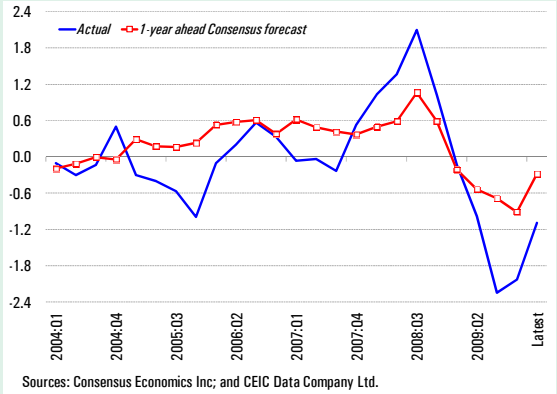

Source: IMF, WEO database.

**Figure 2.14. Public Debt**
*(In percent of GDP)*




Source: IMF, WEO database.

**Figure 2.15. Japan: Consumer Price Inflation**
*(Year–on–year percent change)*




Sources: Consensus Economics Inc; and CEIC Data Company Ltd.

Fiscal policy is expected to remain accommodative in most of Asia, despite the planned withdrawal of part of the fiscal stimulus during the crisis in many regional economies. Staff forecasts of cyclically adjusted government budget balances show that they are likely to remain below pre-crisis levels (the average between 2005 and 2007) in 2010 and 2011 (Figure 2.13). A gradual removal of the fiscal stimulus appears generally appropriate, given that only Japan faces debt sustainability challenges as do many other advanced economies (Figure 2.14). Given the still significant downside risks to the outlook, maintaining targeted fiscal measures would appear to be a relatively affordable form of risk management, especially in economies where the recovery of autonomous private domestic demand is still fragile.

At the same time, it is important to ensure that fiscal policy is expected to move to a more neutral stance over the medium term. The advantages of a medium-term fiscal consolidation strategy are threefold:

- A key lesson for Asia from the global crisis is that countercyclical policy matters. It thus will be important to restore the fiscal space required to deal with future shocks, especially in those economies that are starting from relatively high levels of debt (India and Malaysia) or are facing certain aging-related spending pressures.

- At the same time, a credible plan to create fiscal space for future stabilization will increase the effectiveness of today's fiscal stimulus, precisely because it can reduce the uncertainty around future budget plans and therefore the premium on borrowing costs.

- And finally, a gradual return to a more neutral stance could help cushion the negative spillovers from higher debt in advanced economies—in particular from an increase in long-term interest rates.

In Japan, stronger action may be required to stem deflation (Figure 2.15). In December 2009, the Bank

of Japan responded to the reemergence of deflation by reiterating its aim to maintain the extremely accommodative financial environment and by introducing a new funds-supplying operation to encourage a further decline in longer-term money market interest rates. While these measures appear to have halted the decline of medium-term inflation expectations, further action would be warranted if deflation accelerates or persists for an extended period. The government's plan to announce by mid-year details of its medium-term fiscal and growth strategy could also help strengthen confidence in Japan's public finances and reduce the need for precautionary savings.

A key medium-term challenge is to devise structural policies that will allow a durable rebalancing toward domestic demand. Recovery in the major advanced economies will be hampered by still-impaired financial sectors and weak household balance sheets, and as a result Asia's exports will not be a strong engine of growth. To maintain rapid improvement in the standard of living, and increase the region's resilience to external shocks, strengthening domestic sources of growth will be a strategic priority for many countries. This will require broad-based, underlying structural reforms, as discussed in more detail in Chapter III.

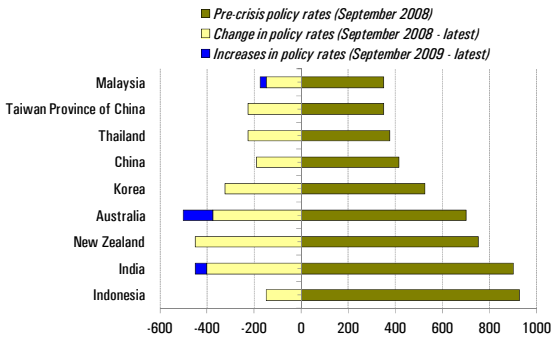
## Box 2.1. Assessing Monetary Policy Stances in Asia

Asia's faster-than-expected recovery has brought forward the beginning of monetary policy normalization in several Asian economies. A few central banks in the region already have begun to reduce the degree of monetary accommodation. The Reserve Bank of Australia was the first central bank in the region to raise rates, in October 2009, and since then has raised policy rates four more times. Bank Negara Malaysia raised policy rates in March 2010 and so did the Reserve Bank of India in both March and April. Other Asian central banks are expected to follow later in the year.

The extent to which policy rates need to be increased depends, among other things, on how far current rates are from the levels that are consistent with zero output gaps and stable inflation.

However, these rates not directly observable. At any point in time they depend on the state of the economy and financial markets, and can be inferred only ex post by observing how inflation and output gap respond to policy shocks. These rates are also not constant, as they vary with changes in underlying macroeconomic conditions. As a result, simply observing that policy rates in Asia are currently well below pre-crisis levels, following the unprecedented cuts in 2009, does not allow us to assess how accommodative the monetary policy stance is in these economies.

**Selected Asia: Policy Rates**
*(In basis points)*




Sources: Haver Analytics; and IMF staff calculations.

In this box we present estimates of policy rates in several Asian economies—Australia, India, Indonesia, Korea, Malaysia, New Zealand, and Thailand—using a standard Taylor-rule monetary policy reaction function.

This monetary policy rule characterizes central banks' decisions on policy rates as a response to the expected output gap and expected deviations of inflation from a target or desirable level. Estimating this equation over time allows assessing the policy rates that would be consistent with maintaining output at its potential level, and inflation at some stable or targeted rate. Following Cúrdia and Woodford (2009), we also allow policy rates to react to developments in financial markets (proxied by changes in the risk premium) as they affect the interest rates that matter for firms and households. For example, if the risk premium increases due to tighter financial conditions, policy rates should be lowered to keep the cost of credit for businesses and consumers unchanged.

The regression equation therefore takes the following form:

$$i_t = \alpha + \beta i_{t-1} + \gamma_1 E_t[\pi_{t+1} - \pi^*] + \gamma_2 E_t x_{t+1} + \sum_k \delta_k S_{t-k} + \xi_t,$$

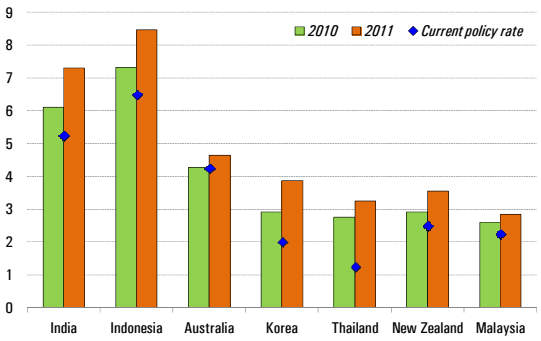
Where $i_t$ denotes the policy rate, $E_t\pi_{t+1}$ and $E_t x_{t+1}$ are expectations of inflation (year-on-year) and the output gap (estimated through a Hodrick-Prescott filter), respectively, $\pi^*$ is the targeted inflation (the explicit inflation target, or the average over the sample), and $S_t$ denotes a measure of risk premium (proxied by sovereign 5-year

Note: The main author of this box is D. Filiz Unsal.

CDS spreads).[1] The equation is estimated following the methodology in Clarida, Calf, and Gertler (1998).[2]

The results suggest that the policy rates prescribed by the Taylor rule decreased by an average of 150 basis points in the region during the crisis, and came close to historical lows reflecting negative output gaps and increases in risk premia. As the recovery gained momentum and financial markets stabilized, however, the rate suggested by the Taylor rule has increased. For 2010, the gap between actual policy rates and the Taylor rule rate is higher in India, Korea, and Thailand, while the monetary policy stance is closer to being neutral in Australia and Malaysia, partly owing to recent hikes in policy rates. Going forward, with Asia's recovery projected to accelerate, the rates consistent with a neutral stance are estimated to increase, by another 75 basis points on average, by 2011.

**Selected Asia: Estimated Nominal Taylor Rule Rates**
*(In percent)*




Sources: Bloomberg LP; CEIC Data Company Ltd; and IMF staff estimates.

[1] We use 5-year spreads, as these contracts tend to be the most liquid. Still CDS spreads are likely to be an imperfect proxy for the risk premium, especially in economies with very low debt.

[2] The equation is estimated using monthly data, starting from 2003, and using generalized method of moment. This methodology provides consistent estimates, as ordinary least squares (OLS) would be biased by the fact that changes in the interest rate may affect future inflation and output gaps. The specification used accounts for at least 85 percent of the variations in the policy rate, and is supported by tests of over-identifying restrictions.

# SECTION B

# Asia and Pacific: Rebalancing for the Medium Term

# III. Does Asia Need Rebalancing?

Despite the strong increase in regional trade over the last decade, Asia has remained heavily dependent on external demand—more so than other regions. However, in the post-crisis world, Asia will need to rely more on domestic sources of demand to sustain high growth and improve economic resilience. Rebalancing toward domestic demand will require many regional economies to act across a range of areas. Some countries may need to increase consumption, others will need to increase investment, and many will need to boost productivity in service sectors. A comprehensive package of measures—including fiscal measures, reforms in product, labor, and financial markets; and more exchange rate flexibility—will also contribute to the rebalancing of global demand, in particular when implemented simultaneously across the region.

## A. Introduction

Asia and the world economy need a rebalancing of demand to return to sustained high growth.[8] The global financial crisis has put an end to the credit-fuelled consumption boom that started in the United States and other advanced economies in the early 2000s. Long-lasting damages to households' and financial institutions' balance sheets, the need for a sizeable fiscal consolidation, and the likely steps toward more stringent financial regulation, mean that domestic demand in these economies is unlikely to return to pre-crisis growth rates. Other economies, particularly those emerging market economies that have saved in excess of their investment over the last decade, will need to step up and fill that vacuum—otherwise global demand will not be sufficient to sustain world growth.

Note: The main authors of this chapter are Adil Mohommad, Papa N'Diaye, and Olaf Unteroberdoerster.

[8] See Blanchard and Milesi-Ferretti (2009).

For Asia, weaker demand from advanced economies means that an important source of growth would remain subdued. The increase in trade integration across regional economies over the last decade had raised hopes that Asia could become more resilient to business cycles in the advanced economies, and that regional economies could accelerate their pace of convergence by trading more with each other. But the disproportionate response of export-dependent economies in the region to the collapse of global demand at the end of 2008 shows that Asia's fortunes remain closely linked to the performance of the global economy. And this region, more than any other, would benefit most from a global rebalancing of demand.

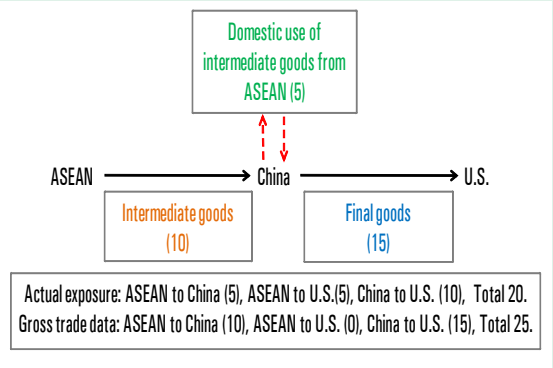
Against this background, this chapter addresses three main questions:

- Is Asia more dependent on external demand than other regions?
- What is needed to strengthen domestic sources of growth in Asia? Are there differences in the region?
- Which policies, both in Asia and abroad, would achieve a successful rebalancing of global demand?

To answer these questions the chapter follows a three-step strategy. First, it quantifies Asia's growth dependence on external demand by looking at a value-added concept of trade flows—capturing not only direct, but also indirect trade linkages between Asia and advanced economies (e.g., Malaysia's export exposure to the United States via its exports of intermediate goods to China). Second, it assesses whether consumption and investment in Asia are "too low," and the amount of resources employed in the tradable sector "too high," by comparing them with model-based and empirical benchmarks. And

third, it uses the IMF GIMF model to assess the impact of macroeconomic and structural policies that could be adopted in Asia and abroad, and that could strengthen domestic sources of growth in the region.

**Figure 3.1. Effect of Vertical Integration on Trade**




The main findings of the chapter are twofold:

- First, growth in Asia depends on external demand more than in other advanced economies and emerging market regions. This dependence has led to an unbalanced production structure that is heavily tilted towards industry, and more generally, the tradable sector. This means that rebalancing growth will require boosting the productivity of the services sector in most Asian economies. However, only a few economies seem to have excessively low consumption, most notably China, while several others may well be able to increase their investment-to-GDP ratios from current levels.
- Second, reforms in product, labor, and financial markets, and in fiscal and exchange-rate policies, have the potential to produce a successful shift in the pattern of growth. However, these measures will need to be taken by all economies in the region. If only a few of them implement reforms, the rebalancing effort still may have some positive domestic and regional spillovers (especially if taken in larger economies, such as China), but it will not sufficiently compensate for weaker external demand from advanced economies.

## B. Assessing Asia's Export Dependence

Structural changes in the nature of trade complicate the assessment of external dependence. Measures based on simple export-to-GDP ratios will overstate the role of exports as a source of growth, as increasing vertical trade integration means that exports include a declining share of domestically produced value added (see for example, Cui and Syed, 2007, on China). Vertical trade integration also masks the true exposure of an economy to the final source of demand (see April 2008 *Regional Economic Outlook*). For example, ASEAN economies depend on U.S. demand not only because they export to the United States directly, but also because they export intermediate goods to other countries that then reexport to the United States after processing them (Figure 3.1). To capture both these direct and indirect exposures, we use Asian international input-output (AIO) tables that describe how Asian economies combine domestic and foreign inputs to produce goods. This provides a measure of the extent to which the value added produced in an economy can be attributed to domestic, intraregional, and extra-regional demand (see Technical Appendix for details).[9]

Using this methodology yields the following results:

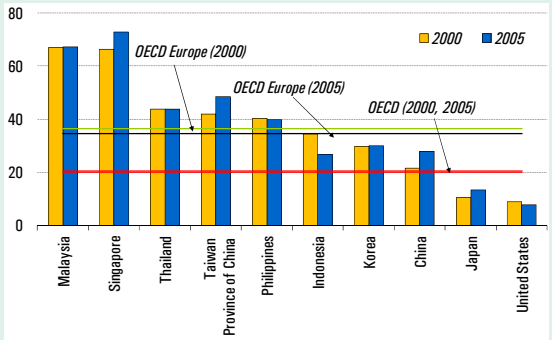
- Asia's export "exposure"—defined as the share of value added linked to external demand—is high by international standards. For all Asian economies in the dataset (except Japan) it exceeds the OECD average, and for most of them this export exposure is even higher than for the highly integrated

[9] See Kalra and others (2009). Input-output tables have been constructed for the years 1995–2008 based on the 2000 Asian Input Output Table provided by the Japan External Trade Organization using the methodology in Pula and Peltonen (2009).

European OECD members (Figure 3.2).[10] Moreover, the gap generally has increased over time. About two-thirds of the exported value added goes to destinations outside Asia—but, in some cases such as Korea, the Philippines, and Taiwan Province of China, the exposure to intra-Asian demand has increased.[11] By contrast, China's export exposure to the region has remained stable at a smaller base.[12] While India is not part of the value-added dataset used here, its very low ratio of gross exports to GDP (20 percent in 2008) suggests that it is far less exposed than most of developing and emerging Asia.

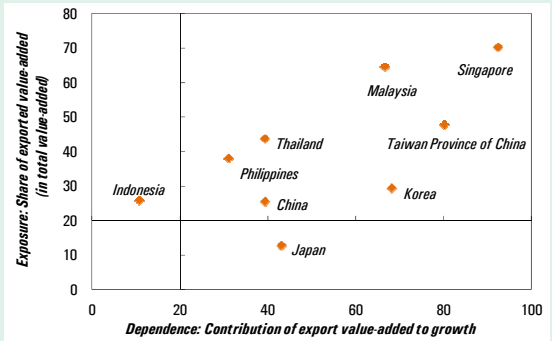
- Even where export exposure has been relatively low, exports often have been the main engine of growth (Figure 3.3). In Japan, for example, where export exposure is only about 10 percent of value added, exports contributed about 40 percent to growth between 2001 and 2007 (Figure 3.4)—when domestic demand growth was very weak. In this context, it also is noteworthy that when exports are expressed on a value-added basis, their contribution to growth in Asian economies is much greater than what is suggested by the national accounts—often more than twice as high. The reason is that value-added based measures capture the share

**Figure 3.2. Share of Export Value Added in GDP**
*(In percent)*



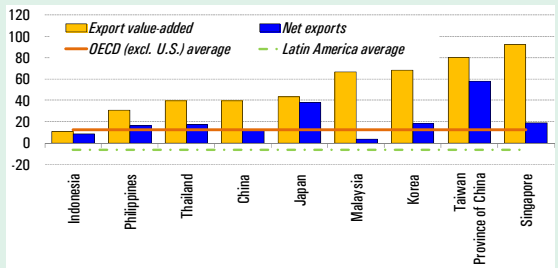

Sources: Japan External Trade Organization (JETRO), *Asian Input Output Table* (2000); OECD; UN COMTRADE; CEIC Data Company Ltd.; and IMF staff estimates.

**Figure 3.3. Selected Asia: Export Dependence and Exposure**
*(In percent)*




Sources: Japan External Trade Organization (JETRO), *Asian Input Output Table* (2000); OECD; UN COMTRADE; CEIC Data Company Ltd.; Haver Analytics; and IMF staff estimates.

**Figure 3.4. Selected Asia: Average Contribution to Real GDP Growth[1,2]**
*(In percent of real GDP growth)*



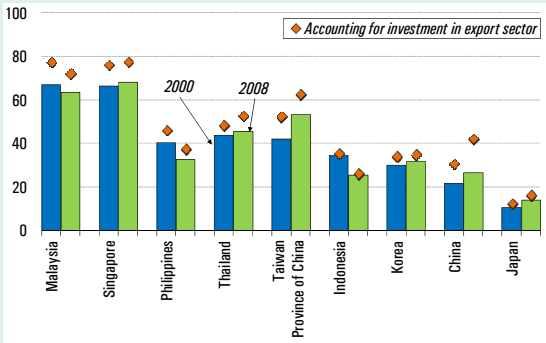

Sources: Japan External Trade Organization (JETRO), *Asian Input Output Table* (2000); OECD; UN COMTRADE; CEIC Data Company Ltd.; Haver Analytics; and IMF staff estimates.
[1] Average of contributions to 3-year growth rates during 2001-07. Exchange rate adjusted deflator.
[2] Latin America includes Argentina, Bolivia, Brazil, Chile, Colombia, Mexico, Paraguay, Peru, Uruguay, and Venezuela.

[10] The OECD data are based on total external demand as opposed to final external demand for the Asian economies owing to data limitations. This makes the latter an even more demanding benchmark.

[11] Calculations have been adjusted for Hong Kong SAR's entrepôt trade which would otherwise lead to an overestimate of the contribution of Asian demand to value added in the region.

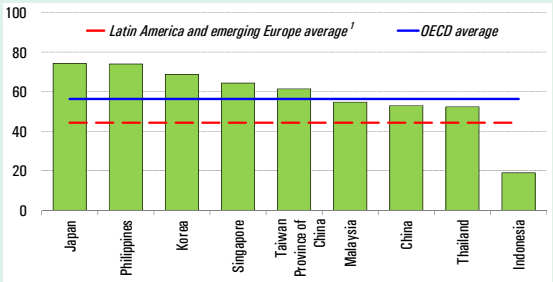
[12] China's exposure to external demand from outside Asia has increased from 15 percent of total value added (1995–2000 average) to over 19 percent (2001–08 average) while its exposure to external demand from Asia has remained stable at about 6 percent of total value added. These trends mainly reflect China's rapid growth of exports to advanced economies as it has become a hub of the region's supply chain network for advanced economies.

**Figure 3.5. Selected Asia: Share of Export Value Added in GDP**
*(In percent of GDP)*




Sources: Japan External Trade Organization (JETRO), *Asian Input Output Table* (2000); OECD; UN COMTRADE; CEIC Data Company Ltd.; Haver Analytics; and IMF staff estimates.

**Figure 3.6. Selected Asia: Share of Medium and High-Tech Goods in Total Exports**
*(Average over 2000–08)*




Source: UN COMTRADE database.
[1] Latin America includes Argentina, Bolivia, Brazil, Chile, Colombia, Mexico, Paraguay, Peru, Uruguay, and Venezuela. Emerging Europe includes Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, and Slovenia.

of income generated by exports. To the extent that this income is spent on imports, this will reduce the contribution of net exports to growth shown in the national accounts. Nevertheless, using this latter measure as a widely recognized international benchmark, the contribution of net exports to growth across Asia has been consistently higher than in other emerging market regions, particularly Latin America.

Asia's true dependence on external demand is even greater than suggested by these measures for two reasons:

- *Export-related investment.* Because a significant share of investment in Asia is tied to the export sector, external demand also contributes to growth by affecting investment (see Guo and N'Diaye, 2009a, on China). Simple estimates based on the share of exports in manufacturing output and the share of machinery investment in total gross fixed capital formation suggest that about 30–40 percent of investment in Asia depends ultimately on exports. Taking this into account, our measures of external exposure increases by about 10 percentage points of GDP on average in the region—and China's export exposure rises to more than 45 percent of GDP (Figure 3.5). Thus, our measures of export dependence (reflecting the contribution of exports to growth) increase by about 5–10 percentage points on average.

- *Compositional effects.* Asia's dependence on exports is compounded by its specialization in highly cyclical manufacturing sectors—in particular IT goods[13] (Figure 3.6). As noted in the October 2009 *Regional Economic Outlook*, the global financial dislocation at the end of 2008 led to a collapse in demand for these goods, which is generally more dependent on credit market conditions and consumer confidence. As a result, over the four quarters up to 2009:Q2, U.S. imports from Asia fell about 10 times as much as U.S. consumption. Using our measures of export dependence, the fall in exports may have subtracted between ½ and 2 percentage points from GDP growth across Asian economies over that period[14] (Figure 3.7).

[13] For many Asian economies the share of medium- and high-tech exports in total exports exceeds the OECD average (about 57 percent), and for all economies in our sample, except Indonesia, it also exceeds the average for Latin America and emerging Europe (about 45 percent). The definition of medium-and high-tech goods is based on International Standard Industrial Classification (ISIC) (Rev. 2) classifications.

[14] The estimated impact would have been even larger if the decline in U.S. import demand affected Asian imports disproportionately (about 2–8 percentage points of GDP under the extreme assumption that it was all concentrated on imports from Asia).

## C. What Does Rebalancing Mean for Asian Economies?

A different way of gauging whether Asia depends "too much" on external demand arises from assessing whether its domestic consumption and investment are "too low". In this section, these questions are tackled by using two different benchmarks for consumption and investment in Asia, one based on the values predicted by simple neoclassical growth models and one based on the results of standard empirical models of investment and consumption.

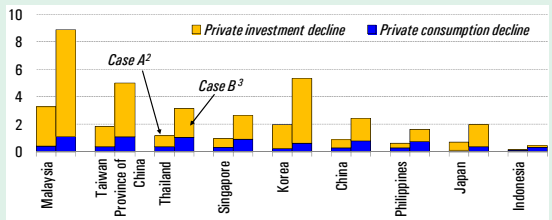
### Is Consumption Too Low?

Excessively weak consumption is often cited as the main driver of current account surpluses in Asia (see Bernanke, 2005). But consumption-to-GDP ratios vary substantially across Asia, ranging from less than 40 percent in China to about 70 percent in the Philippines (Figure 3.8). For many regional economies, consumption is close to OECD or other emerging market averages. At the very least, this argues for some caution in a general characterization that consumption is weak in Asia. What do model-based and empirical benchmarks suggest?

- *Model-based estimates*. For a number of Asian economies, actual consumption does not appear to be out of line with our estimates of steady-state consumption levels (see Technical Appendix for details) (Figure 3.9). When compared to deviations for other emerging market economies, they tend to be within one standard deviation of the worldwide sample. However, there is an important exception: China's consumption stands out as too low—indeed, nearly two-thirds of the region's (that is, Asia excluding Japan) gross national savings in recent years has been accounted for by China (Prasad, 2009).

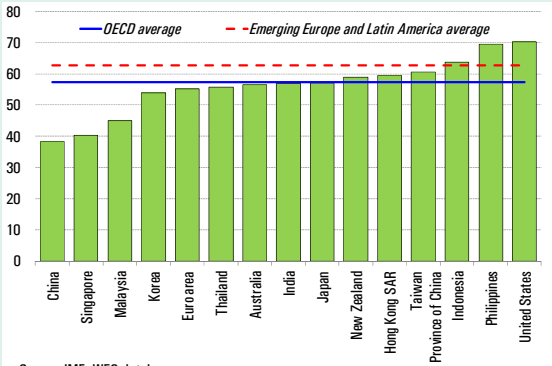
- *Empirical benchmarks*. Cross-country evidence from a structural consumption equation (Guo and N'Diaye, 2010) suggests that weak

**Figure 3.7. Selected Asia: Impact on Value Added of Actual Decline in U.S. Private Final Demand[1]**
*(In percent of GDP)*



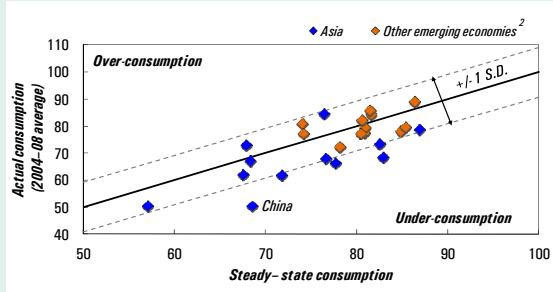

Sources: Japan External Trade Organization (JETRO), *Asian Input Output Table* (2000); OECD; UN COMTRADE; CEIC Data Company Ltd.; Haver Analytics; and IMF staff estimates.
[1] Decline over 2008-09 in U.S. private durables expenditure, impacting imports in proportion to share of imports in durables consumption and investment in machinery and equipment.
[2] Decline in U.S. durable imports impacts U.S. imports from Asian countries in proportion to share of Asia in U.S. imports of consumer durables, and machinery and equipment respectively, based on COMTRADE data.
[3] Decline in U.S. durable imports concentrated in imports from Asian countries.

**Figure 3.8. Private Consumption**
*(In percent of GDP; 2004–08 average)*




Source: IMF, WEO database.

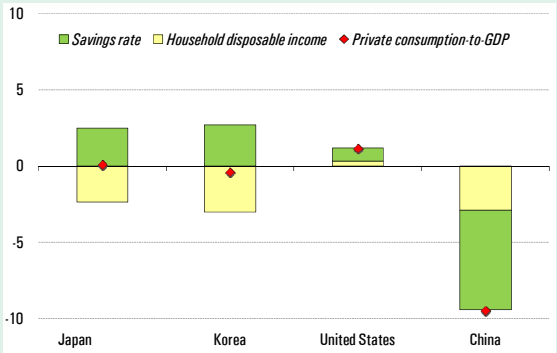
**Figure 3.9. Consumption Relative to Steady-State[1]**
*(In percent of GDP)*




Source: IMF staff estimates
[1] Uses savings-investment balance in the CGER's Macroeconomic Balance approach.
[2] Other emerging economies include Argentina, Brazil, Chile, Colombia, Egypt, Israel, Mexico, Morocco, Pakistan, Peru, South Africa, and Turkey.

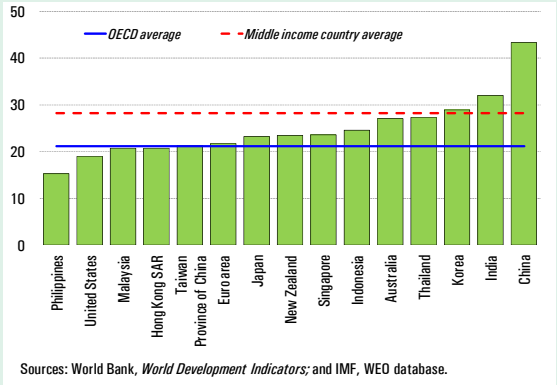
consumption in China has relatively little to do with country-specific behavioral factors. Instead, it largely can be explained by the low and declining share of household disposable income and a rising saving rate (Figure 3.10). While the share of household disposable income in GDP also has fallen in Japan and Korea between 2000 and 2007, households there responded by maintaining consumption and lowering their saving rates.[15] The high household saving rate in China mainly reflects the need for precautionary savings to offset a lack of social safety nets and services, and demographic factors such as gender imbalances.[16] Inadequate access to financial services (including consumer credit and housing finance) also may have played an important role. As explained in further detail in Box 3.1, reforms that increase social insurance and services, notably health care coverage, could prove effective in boosting consumption in China. Moreover, measures that improve access to financial services, such as Korea's reforms to develop a mortgage market, also hold the promise of strengthening private consumption (Box 3.2).

**Figure 3.10. Cumulative Change in Ratio of Private Consumption-to-GDP (2000–07): Estimated Contribution of Disposable Income and Savings Rate**
*(In percent of GDP)*




Source: Guo and N'Diaye (2010).

**Figure 3.11. Investment**
*(In percent of GDP, 2004–08 average)*




Sources: World Bank, *World Development Indicators;* and IMF, WEO database.

## Is Investment Too Low?

Asia's high current account surplus also may be the result of an investment slump. In emerging Asia, investment-to-GDP ratios collapsed by about 10 percentage points of GDP or more immediately following the Asian crisis and have remained low (in particular for economies hit most severely by the crisis), but savings remained broadly stable (see Box 3.3). While at least part of the decline can be attributed to overinvestment in the years leading to the crisis,[17] there are large differences in investment-to-GDP ratios across the region, suggesting again some caution against generalizations (Figure 3.11). With the exception of Malaysia and the Philippines, most emerging Asian economies have overall investment ratios that are higher than the OECD average and closer to the average for middle-income countries, consistent with their lower stage of development. For industrialized Asian economies, the investment ratio is close to the OECD average (about 20–25 percent), except for Korea. Moreover, there are important differences between public and private investment. Indeed, in economies hit by the Asian financial crisis, the collapse of investment was mainly due to private investment. Public investment has tended to play a

[15] The declining share of household disposable income across Asia has been mirrored by rising corporate profitability and savings. This has been analyzed in the October 2009 *Regional Economic Outlook*.

[16] See for example Blanchard and Giavazzi (2005), Kuijs (2005), Chamon and Prasad (2010), and Wei and Zhang (2009).

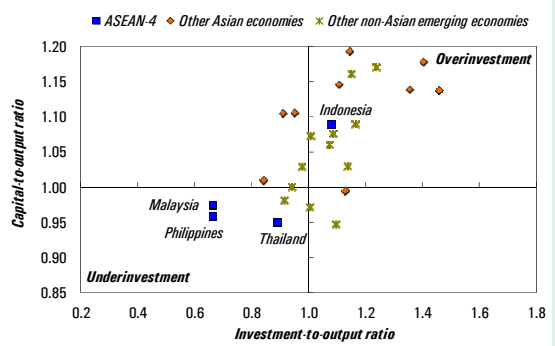
[17] Eichengreen (2006); Hori (2007); Guimaraes and Unteroberdoerster (2006).

relatively greater role after the crisis (notably for Korea, Malaysia, and Thailand), reflecting programs to upgrade infrastructure, thereby partly offsetting the fall in private investment.

- *Model-based estimates*. In countries where the capital-output ratio is below its long-run level, investment rates should be above their long-run level—these countries are catching up with their peers and need to invest more. If they fail to do so, investment rates are "too low"—these countries are in the underinvestment quadrant (Figure 3.12). Based on our estimates of steady state levels of capital and investment ratios for a set of about 30 (mostly) emerging market economies, some ASEAN economies (with the exception of Indonesia) seem to have moved in recent years deeper into the underinvestment quadrant than other countries (see Technical Appendix for details). By contrast, China and India appear farthest out in the overinvestment quadrant. Having said that, these model-based estimates should be treated with some caution, mainly because they do not reflect structural changes (such as a shift away from growth that is intensive in capital, infrastructure, or residential investment).[18]

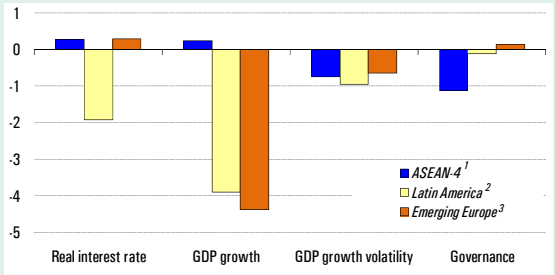
- *Empirical benchmarks*. Estimates based on an empirical model of investment (see Box 3.3) suggest that weaknesses in the investment climate (notably governance) and macroeconomic uncertainty may hinder private investment in the region, particularly among the ASEAN-4 economies (Figure 3.13).[19] Indeed, efforts to improve the business climate—including strengthening the rule of law, creditor rights, and transparency of government operations; reforms that facilitate access to finance; and efforts to level the playing field between foreign and domestic or private and public investors—have all been on the reform agenda (see Box 3.3) in many economies in the region as a way to boost both domestic and foreign investment. However, despite progress, investor perceptions seem to improve only slowly (see also Hori, 2008 and May 2006 *Regional Economic Outlook*).

**Figure 3.12. Capital-to-Output and Investment-to-Output Ratio**
*(Relative to steady–state level in 2008)*




Sources: Penn World Tables; IMF, WEO database; and staff calculations.

**Figure 3.13. Model Based Determinants of Deviation of Investment-to-GDP Ratio from Sample Mean**
*(In percentage points from sample mean)*



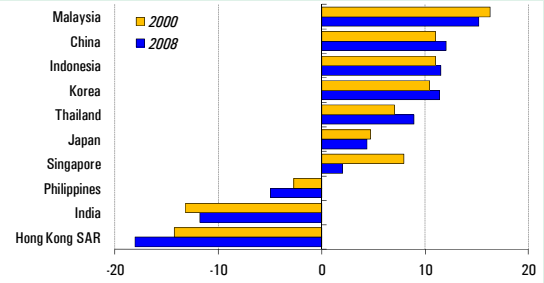

Source: IMF staff estimates.
[1] ASEAN-4 includes Indonesia, Malaysia, Philippines, and Thailand.
[2] Latin America includes Argentina, Brazil, Chile, Colombia, Mexico, and Uruguay.
[3] Emerging Europe includes Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Serbia, Slovak Republic, and Slovenia.

[18] Moreover, they do not control for changes in the efficiency of investment over time, although the fact that they are robust to a range of depreciation rates may in part address this issue. Excluding the Asian-crisis period, incremental capital- output ratios have remained relatively stable, averaging about 4.5 in the 1980s for emerging economies in Southeast Asia compared to 4 in the 2000s, suggesting that aggregate efficiency has also remained broadly stable.

[19] This includes an indicator for governance from the International Country Risk Guide, which largely reflects investor perceptions of corruption in both the public and private sector. As such a worsening investment climate does not necessarily reflect an actual deterioration, but could well be the result of worsening investor perceptions that can be triggered by severe economic shocks like the Asian financial crisis.

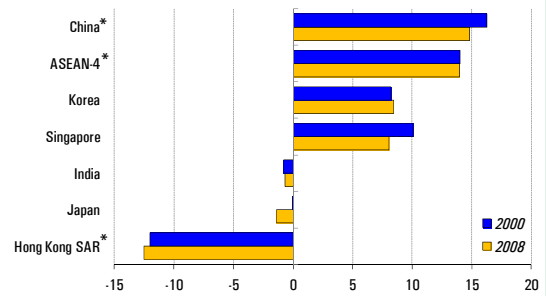
*continued*

**Figure 3.14. Selected Asia: Excess Share of Industry in GDP[1]**
*(In percentage points; country industry share minus industry share of peer–group)*




Sources: World Bank, *World Development Indicators;* and IMF staff calculations.
[1] Peer-group definitions are based on World Development Indicators. Countries were assigned the following peer-groups: Hong Kong SAR, Japan, Korea, and Singapore (OECD); China, Indonesia, the Philippines, and Thailand (low-and-middle income countries); India (lower middle income countries); and Malaysia (upper middle income countries).

**Figure 3.15. Selected Asia: Model Based Excess Share of Industry in GDP[1]**
*(In percentage points)*




Source: IMF staff estimate.
[1] Estimated by country-specific dummy variable. Explanatory variables for industry share include per capita income (PPP), population and geographic size. An asterik mark next to the economies indicates statistical significance at 5 percent level.

By contrast, already high levels of investment in China and India present different challenges. China's unusually low level of consumption and dependence on external demand point to a need to shift the composition of investment away from manufacturing and export industries and more toward the social and consumer sectors in order to reorient growth toward consumption. On the other hand, India, with a level of overall investment between that of China and the ASEAN-4, and with demand already well balanced between external and domestic sources, would benefit from financial reforms and fiscal consolidation to catalyze private sector participation in infrastructure investment and support faster growth.

## D. Are There Any Supply-Side Imbalances?

The supply-side counterpart of high dependence on external demand could be represented by an over-reliance on the tradable sector. For example, at about 50 percent, China's share of industry in GDP is nearly twice as high as the OECD average, and more than 10 percentage points of GDP above the world average for low- and middle-income countries (Figure 3.14). ASEAN economies, Japan, and Korea, however, also have a relatively high share of GDP in industry. As a mirror image, the share of services in GDP is generally lower in Asia, with the notable exception of India. Regression estimates confirm that the share of industry in GDP is above the "norm" in China and the ASEAN-4 economies (Figure 3.15). The same also appears to be true even for Singapore (although model estimates are not statistically significant), which as a financial center already is a mainly services-based economy. Similar results are obtained when looking at employment shares, broadly confirming the over (under-) exposure of Asian economies to industry (services).

At the same time, productivity in the service sector generally has been low in Asia. Industry and services broadly reflect the tradable and nontradable sectors, respectively. However, productivity growth in Asia's service sector has stagnated relatively to the United States in recent years (Figure 3.16). According to empirical studies, deregulation and further opening to foreign competition would help in unlocking the services sector's growth potential (Nicoletti and Scarpetta, 2003; Conway and others, 2007). Indeed, in many regional economies policy efforts already have been directed at allowing greater competition in infrastructure-related services, further opening the retail and financial sectors, and lifting restrictions on entry into social services, such as health and education.

However, India's vibrant service sector is an interesting counterpoint. In India, the services

sector has been among the economy's most dynamic (in part reflecting higher productivity growth), leading GDP growth for the last two decades. Nevertheless, employment in the formal sector has grown slowly compared to countries with growth led by manufactured exports. A broadening of infrastructure investment to improve connectivity to markets and liberalization of labor laws and other regulation would raise the prospects for growth in industry and agriculture, which are traditionally more labor intensive.

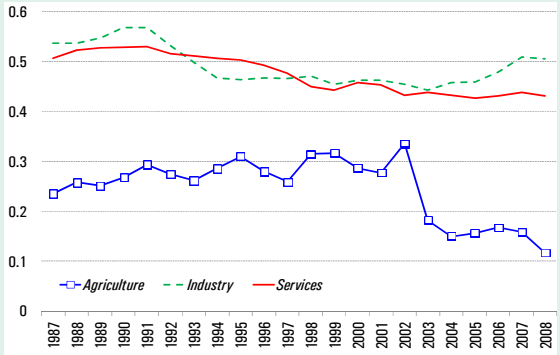
## E. Impact of Rebalancing: Illustrative Model Simulations

How much can policies across the region contribute to sustained growth and what are the spillovers? This section uses multicountry simulations, based on the IMF's GIMF model, to help illustrate how a successful implementation of structural and macroeconomic policies across the region could boost domestic sources of growth and bring about rebalancing. The set of policies considered here (see Box 3.4) ranges from structural reform to boost productivity and thereby raise investment in the nontradable sector, to financial sector and fiscal policies reducing the incentives for precautionary savings, to moves in the REER. The combination of policies across economies in the region is guided by the evidence from the imbalances in demand and resource allocation presented in the previous section. The policies also generally are consistent with medium-term reform plans already being implemented or envisaged by the authorities of the selected economies.

### Main Scenario: Simultaneous Rebalancing By All Economies

The central scenario considered is one where Asia successfully rebalances in the face of weak demand from the United States. This scenario envisages an increase in the private U.S. saving rate of 2½ percent of GDP above the baseline (current IMF *World Economic Outlook* projections) and a protracted decline in private investment.

**Figure 3.16. Asia: Productivity Levels**
*(Relative to the United States)*




Sources: World Bank, *World Development Indicators*; and IMF staff estimates.

This is combined with a full-fledged rebalancing scenario in Asian economies, whereby all policy measures (Box 3.4) are simultaneously implemented across regional economies to boost domestic demand and productivity in the services sector. As most reforms and their benefits will take time to materialize, this section focuses on their medium- to long-term impact.[20]

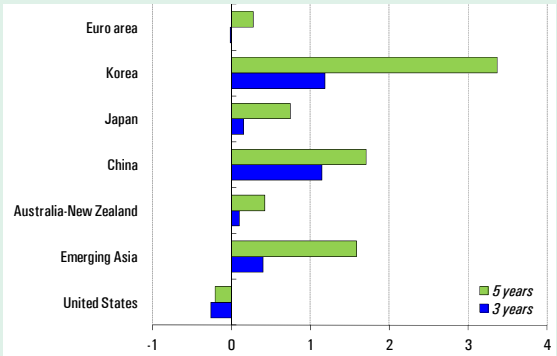
- Output rises in all Asian economies relative to the baseline projections presented in Chapter I, reflecting the implementation of structural reforms and positive spillovers throughout the region and the rest of the world (Figure 3.17). U.S. output still would fall below the baseline, but the decline would be less than without rebalancing efforts in Asia as a whole or some of its parts. For example, GIMF model simulations by Blanchard (2010) show that rebalancing efforts in emerging Asia (involving lower savings and a more flexible exchange-rate regime) would boost U.S. output by about 1 percent over a scenario without rebalancing.[21]

[20] However, rebalancing growth could entail short-term cost, including for employment. While short-term employment costs are not always present they likely depend on policies put in place to smooth the transition (April 2010 *World Economic Outlook*; Guo and N'Diaye, 2009b).

[21] According to these simulations, U.S. output after three years would remain about 2 percent below the baseline if rebalancing of global demand were to focus only on emerging

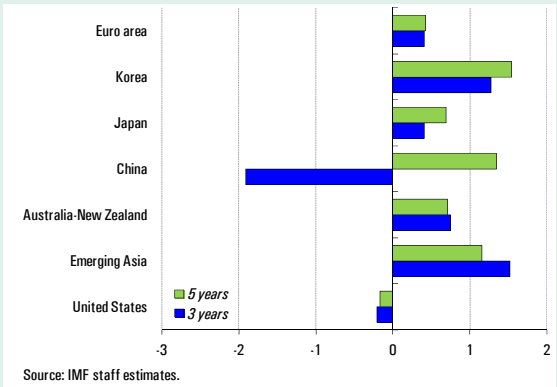
*continued*

**Figure 3.17. Output**
*(Deviation from baseline in percent)*



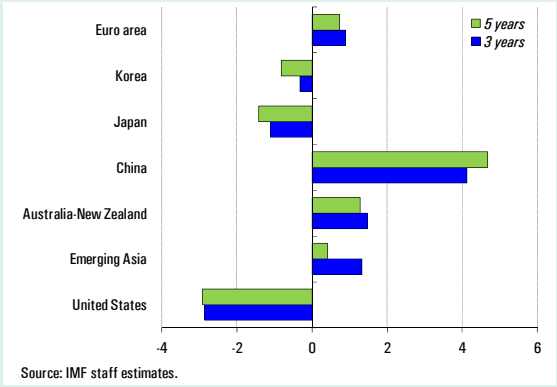

Source: IMF staff estimates.

**Figure 3.18. Investment-to-GDP Ratio**
*(Deviation from baseline; in percentage points)*




Source: IMF staff estimates.

**Figure 3.19. Consumption-to-GDP Ratio**
*(Deviation from baseline; in percentage points)*




Source: IMF staff estimates.

Asia (and about 3 percent below the baseline with no rebalancing efforts in Asia).

- Investment rises relative to GDP in all economies in the short and medium term, except in China (Figure 3.18). Also, investment rises, primarily in the nontradable sector, as structural reforms lift productivity. In China, while firms in the nontradable sector invest more, those in the tradable sector invest less as the cost of capital increases and the exchange rate appreciates. The fall in investment in the tradable sector dominates initially. However, over time aggregate investment rises as there is more and more investment in the nontradable sector to meet growing demand.

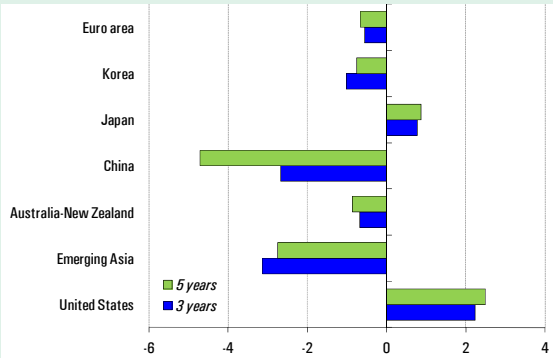
- Private consumption-to-GDP ratios rise in Australia, China, emerging Asia, and New Zealand (Figure 3.19). The higher share of private consumption reflects the effects of financial sector reforms that result in better access to finance and reduce precautionary savings, higher labor income, and wealth effects from lower payments on foreign liabilities (in Australia and New Zealand, through lower interest rates and some currency appreciation).[22] Consumption falls in relation to GDP in Japan and Korea but for different reasons, at least in the short to medium term. In Japan, the projected increase in the consumption tax rate to reduce the level of public debt dampens consumption initially, notwithstanding the positive impact of fiscal consolidation on risk premia and the lowering of precautionary savings that result from such a consolidation. However, the level of consumption rises in the longer term, as the benefits of structural reforms are felt and the tightening fiscal stance ends. In Korea, the fall in the consumption–to-GDP ratio simply reflects the fact that the reforms stimulate mostly investment and that GDP rises faster than private consumption.

[22] The valuation effects from currency changes may be overstated in the case of Australia and New Zealand because most banks' foreign liabilities are hedged.

- Rebalancing Asia's growth would also lower global imbalances. Current account balances are lower in most Asian economies, owing to stronger domestic demand, lower export demand from the United States, and an appreciating currency (Figure 3.20). In the short run, the lower current account balances reflect lower exports and more imports relative to the baseline; while in the longer term, stronger import demand from China raises exports in Japan, Korea, and emerging Asia (Figures 3.21 and 3.22). Economies that benefit most from the stronger demand from China are those whose production structure is ready to produce the final consumption goods that China will demand (notably Korea).

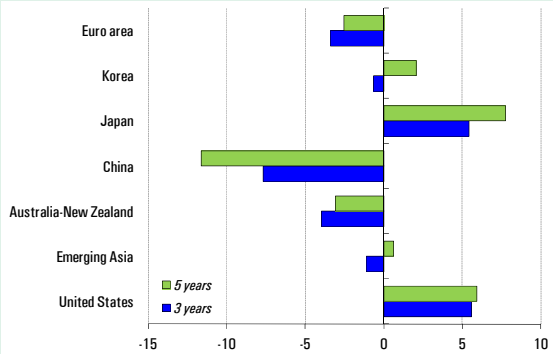
For India the spillovers from rebalancing in Asia likely would be more limited. As noted in Section B, India is much less export dependent than the rest of Asia and thus would benefit less from strengthening domestic demand in the region. Moreover, it is still less integrated with Asian trading partners. For example, the combined share of China, Japan, and Korea in India's capital and consumer goods exports is only about 2–3 percent, 5 to 10 times less than the respective shares for the United States. At the same time, spillovers from India's rebalancing to other Asian economies also are likely to be more limited. As noted above, India's growth already is mainly reliant on domestic drivers, and rebalancing in India will not as much entail a shift from external to domestic sources of growth but more narrowly focus on addressing structural bottlenecks, notably infrastructure. Improving connectivity to markets, domestic and foreign, would help redress India's overreliance on services and boost overall employment through better prospects for labor-intensive industry and agriculture. However, for other Asian economies, spillovers from the likely rise in capital goods imports would again be limited, as India is only a marginal buyer on the

**Figure 3.20. Current Account Balance-to-GDP Ratio**
*(Deviation from baseline; in percentage points)*



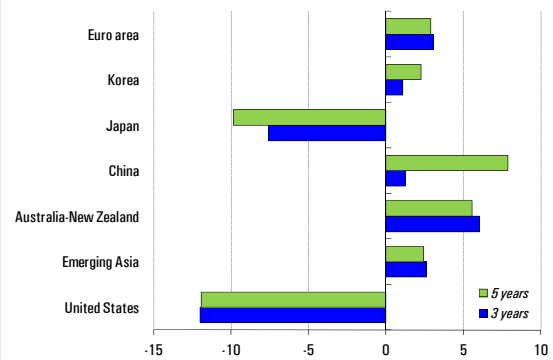

Source: IMF staff estimates.

**Figure 3.21. Exports**
*(Deviation from baseline; in percent)*




Source: IMF staff estimates.

**Figure 3.22. Imports**
*(Deviation from baseline; in percent)*




Source: IMF staff estimates.

world stage, accounting for 2 percent or less of their capital goods exports.

### Alternative Scenarios: Partial Rebalancing

Rebalancing in some individual economies alone will have positive spillovers to other Asian economies, but it will not fully offset the lack of external demand.

- We focus on China, which often has been at the center of the debate on Asia's contribution to a global rebalancing of demand. This may reflect (in addition to the large size of its current account surplus) two factors: first, the scope for boosting China's low consumption rate appears large by international standards (as shown in section C); and second, China's economic dynamism, including the fact that China has recorded very high import growth rates for consumer goods—about 15 percent per year over the last 15 years, compared with a world average of 10 percent.

- Nevertheless, rebalancing growth in China alone will not fully offset the lack of external demand. For example, the negative impact on Asian exports of a rise in the saving ratio in the United States would not be offset by an equal decrease of that ratio in China. Positive spillovers to the region from greater Chinese demand would at best mitigate one-third of the adverse shock (see also October 2009 *Regional Economic Outlook*). One important reason is that, despite high growth, China has remained a marginal importer of consumer goods—accounting for only 3 percent of global imports—while the United States still dominates global imports, both in terms of direct and indirect trade linkages. Moreover, countries in the region, especially those currently catering predominantly to demand in advanced economies, would need to adapt their production lines to the new Chinese demand for final goods.[23]

- Moreover, a faster appreciation of the renminbi than that considered in our central scenario (Box 3.4) would have only limited additional positive spillovers for trading partners, including the United States. A scenario analysis that adds increased exchange rate flexibility (with a 10 percent real effective appreciation of the renminbi over two years followed by a floating exchange rate) to the main scenario presented above, without accelerating reforms by China and other countries, shows that China's current account would only be lowered by an additional ¾ percent of GDP relative to the central scenario, while the U.S. current account would improve by ¼ percent of GDP. The ultimate impact on growth in China and elsewhere depends on how fast private consumption can be catalyzed. Exchange rate appreciation would help support private consumption by raising the labor share of income, but structural rigidities could slow the transition toward a more balanced economy.

## F. Conclusions

How can Asia achieve a successful rebalancing? Asia's growth has depended highly on external demand, according to various measures and by international comparison. This dependence has led to an unbalanced production structure, leaving the nontradable sector relatively underdeveloped. From the domestic demand side, ways to make growth more resilient are more varied, as only a few economies need to raise private consumption and several need to promote investment.

Simultaneous implementation across the region of a package of measures, including a combination

[23] Measured by an import similarity index of more than 300 types of consumer goods, the consumer goods basket imported by China overlaps with that of other advanced economies by only about 35 percent.

of reforms in product and labor markets, fiscal and exchange rate policies, and financial markets (where measures to improve access to finance are complemented by prudential policies to avoid excessive risk taking) has the potential to bring about a successful shift in the pattern of growth. When implemented on a standalone basis by individual economies, including China, rebalancing efforts will help increase growth in Asia but will not be sufficient to fill the void created by weaker external demand from advanced economies. In fact, the global slump has motivated a rethink of development strategy beyond the cyclical recovery across the region. For example, in Singapore, a high-level Economic Strategies Committee chaired by the Minister of Finance has laid out recommendations to make long-term growth sustained and inclusive. The 2010 budget implements some of these recommendations through measures to boost productivity growth and the role of domestic workers in the economy. In Malaysia, the government has unveiled a New Economic Model with an ambitious reform agenda to revitalize the economy by addressing long-standing structural and fiscal weaknesses. If implemented, this vision could double per-capita income in a decade.

## Box 3.1. Boosting Consumption in China: Is Public Spending on Health the Right Medicine?

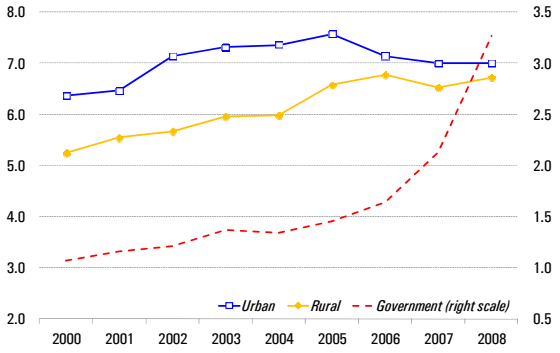
Strengthening consumption is a key objective of China's policymakers, and an integral part of their strategy to rebalance growth. This box reviews a recent IMF working paper (Barnett and Brooks, 2010) arguing that one important dimension to boost consumption is to increase public spending on health. The paper's key finding is that an increase in public health spending of 1 yuan translates into a 2-yuan increase in urban household spending.

One factor often cited for the high household saving rate is precautionary saving. The reforms in the 1990s—especially to state-owned enterprises—led to the breaking of the so-called iron rice bowl as existing systems for providing education, health care, and pensions were dismantled. This led to an increase in uncertainty facing households, and helps explain the rise and high level of precautionary saving. It also points to a potential solution: Reduce precautionary saving by strengthening the provision of social services, so that households have less need to self-insure. This certainly holds in theory, but is it also true empirically?

Empirical evidence supports the view that increased public social services reduce precautionary saving, at least for health spending in urban households. As shown in Barnett and Brooks (2010), regressions using a time series of provincial data yield a fairly robust finding that a 1-yuan increase in government health spending increases urban consumption by 2 yuan. The result also holds for the higher-income rural provinces. Separate work done with the Fiscal Affairs Department of the IMF (Baldacci and others, 2010) arrives at a similar finding, but using illustrative estimates for the relationship between the saving rate and social expenditures in China based on panel estimates for OECD countries.

**China: Health Care Spending**

*(In percent of private consumption)*




Source: China Household Survey.

The empirical finding is important, as ex ante the impact of higher government spending is ambiguous. On the one hand, the more that government provides, the less that household have to pay themselves. Therefore, government health spending could substitute for private spending and thus lead to lower household consumption. On the other hand, if government spending reduces the need for households to self-insure against the risk of a large future medical bill, then household consumption would rise. Indeed, private health care spending by urban households has fallen in recent years, suggesting that higher government spending on health care has potentially freed up resources for households for other spending or saving. The empirical results indicate that this second effect dominates, and that higher government health spending leads households to save less and spend more.

In contrast to health spending, there seems to be little evidence to support the view that higher government education spending boosts consumption. However, this could reflect that pre-cautionary motives are centered on higher education costs, whereas most of the increase in government spending has been toward primary and secondary education, or that expected household education spending has risen even faster than the increase in government spending.

---

Note: The main author of this box is Steven Barnett.

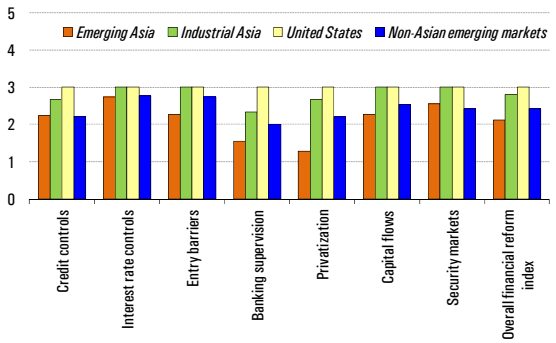
Focusing on health spending, the results corroborate the conventional wisdom that precautionary motives help explain China's high saving rate. It is encouraging that Chinese policymakers have made improving health care a priority. Doing so will of course directly benefit the people of China by improving access to and the quality of medical care. It also will have the beneficial side effect of boosting household consumption, and thereby contributing to rebalancing China's economy.

## Box 3.2. Consumption and Financial Development in Asia

Financial reform and the resulting changes in access to financing are closely related to a household's decision on the level and timing of saving. Theory indicates that the overall effect of financial reform on savings may well be ambiguous. In a more liberalized financial market, households might have easier access to finance and therefore need to save less, as the precautionary motive is less pressing. Yet, at the same time, in a more liberalized financial market, interest rates may rise, which in many instances may induce households to save more. Changes in access to mortgage financing also can have an ambiguous effect, depending on the starting point. Lowering down payment requirements from a high to a moderate level can induce more savings, as households that previously could never meet that high down payment might start to save to meet the lower requirement. Further declines in down-payment ratio eventually may lower savings (by reducing the amount of consumption forsaken in order to meet that requirement).This box analyzes the empirical link between household consumption and the extent of financial development, including for China and India, and asks which of the competing effects prevail.

How does financial sector development affect private consumption? We estimate a panel regression based on a cross-country database (24 advanced and emerging market economies) which relates the consumption share of GDP to measures of financial sector reform, controlling for other possible determinants of consumption including per capita income (measured in terms of purchasing power parity), share of household disposable income in GDP, private sector credit, money supply, and the real interest rate. The measures of financial development include indicators for (1) entry barriers (e.g., licensing requirements and limits on the participation of foreign banks), (2) interest and credit controls, (3) privatization in the financial sector, (4) international financial transaction restrictions, (5) operational restrictions on securities markets, (6) banking supervision, and (7) an overall financial reform index (Abiad, Detragiache, and Tressel, 2008).[1] The main findings are:

**Financial Reform Index, 2005**




Source: Abiad, Detragiache, and Tressel (2008).

- Financial reform is associated with a higher household consumption share in GDP. As an illustration, the results suggest that raising China's financial reform index in 2005 to that of Korea[2] would raise household consumption by 2.4 percent of GDP, while raising that index to the maximum level (in line with the G-7) would raise it by 5 percent of GDP. While this would represent a substantial improvement, a large gap would remain between China's consumption level of about 35 percent of GDP and the regression based norm (which would call for a consumption level of about 50 percent of GDP).
- Could India benefit as much as China? While most attention is focused on China, given its unusually low consumption, India's consumption also is relatively low. Based on the regression model for consumption used here, in 2005, India's consumption level was about 9 percent of GDP lower than that suggested by

Note: The main authors of this box are Marcos Chamon and Sonali Jain-Chandra.

[1] Due to the correlation of the financial reform indices among themselves, we consider only one reform indicator at a time. The financial reform database ends in 2005.

[2] China's current level of financial sector development as measured by the Abiad, Detragiache, and Tressel database is roughly equivalent to Korea's level in 1985.

cross-country comparisons. However, since India is relatively more financially developed (under the financial reform index used, in 2005, India and China's index value was 87 percent and 68 percent of Korea's index level respectively), raising India's financial reform index in 2005 to that of Korea would only increase consumption by 1 percent of GDP.

- Financial depth also plays a role. In addition to financial reform, financial depth, which measures not only the underlying institutions but also the supply and demand for credit, is considered. A 1-percentage point increase in the ratio of private sector credit-to-GDP would raise consumption by 0.05 percent of GDP.

What are the policy implications? Financial reform can play an important role in boosting consumption and can usefully complement other initiatives. Improved household access to financial services, particularly consumer credit or housing finance, lessens incentives to save or hold precautionary cash balances, thereby boosting consumption. Policymakers should identify financial reforms, which could boost consumption without contributing to systemic risks. Collateralized consumer loans (such as through payroll loans in Brazil) tend to be relatively safe, but could have limited effect on consumption unless there is a latent demand for such loans. An expansion of access to housing-related loans (for example reforms in Korea from 1999 onwards to make the mortgage market more competitive and deeper) could have a larger potential impact on consumption, but would involve more systemic risk.

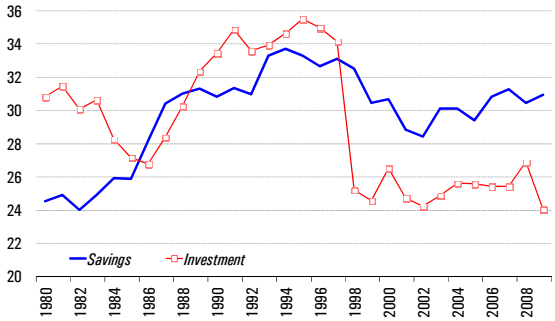
## Box 3.3. Rebalancing Growth in Asia: What Role for Investment?

*Since the Asian financial crisis, investment has remained low in large parts of emerging Asia. Moreover, investment across the region remains largely export driven, while there are still significant infrastructure needs. This box reviews some of the impediments that may have hampered investment in Asia, and how policies can help in addressing them.*

Investment spending in much of emerging Asia has declined sharply since the late 1990s, and has since remained at relatively low levels. The average investment-to-GDP ratio in emerging Asia (excluding China and India) has fallen by nearly 10 percentage points since the Asian financial crisis, and now settles at around two-thirds of its pre-crisis peak. This mainly reflects a collapse in private investment, while public investment held up. With savings relatively stable, this collapse in investment has been an important contributor to the region's large current account surpluses.

**Emerging Asia: Savings and Investment[1]**

*(In percent of GDP)*

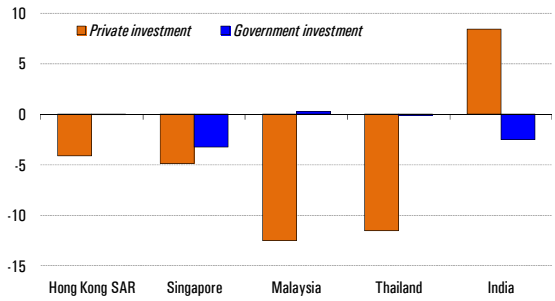



Souce: IMF, WEO database.
[1] Excluding China and India.

India and China are notable exceptions to this trend, with investment-to-GDP ratios steadily rising. In India, in particular, private investment spending has become an increasingly important component, accounting for nearly three-fourths of overall investment. Notwithstanding continued infrastructure development needs, sustaining high rates of private investment appears to be less of a concern in these countries than in the rest of the region. Accordingly, most of the subsequent discussion focuses on developments outside China and India, and emerging Asia is used to refer to economies excluding these two countries.

**Selected Emerging Asia: Change in Investment Share of GDP**

*(In percentage points; change in average share following the Asian crisis)[1]*




Source: IMF, WEO database.
[1] Pre-crisis average calculated over 1986-1996, and post-crisis average calculated over 1999-2009.

While the decline in overall investment ratios in emerging Asia can be in part explained as a correction of the excesses that led to the financial crisis at the end of the 1990s, the composition of private investment in the region also has changed over the last decade, shifting toward larger, export-oriented firms in the manufacturing sector. Domestically oriented and service-sector firms have exhibited much less of a recovery since the crisis. In particular, investment by smaller firms has lagged behind across emerging Asia, reflecting weaker fundamentals since the crisis, notably lower profitability and liquidity. As rebalancing emerging Asia's growth model involves reorienting the production structure and pattern of spending away from external to domestic drivers of growth, there may be scope for shifting capital spending toward firms and sectors more directly linked to the domestic economy—even in countries such as Korea and Singapore, where aggregate investment does not seem abnormally low.

---

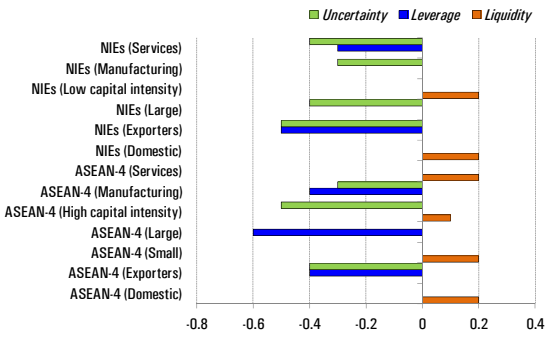
Note: The main authors of this box are Malhar Nabar and Murtaza Syed.

### What explains these trends?

Staff estimates suggest that part of the decline in aggregate investment can be explained by structural changes following the Asian crisis.[1] Relative to the early 1990s (1) lower returns have decreased investment by 5 percent of GDP; (2) greater uncertainty by slightly more than three-fourths of a percentage point; and (3) deterioration in perceptions about the business climate is associated with a further decline of three-fourths.[2]

A more disaggregated firm-level view points to lack of external financing as a major constraint, especially for small firms.[3] Since the Asian crisis, investment in the ASEAN economies has become more sensitive to the availability of internal funds. This effect is especially acute for firms that are small in size, more domestically oriented, and operating in the services sector. One possible explanation is that all these factors hinder the ability of firms to offer collateral (e.g., physical assets and hard-currency receivables). However, in the NIEs, financing constraints appear less binding and are confined to domestically oriented firms and those with relatively higher labor intensity. In addition, the firm-level analysis suggests that higher leverage holds back investment, both in the export and services sectors. By contrast, the association between investment and fundamentals is much weaker in China, and there is less evidence of differentiation in the determinants of investment across firms in India. This seems to suggest less scope for rebalancing through reforms to further boost private investment in China or to reorient private investment away from exports toward domestic sectors in India.

**Emerging Asia: Elasticity of Investment Rate to Fundamentals**




Sources: Worldscope; and IMF staff calculations.

### What can be done to boost investment and shift it towards domestic demand?

- *Further improve the investment climate.* While the structural reforms implemented since the Asian crisis have potentially made a substantive difference in the region's investment climate, it appears that perceptions have not yet caught up with the new reality. It will be important to continue with ongoing efforts, such as making product and labor markets more competitive (e.g., adoption of a competition law in Hong Kong SAR), leveling the playing field for foreign investors (e.g., by lowering restrictions on foreign investment in the services sector, as recently done in Malaysia), ensuring contract enforcement, and reducing administrative bottlenecks (e.g., one-stop shops for foreign investors as introduced in Indonesia and Malaysia).

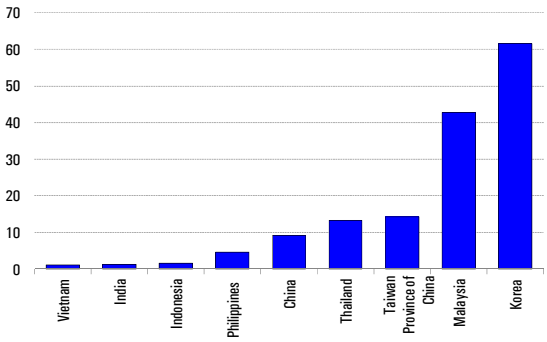
---

[1] The regression framework used is the Arellano-Bond generalized method of moments (GMM) estimation including GDP growth, real per-capita GDP, uncertainty, cost of capital, financial market development, and quality of governance as independent variables. Uncertainty is proxied for by the volatility of GDP growth (based on the standard deviation calculated over rolling 5-year windows). The index for financial market development is from Abiad, Detragiache, and Tressel (2008). The measure of business climate perceptions used is the International Country Risk Guide index of political risk, compiled by Political Risk Services Group.

[2] As discussed in the May 2006 *Regional Economic Outlook*, this is consistent with a recalibration of previously overly optimistic investor perceptions regarding governance quality in the region.

[3] Based on dynamic panel econometric techniques using Worldscope data. Firm-level investment is a function of profit expectations (Tobin's *Q*), cash flow, leverage (debt- to-assets), and uncertainty (standard deviation of returns on the weekly stock price index).

## Box 3.3. *(concluded)*




- *Better access to finance.* Even for larger firms, funding sources can be broadened as only Korea and Malaysia have a sizable corporate bond market in emerging Asia. Moreover, the financial infrastructure for smaller and more service-oriented firms needs improving by more lending on risk-based terms; reforming collateral laws to allow for a wider range of securitization (beyond real estate and other fixed assets); and by widening the pool of venture capital funding through targeted tax breaks of the kind introduced by Malaysia. Deepening credit information and extending the coverage of credit registries, as was done in the Philippines through the establishment in 2008 of Credit Information Corporation, would also improve access to finance by helping banks to better assess credit risks.

- *Reduce credit risk by facilitating corporate restructuring of SMEs.* For example, the Korea Asset Management Corporation (KAMCO) successfully created a market for distressed Korean corporate debt by purchasing NPLs from banks and repackaging them for eventual sale to investors.[4] A similar restructuring and consolidation of the SME sector might be accomplished usefully by promoting asset management companies that specialize in repackaging distressed debt of small firms.

- *Increase infrastructure investment.* Over the next decade, Asia needs to invest nearly US$7½ trillion in infrastructure, including transport, energy, and communications.[5] Despite improvements, stark disparities in the quality of infrastructure remain, with China, India, Indonesia, and the Philippines lagging. Demand for infrastructure in these countries also is being driven by demographics and rapid urbanization. To help meet the resulting financing needs, India, for example, has employed the Public Private Investment Partnership model for investing in roads. The viability of projects is further supported through capital grants, reduced tariffs on imported machinery and equipment, and easier norms for external commercial borrowing.

[4] See Kang and Kim (2006).

[5] See Asian Development Bank (2009).

## Box 3.4. The Asia GIMF Model and Policy Assumptions

The GIMF model used in this chapter includes eight regions: five Asian blocks (China, emerging Asia, Japan, Korea, and Australia and New Zealand), the United States, the euro area, and the rest of the world.[1] Consistent with section B of this chapter, the model also incorporates several layers of production, distinguishing between the manufacturing of intermediate goods, distribution of intermediate goods to domestic and foreign assemblers, and final production of consumption and investment goods. It thus captures a more comprehensive (that is, direct and indirect) transmission of external shocks and spillover effects from rebalancing.

Policy assumptions for rebalancing efforts of Asian economies in the main scenario are:

- In China, the package of reforms assumed is similar to the one envisaged in N'Diaye, Zhang, and Zhang (2008) and includes (1) structural reforms in the services sector that raise productivity (e.g., enhanced competition between domestic and foreign firms, liberalization of retail services) accompanied with a shift in households' preference toward nontradable goods; (2) fiscal reform aimed at reducing precautionary saving by increasing coverage of education, health care, and pensions, and improving infrastructure in rural areas; (3) further financial development and liberalization (including interest rates) to enable better smoothing of household consumption, capital allocation, and improved risk management by banks; and (4) a gradual real effective appreciation of the renminbi—20 percent over 10 years for illustrative purposes—that supports the transition to greater reliance on the nontradable sector and stimulates private consumption by raising labor's share of income.
- In Japan, the reform package is geared toward improving productivity in the services sector (by ½ percentage point per year over five years), liberalizing labor and product markets, and putting public finances on a more sustainable path. Fiscal consolidation aims at lowering the fiscal deficit by 5 percent of GDP over five years (similar to the consolidation during 2002–07, albeit a period characterized by healthy growth), with half the burden falling on tax increases and the other on expenditure cuts. The rise in taxes is achieved solely through a gradual hike in the consumption tax rate.
- In Korea and emerging Asia, structural reforms aim at raising productivity in the services sector by encouraging greater competition and leveling of the playing field between the tradable and nontradable sectors, as well as enhancing flexibility in labor and product markets, and further developing domestic capital markets including by reducing credit constraints for households.

---

Note: The main author of this box is Papa N'Diaye.

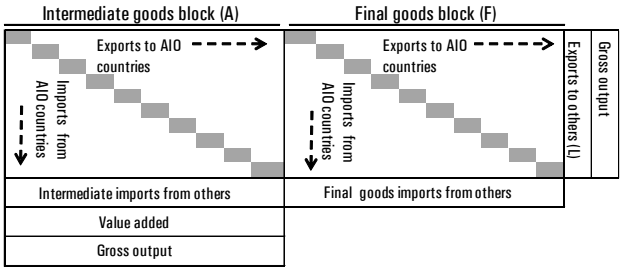
[1] The emerging Asia group comprises Hong Kong SAR, Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

# Technical Appendix 3.1

## Asian Input/Output (AIO) Tables

*Updating the AIO 2000 Table and Data Sources*

Our updating procedure follows Pula and Peltonen (2009). The AIO table is divided into three blocks: Intermediate demand (A), Final demand (F), and Exports (L), as shown below:




The elements in each of these blocks are updated as follows:

*Intermediate Demand block (A)*

- Value added $(V_{t+1}^{j})$: Growth rates of value added are calculated from National Accounts data for each country (data from CEIC).
- Total output $(X_{t+1}^{j})$: Since total output data for the AIO countries is not available except for 2000 (with the exception of the United States), the ratio of output to value added in the manufacturing sector of each country is used as a proxy to estimate total output from GDP figures. Data on manufacturing value added comes from National Accounts data, while data on manufacturing output is based on industrial production data, (both from the CEIC database).
- Imported inputs $(A_{t+1}^{i,j})$: For imported intermediate inputs, we use two data sources. National Accounts data on imports was used to estimate the growth rate of overall imports, including goods and services. In order to capture changes in the direction of trade, we used COMTRADE data for intermediate goods. Since COMTRADE only covers merchandise trade, we assume that the change in imports by direction and type are similar for goods and services. Let i,j stand for country of source and country of demand respectively. Then

$$\text{int}M_{t+1}^{*ij} / \text{int}M_{t}^{*ij} = (M_{t+1}^{NA} / M_{t}^{NA}) * \frac{(\text{int}M_{t+1}^{COMij} / \text{int}M_{t}^{COMij})}{(M_{t+1}^{COM} / M_{t}^{COM})} \quad (1)$$

where *int* stands for intermediate, *M* for imports, and *NA* and COM for National Accounts and COMTRADE respectively. The figures for 2000 are incremented by the growth rate of total imports, weighted by the change in the share of bilateral intermediate imports in total goods imports of country *j*.

- Freight, insurance, and import duties $(BA_{t+1}^{j}, DA_{t+1}^{j})$: Assuming the share of these items in total imports remains unchanged, the growth rates are set equal to the growth rate of total imports from National Accounts. Domestic intermediate inputs $(A_{t+1}^{jj})$: This is estimated as the residual, equal to total imports less total imported inputs, that is

$$A_{t+1}^{jj} = X_{t+1}^{j} - V_{t+1}^{j} - BA_{t+1}^{j} - DA_{t+1}^{j} - \sum_{i=1}^{n} A_{t+1}^{ij} \quad (2)$$

*Final Demand block (F)*

The updating procedure for this block is similar to that described above. Final demand is updated separately for consumption and investment demand, as follows:

- Consumption and investment $(C_{t+1}^{ij}, I_{t+1}^{ij})$: National Accounts data are used to update these series. Consumption is taken as the sum of private and government consumption expenditure, while investment is defined as the sum of gross fixed investment and inventories.

- Imported final goods and investment goods $(cF^{ij}_{t=1}, iF^{ij}_{t=1})$ : growth rates are calculated as follows:

$$cM^{*ij}_{t+1} / cM^{*ij}_{t} = (M^{NA}_{t+1} / M^{NA}_{t}) * \frac{(cM^{COMij}_{t+1} / cM^{COMij}_{t})}{(M^{COM}_{t+1} / M^{COM}_{t})}, \quad (3)$$

and

$$capM^{*ij}_{t+1} / capM^{*ij}_{t} = (M^{NA}_{t+1} / M^{NA}_{t}) * \frac{(capM^{COMij}_{t+1} / capM^{COMij}_{t})}{(M^{COM}_{t+1} / M^{COM}_{t})} \quad (4)$$

where *c* stands for consumption and *cap* for capital goods.

- Freight and insurance, and import duties $(cBF^{j}_{t+1}, iBF^{j}_{t+1}, cDA^{j}_{t+1}, iDA^{j}_{t+1})$ : Same procedure as used for the intermediate block.
- Domestically produced final goods $(cF^{jj}_{t+1}, iF^{jj}_{t+1})$ : This is the residual, estimated as total final consumption less sum of imported final goods, for each type of good.

*Export block (L)*

Exports to Hong Kong SAR, EU-15, and rest of the world (RoW) $(L^{iH}_{t+1}, L^{iO}_{t+1}, L^{iW}_{t+1})$ are calculated in a similar manner, using both National Accounts and COMTRADE data. The formula is as follows.

$$(EX^{*ij}_{t+1} / EX^{*ij}_{t}) = (EX^{NA}_{t+1} / EX^{NA}_{t}) * \frac{(EX^{COMij}_{t+1} / EX^{COMij}_{t})}{(EX^{COM}_{t+1} / EX^{COM}_{t})}, \quad (5)$$

where $j = H,O,W$

*Tracing value added to domestic, intraregional, and extra-regional demand*

Our exercise requires calculating the Leontief inverse matrix, as follows. From the supply side, the basic input-output equation can be written as $AX + Y = X$ where $A$ is the matrix of input coefficients $(a_{ij} = \frac{A^{ij}}{X^{j}})$, I is the total output vector, and $Y$ is the matrix of final demands. Rearranging this equation yields $X = (I - A)^{-1} Y = BY$, where $B$ is the Leontief inverse matrix. Each element $b_{ij}$ of $B$ measures the units of output of country $i$ required for 1 unit of final demand in country $j$.

For any final demand vector (or matrix) $f^j$ the impact of $f^j$ on total output is given by $IF^{j}_{X} = Bf^{j}$

The impact on value added is $IF^{j}_{V} = \hat{\upsilon} * Bf^{j}$, where $\hat{\upsilon}$ is a diagonal matrix consisting of the ratio of value added to gross output in each country.

The contribution ratio of final demand in country j to the value added in country i is given by $CR^{ij} = 100 * (IF^{ij}_{V} / \sum_{j=1}^{J} IF^{ij}_{V})$, where J is the number of final demand vectors.

*Adjusting for Hong Kong SAR's Entrepôt Trade.*

Reexports account for a high proportion of Hong Kong SAR exports (97 percent). If not accounted for, this will lead to an overestimate of the contribution of Hong Kong SAR final demand to value added in the AIO countries. To adjust for this, a part of the unadjusted contribution of exports to Hong Kong SAR to value added is reassigned to other countries and regions as follows:

$$CR^{ij}_{t,HK} = CR^{ij}_{t} + \mu^{Hi}_{t} * \lambda^{H}_{t} * CR^{iH}_{t} \quad (6)$$

where $CR^{ij}_{t,HK}$ is the adjusted contribution ratio of exports to j in the value added of country *i*, $CR^{ij}_{t}$ is the unadjusted ratio, $\mu$ is the ratio of Hong Kong SAR exports to country i in total Hong Kong SAR exports, $\lambda$ is the ratio of Hong Kong SAR reexports to total Hong Kong SAR exports in year *t*, and $CR^{iH}_{t}$ is the unadjusted contribution ratio of Hong Kong SAR.

## Steady-State Investment

We follow the approach set out in the September 2005 *World Economic Outlook*, Box 2.4 "Is Investment in Emerging Asia Too Low?"

In a neoclassical growth model, the steady-state level of investment (i*) is given by: i* = k*(g + d)/(1 + g), based on estimates of a steady-state capital-output ratio (k*), the depreciation rate (d), and the rate of potential output growth (g).

The stock of capital is derived from the standard perpetual inventory method. Data on gross fixed real investment during 1950–80 is obtained from Penn World Tables, and from 1980 onwards from the IMF *World Economic Outlook*.

For a given deprecation rate, k* is found as the maximum value of the capital-output ratio on average over long (15- and 20-year periods) between 1950 and 2008. This helps ensure robustness, particularly vis-à-vis boom and bust periods such as the Asian financial crisis.

Results reported here are the averages for two models, one with a deprecation rate of 5 percent and the other with a rate of 7 percent.

The rate for potential output growth is consistent with medium-term IMF *World Economic Outlook* projections.

### Steady-State Consumption

Levels for steady-state consumption are derived from those for steady-state investment (see above) and country-specific saving-investment norms, exploiting the national accounts identity for open economies: Y* - (S-I)* -I* = C*, with Y representing income, S saving, I investment, and C consumption.

The saving-investment norms (S - I)* are based on staff estimates using the IMF's Consultative Group on Exchange Rates (CGER) Macroeconomic Balance approach. These are structural current account balances based on panel regression estimates that reflect country characteristics such as level of development and demographic factors, and abstract from cyclical variations in current account balances.

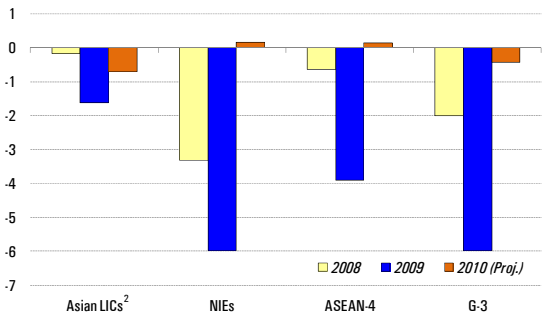
# ANNEX

## Low-Income Countries and Pacific Island Countries

## Box A1. Asian Low-Income Countries: Recovery Prospects and Policy Challenges[1]

After a moderate slowdown in early 2009, growth in Asian low-income countries (LICs) started to pick up in the second half of 2009. The recovery was supported by improvements in external demand, resilient foreign direct investment (FDI) inflows and private remittances, and accommodative monetary and fiscal policy.

**Real GDP Growth in Comparison with Pre-crisis Growth[1]**
*(In percent)*

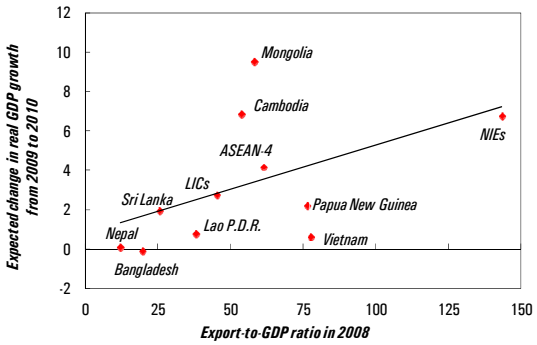



Sources: IMF, WEO database; and staff calculations.
[1] Pre-crisis growth is defined as the average growth of 2000-07.
[2] See footnote 1 of the text for the countries included in the low-income-countries (LICs).

The recovery in Asian LICs, however, has proceeded at a slower pace than in emerging Asia, though with some variation. Countries that are more export dependent, and hence more severely affected by the global crisis, are now enjoying stronger recoveries. Among the relatively open Asian LICs, those with a more diversified economy and greater reliance on domestic demand have maintained relatively high and stable growth (Papua New Guinea and Vietnam); while those with a narrow export base were hit the most during the crisis, but are expected to rebound more strongly in 2010 (Cambodia and Mongolia), on account of improved external demand and higher commodity prices.

The economic recovery in LICs in 2010 is expected to be slow, for a number of reasons:

**Export Dependence and Impact on Real GDP Growth**
*(In percent)*




Sources: IMF, WEO database; and staff calculations.

- While Asian LICs' commodity exports have been robust, supported by strong demand from China, the recovery of garment exports has been relatively anemic, mainly reflecting weak demand for garments and little sign of garment inventory rebuilding in the United States, which has affected all the large garment-exporting Asian LICs.

- FDI flows to Asian LICs generally have declined (in percent of GDP), although less so in resource-based economies (Lao People's Democratic Republic, Mongolia, and Papua New Guinea). And they may remain low even as the global recovery becomes more established, especially if emerging Asia economies retain their recent gains in competitiveness (including through continued improvements in business environments). This is what happened after the Asian financial crisis at the end of the 1990s—FDI flows gyrated from Asian LICs toward emerging Asia economies, reflecting the latter's improved competitiveness (through significant devaluations).

- While remittances remained an important source of income in several Asian LICs, they are expected to slow down in many economies in the region (Bangladesh, Nepal, and Sri Lanka), as the effect of the hiring surge in the Gulf region through mid-2008 is gradually tapering off.

---

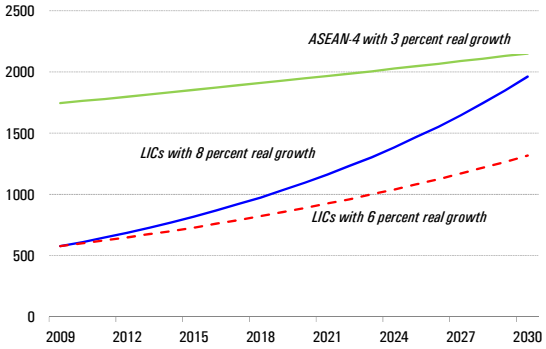
Note: The main authors of this box are Ran Bi and Varapat Chensavasdijai, with assistance from To-Nhu Dao.
[1] The LICs in this analysis include Bangladesh, Cambodia, Lao People's Democratic Republic, Mongolia, Nepal, Papua New Guinea, Sri Lanka, and Vietnam.

## Box A1. *(concluded)*

- Finally, while expansionary policies helped to cushion the impact of the crisis, they also have heightened macroeconomic risks. The fiscal stimulus packages implemented in Bangladesh, Sri Lanka, and Vietnam, for example, have not been very extensive in general, mainly due to capacity constraints. However, policy rates were reduced substantially as the adverse spillover effects became more apparent, especially since the first quarter of 2009 (Mongolia and Sri Lanka). This has helped support growth, but also has fueled rapid credit growth and increased inflation pressures, the latter exacerbated by the rebound in global commodity prices. In addition, overly accommodative policies have resulted in a significant deterioration in the external position of some countries, such as Nepal and Vietnam.

Looking ahead, a key priority for Asian LICs is to restore macroeconomic stability. For most countries, tighter monetary and fiscal policy would help keep credit growth and inflation under control, while reducing pressures on the balance of payments. Moreover, while fiscal balances are expected to improve slightly for most countries, deficits are likely to remain high, raising concerns about debt sustainability.

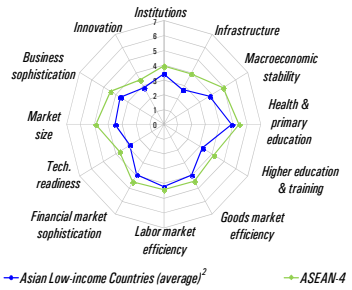
**Illustrative Medium-Term Growth Paths**
*(Per capita GDP in 2000 U.S. dollars)*




Sources: IMF, WEO database; and staff calculations.

Over the medium term, real GDP growth in Asian LICs is expected to reach 6–7 percent on average, allowing a gradual convergence with income levels of their emerging Asia peers. But Asian LICs will need to grow even faster than their pre-crisis growth rates (about 6 percent), in order to substantially narrow the income gap with the ASEAN-4 group within the next two decades. Recent studies have shown that following a global shock to their terms of trade or external demand, LICs tend to recover more slowly than other countries, and to only fully return to their historical growth trend after about five years. With an estimated cumulative output loss in Asian LICs of about 3 percent of GDP during the current crisis, the catching-up process for Asian LICs may have been slowed down significantly.

**Competitiveness Index of Selected Asian Countries, 2009–2010[1]**




Source: World Economic Forum, *Global Competitiveness Report, 2009-2010*
[1] Each factor is scored in the 1-7 scale with 1 being the poorest quality and 7 being the best.
[2] Including Bangladesh, Cambodia, Mongolia, Nepal, Sri Lanka, and Vietnam.

To realize their growth potential Asian LICs cannot rely solely on a rapid recovery in external demand and capital inflows. They also need to make significant progress in a series of structural reforms needed to raise their competitiveness, including:

- *Improving the business environment*, to attract more private investment and FDI. Based on the World Bank *Doing Business* 2010, Asian LICs continue to lag behind emerging Asia in this area, with only Bangladesh making progress in facilitating new businesses among Asian LICs.

- *Addressing infrastructure bottlenecks*, particularly in transportation and utilities, as well as shortages of skilled labor, which are the weakest areas of Asian LICs compared with ASEAN-4 (World Economic Forum

*Global Competitiveness Report 2009–2010*). This will require higher capital and social spending, but within a fiscal framework that ensure medium-term fiscal sustainability. To achieve this, Asian LICs may need substantial reforms of tax policy and administration, and where relevant, in effectively managing the large resource revenues. Several Asian LICs (Bangladesh, Lao People's Democratic Republic, Papua New Guinea, Sri Lanka, and Vietnam) have begun reforms on this front, but more will be needed in this area.

- *Increasing the domestic value added of production.* The Asian LICs with large endowments of natural resources should expand the role of processing industries (e.g., Vietnam is developing domestic oil refineries). More generally, Asian LICs would benefit from diversifying their production base, to be less vulnerable to commodity price shocks.

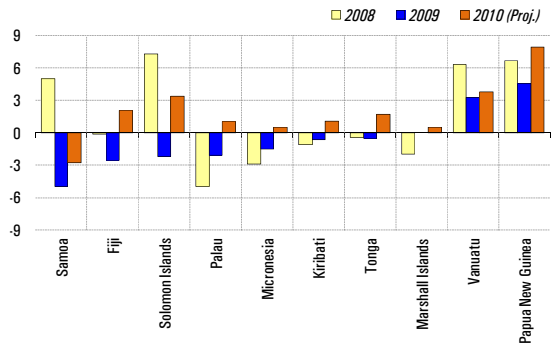
- *Safeguarding banking sector soundness.* Sustained periods of excessive credit growth, and property busts in a few countries, have led to increasing concerns about asset quality, particularly in Cambodia, Lao People's Democratic Republic, Mongolia, Nepal, and Vietnam, underscoring the need to further enhance bank regulation and supervision capacity in these economies.

## Box A2. Impact of the Global Crisis on the Pacific Island Countries

Growth fell sharply in 2009 in almost all of the Pacific Island countries (PICs) as the full impact of the global economic crisis hit the Pacific. The deterioration in growth was driven by a fall in tourist arrivals, loss of key export markets and a fall-off in remittances from workers in Australia, New Zealand, and the United States. Fiji's growth also suffered from structural problems that have driven sugar exports to historical lows and Samoa was negatively affected by a tsunami that damaged its tourism sector. Palau faced a contraction in FDI as foreign firms lost access to financing and investment may have been negatively affected by protracted Compact negotiations with the United States. The Solomon Islands was affected by a reduction in timber production, in part related to overlogging. In contrast, growth held up in Papua New Guinea due to its insulated financial sector, still-strong terms of trade, and an increase in public spending; and in Vanuatu due to tourism and construction.

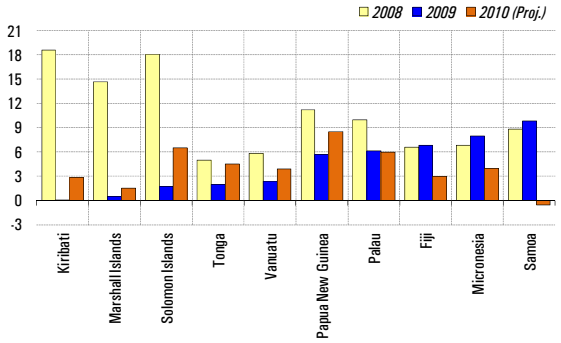
Inflation eased substantially during 2009 in many PICs, from the high rates associated with the pass-through of international food and fuel prices in 2008. The decline in inflation was driven partly by the reversal in the prices of international commodities on which the PICs are heavily dependent. Other key factors were the sharp contraction in domestic credit growth that resulted from the cautious behavior of international banks from Australia and the United States that dominate the PICs' financial sectors and the general slump in economic activity (although in Vanuatu credit growth remained robust). In Kiribati, the fall in inflation to zero at end-2009 also reflected the strong appreciation of the Australian dollar (national currency) in the second part of the year. In Fiji, domestic liquidity was further reduced in the first half of 2009 as Fiji's international reserves dwindled to less than two months of import cover. Reserves and liquidity in Fiji recovered following the 20 percent devaluation of the Fiji dollar in April

**Real GDP Growth**
*(In percent)*



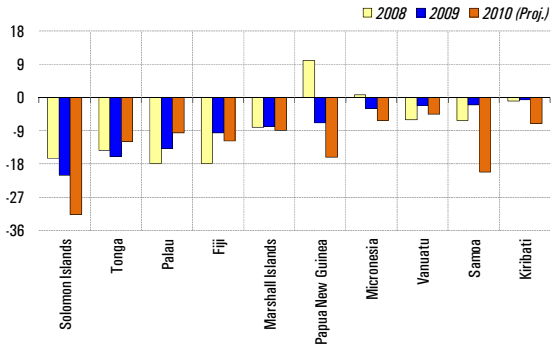

Source: IMF, APDLISC database.

**Consumer Price Inflation**
*(In percent)*




Source: IMF, APDLISC database.

**Current Account Balance**
*(In percent of GDP)*




Source: IMF, APDLISC database.

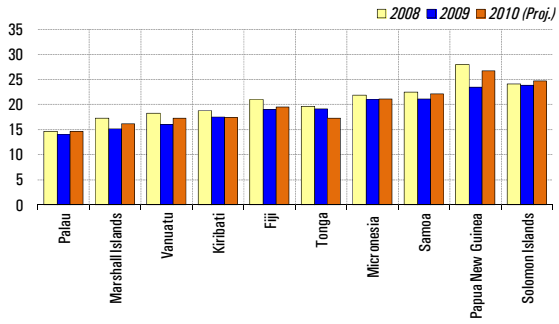
Note: The main author of this box is Jonathan Dunn.

2009, and the devaluation pushed inflation slightly higher, though credit growth did not rebound. In Tonga, a rise in NPLs also constrained bank lending

Current account deficits improved in most PICs in 2009 due to sharp shifts in the trade balance as commodity prices fell and the demand for imports eased. This was the case in Fiji even though sugar exports fell substantially. However, the current account deteriorated in several countries. In the Solomon Islands this was due to declining log exports and larger repatriated profits by foreign companies. Papua New Guinea continued to import, given strong domestic demand while lower commodity prices reduced nominal exports shifting the current account into deficit. Tonga faced reduced investment income and a substantial decline in remittances.

**Tax Revenue[1]**

*(In percent of GDP)*



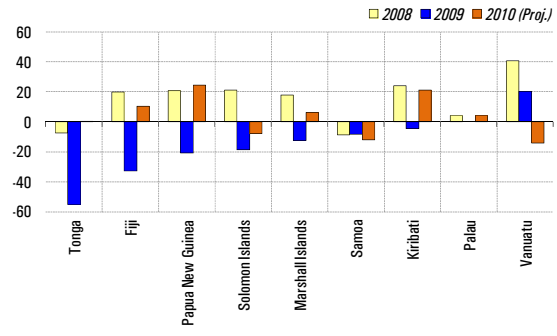

Source: IMF, APDLISC database.

[1] Total domestic revenue.

Fiscal sectors were hit hard in most PICs during 2009. In some countries with large trust funds (Tuvalu and the Compact countries of the North Pacific), the funds' value lost 10–20 percent due to poor investment performance; this constrained these countries' ability to support their economies through fiscal stimulus. In Kiribati, after declining by 12 percent in 2008, the value of the trust fund increased marginally in 2009. All PICs faced substantial declines in tax revenue as imports, consumption and profits fell, although for some this was partially offset by increased donor support, or by an increase in nontax revenues, as in the case of Kiribati. In the Solomon Islands, despite spending constraints, this was insufficient to cover revenue shortfalls, putting further pressure on an already fragile cash situation. Poor revenue performance (and rapidly falling international reserves) in Fiji constrained needed spending following severe floods early in the year and forced the government to freeze civil service wages. In Fiji and the Marshall Islands, high public debt limited governments' options to support domestic demand during the economic crisis. In contrast, accumulated windfall mineral revenue allowed for significant fiscal stimulus in Papua New Guinea.

**Export Growth**

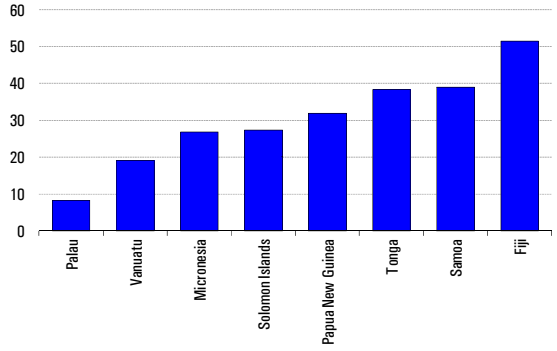
*(In percent; U.S. dollar basis)*




Source: IMF, APDLISC database.

**Public Debt, 2009**

*(In percent of GDP)*




Source: IMF, APDLISC database.

Growth in the Pacific is projected to rebound marginally during 2010–11 due to stronger growth in Asia, including Australia and New Zealand, though the recovery is likely to be uneven across the PICs. Australian tourist departures to the Cook Islands, Fiji, and Vanuatu picked up by 23 percent, 9½ percent and 15 percent, respectively, for the 12 months through January

**Box A2.** ***(concluded)***

2010 (compared to the previous 12 months). However, growth of tourist departures to other PICs from Australia and New Zealand, was, still marginally negative. Furthermore, there is a risk that Pacific travel will decline as source-country tourists return to long-haul travel as the economic recovery gains pace. PIC exports are projected to pick up due to the recovery in destination markets, although Samoa's exports will remain suppressed as it gradually rebuilds its tourism sector following the tsunami; and the Solomon Islands' logging exports are expected to continue to fall. In Kiribati, recovery in regional economies is expected to spill over, lifting near-term prospects, and private sector activity appears to have picked up, especially in the construction and retail sectors. Unemployment is projected to remain high for 2010 in the major destination countries (New Zealand and the United States) for PIC labor, and this is likely to weigh on remittances to, and growth in the PICs. In Papua New Guinea, the construction phase of liquefied natural gas projects and recovery in export incomes will stimulate domestic demand and generate robust growth. With international commodity prices projected to rise, inflationary pressure also is likely to build in the PICs over the coming months.

## Box A3. Restoring Macroeconomic Sustainability in Maldives

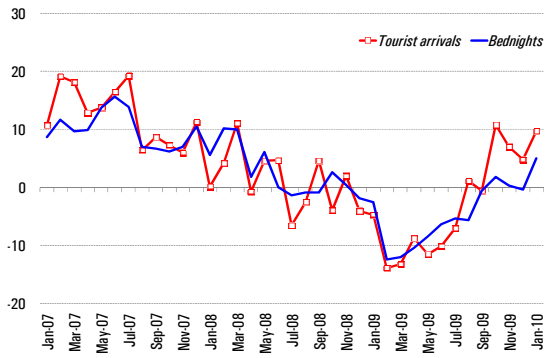
The 2008–09 global economic crisis hit Maldives hard and exacerbated the effects of an unsustainable fiscal expansion, leading to large external and fiscal imbalances. The Maldivian authorities responded with an ambitious policy package supported by external financing, including an IMF program. This helped stabilize the economy and move it back from the brink of a macroeconomic crisis, but major challenges remain.

After the 2004 tsunami, government expenditure almost doubled as a share of GDP. A key driver was the public wage bill, which rose fourfold between 2004 and 2009, coming to absorb almost 90 percent of the government's total revenue in 2009. The fiscal expansion, compounded in 2008 by rising commodity prices, led to a rapid growth in imports and a widening of the current account deficit.

From mid-2008, the global crisis significantly exacerbated the existing imbalances. Tourism receipts were affected badly by the global downturn, driving this tourism-based economy into recession. The decline in tourism receipts also hurt foreign exchange earnings and fiscal revenues which also fell on account of slower imports (customs duties are a key source of revenue) and postponed lease payments from embattled tourist resort projects. The fiscal deficit rose to 17 percent of GDP in 2008, and without corrective action, was on course to reach more than 30 percent of GDP in 2009. To finance the ballooning deficit, the government increasingly resorted to central bank credit. The global crisis also prompted a significant setback in foreign investment inflows into tourism-related activity, and a key bank had difficulty rolling over external credit lines, falling into severe dollar liquidity shortages. With a large exposure to the tourism sector, banks experienced a sharp increase in NPLs.

**Tourism**

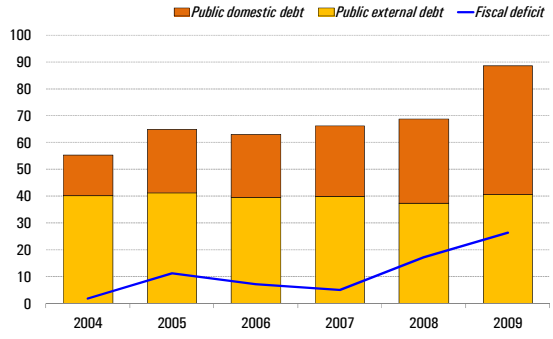
*(Year–on–year percent change)*




Source: IMF staff calculations.

**Public Debt**

*(In percent of GDP)*




Source: IMF staff calculations.

By mid-2009, the situation became critical. Supporting the fixed exchange rate—pegged to the U.S. dollar at 12.8 rufiyaas per dollar since 2001—in the face of a lax fiscal policy, deficit monetization, and negative external shocks led to significant reserve losses. This forced the Maldives Monetary Authority (MMA) to ration foreign exchange, and a parallel foreign exchange market emerged with a considerable premium.

In response, a comprehensive, IMF-supported program of bold policy measures was put together to restore macroeconomic stability and fiscal sustainability. In December 2009, the IMF Board approved a blended financial arrangement, combining a Stand-By Arrangement and the Exogenous Shocks Facility, for a combined

Note: The main author of this box is Rodrigo Cubero.

## Box A3. *(concluded)*

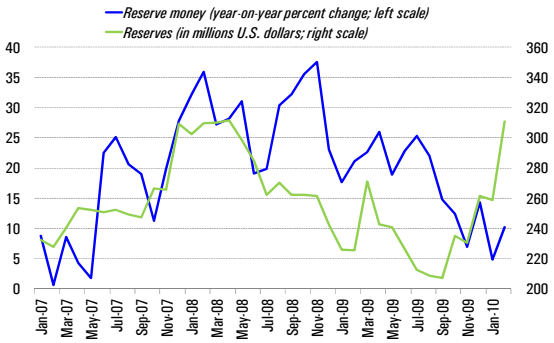
total of about US$92 million (700 percent of quota). At the core of the program is a strong effort to reduce the fiscal deficit, while protecting social spending. The program also aims to absorb excess rufiyaa liquidity, shore up reserves, and strengthen the financial sector.

On the fiscal front, authorities have taken bold measures to cut the fiscal deficit. They temporarily cut public sector wages by an average of 14 percent, began an ambitious process of public sector downsizing, and raised electricity tariffs significantly to reduce the associated subsidies. They also have committed to introducing new tax measures to boost revenue and broaden the tax base, including a business profit tax and a goods and services tax on tourism and other industries. To protect the poor, the authorities maintained social spending in the budget, and are improving the targeting of subsidies.

The program also aims to rebuild international reserves to prudent levels while preserving the current exchange rate peg to the U.S. dollar. Monetary policy is supporting the fiscal adjustment effort through a tightening of domestic currency liquidity. The authorities have taken key steps to regain control of the money supply: they halted the monetization of the deficit, converted the government's debt stock with the MMA into tradable securities, and introduced open market operations using these securities as collateral. The authorities also are strengthening the financial sector's supervision and regulation framework, including by introducing regulations on loan loss provisioning and asset classification, single borrower limits, and net open positions.

This strong policy effort was supported by substantial multilateral and external financing. The IMF program helped catalyze support from other multilateral sources, including the World Bank and the Asian Development Bank (AsDB). India also provided significant financing, and a donor conference organized by the World Bank and the United Nations (UN) at end-March 2010 yielded significant commitments from other bilateral donors.

**Reserve Money and Gross International Reserves**




Source: IMF staff calculations.

The authorities' strong policies under the program and external financial support have succeeded in stabilizing the economy and restoring confidence. Pressures on the exchange rate have eased, international reserves have increased, money growth has slowed, and conditions in the banking sector have stabilized. The tourism industry is bouncing back, along with the global economy, helping growth to recover.

Looking ahead, significant challenges and risks remain. Progress on public sector reform has been slower than envisaged; the authorities are facing strong opposition to the public sector wage cuts, which could be reversed earlier than expected; and passage of the needed tax reforms may prove difficult, given the government's lack of a parliamentary majority. With a high level of public debt, projected to reach 97 percent of GDP this year, any significant fiscal slippages may compromise debt sustainability. However, the authorities remain strongly committed to the program's objectives and numerical targets.

# References


Abiad, A., E. Detriagiache, and T. Tressel, 2008, "A New Database of Financial Reform," IMF Working Paper 08/266 (Washington: International Monetary Fund).

Asian Development Bank, 2009, "Infrastructure for a Seamless Asia" (Manila).

Balakrishnan, R., S. Danninger, S. Elekdag, and I. Tytell, 2009, "How Linkages Fuel the Fire: The Transmission of Financial Stress from Advanced to Emerging Economies," Chapter 4 in *World Economic Outlook* (Washington, International Monetary Fund, October).

Baldacci, E., G. Callegari, D. Coady, D. Ding, M. Kumar, P. Tommasino, and J. Woo, 2010, "Public Expenditures on Social Programs and Household Consumption in China," IMF Working Paper No. 10/69 (Washington: International Monetary Fund).

Barnett, S. and R. Brooks, 2010, "China: Does Government Health and Education Spending Boost Consumption?" IMF Working Paper No. 10/16 (Washington: International Monetary Fund).

Blanchard, O. and F. Giavazzi, 2005, "Rebalancing Growth in China: A Three-Handed Approach," CEPR Discussion Paper No. 5403.

Blanchard, O. and G. M. Milesi-Firetti, 2009, "Global Imbalances: in Midstream?" IMF Staff Position Note 09/29 (Washington: International Monetary Fund).

Blanchard, O., 2010, "Saving Scenarios for Emerging Asia and the United States" (unpublished; Washington: International Monetary Fund).

Bernanke, B., 2005, "The Global Saving Glut and the U.S. Current Account Deficit," Remarks by Governor Ben S. Bernanke at the Sandridge Lecture, Virginia Association of Economics, Richmond, Virginia, (March 10).

Chamon, M. and E. Prasad, 2010, "Why are Saving Rates of Urban Households in China Rising?" *American Economic Journal: Macroeconomics*, Vol. 2, No. 1, pp. 93–130 (January).

Clarida, R., J. Calf, and M. Gertler, 1998, "Monetary Policy Rule in Practice: Some International Evidence," *European Economic Review*, Vol. 42, No. 6, pp. 1033-67.

Conway, P., D. De Rosa, G. Nicoletti, and F. Steiner, 2007, "Regulation, Competition, and Productivity Convergence," OECD Economic Department Working Paper (Paris: Organization for Economic Cooperation and Development).Cui, L. and M. Syed, 2007, "The Shifting Structure of China's Trade and Production," IMF Working Paper No. 07/214(Washington: International Monetary Fund).

Cúrdia, V. and M. Woodford, 2009, "Credit Spreads and Monetary Policy," NBER Working Paper No. 15289 (Cambridge, Massachusetts: National Bureau of Economic Research).

Eichengreen, B., 2006, "The Blind Men and the Elephant," *Issues in Economic Policy*, (Washington: The Brookings Institution).

Fatas, A., P. Kannan, P. Rabanal, and A. Scott, 2009, "Lessons for Monetary Policy from Asset Price Fluctuations," in *World Economic Outlook* (Washington: International Monetary Fund, October).

Guimaraes, R. and O. Unteroberdoerster, 2006, "What's Driving Private Investment in Malaysia? Aggregate Trends and Firm-Level Evidence," IMF Working Paper 06/190 (Washington: International Monetary Fund).

Guo, K. and P. N'Diaye, 2009a, "Is China's Export-Oriented Growth Sustainable?" IMF Working Paper No. 09/172 (Washington: International Monetary Fund).

———, 2009b, "Employment Effects of Growth Rebalancing in China," IMF Working Paper No. 09/169 (Washington: International Monetary Fund).

———, 2010, "Determinants of China's Private Consumption: An International Perspective," IMF Working Paper (*forthcoming*).

Hori, M., 2007, "The Evolution of Trade in Emerging Asia," *Asia and Pacific Regional Economic Outlook* (Washington: International Monetary Fund, October).

———, 2008, "Investment Recovery from Financial Crisis: A View from Cross-Country Experiences," *mimeo* (Washington: International Monetary Fund).

International Monetary Fund, 2005, "Is Investment in Emerging Asia Too Low?" in *World Economic Outlook* (Washington, September).

———, 2006, *Regional Economic Outlook* (Washington, May).

———, 2007, *World Economic Outlook* (Washington, October).

———, 2008a, *Asia and Pacific Regional Economic Outlook* (Washington, April).

———, 2008b, *World Economic Outlook* (Washington, April).

———, 2008c, *Asia and Pacific Regional Economic Outlook* (Washington, October).

———, 2008d, *World Economic Outlook* (Washington, October).

———, 2009a, *Asia and Pacific Regional Economic Outlook* (Washington, May).

———, 2009b, *Asia and Pacific Regional Economic Outlook* (Washington, October).

———, 2010a, *Global Financial Stability Report* (Washington, April).

———, 2010b, *World Economic Outlook* (Washington, April)

Kalra, S., A. Mohommad, P. N'Diaye, and O. Unteroberdoerster, 2009, "Global Shifts in Demand: Making Up for Weaker Consumption in the United States," in: *Asia and Pacific Regional Economic Outlook* (Washington: International Monetary Fund, October).

Kang, K and S. Kim, 2006, "A Strategy for Restructuring the SME Sector in Korea," IMF Staff Country Report No. 95/36 (Washington: International Monetary Fund).

Kuijs, L., 2005, "Investment and Saving in China," Policy Research Working Paper No. 3633 (Washington: World Bank).

N'Diaye, P., Zhang, P., and Zhang, W., 2008, "Structural Reform, Intra-Regional Trade, and Medium-Term Growth Prospects of East Asia and the Pacific—Perspectives from a New Multi-Region Model," *Journal of Asian Economics*, Vol. 21, Issue 1, pp. 20–36.

Nicoletti, G. and S. Scarpetta, 2003, "Regulation, Productivity, and Growth: OECD Evidence," *Economic Policy*, Vol. 18, No. 36, pp. 9–51.

Prasad, E., 2009, "Rebalancing Growth in Asia," NBER Working Paper 15169 (Cambridge

Massachusetts: National Bureau of Economic Research).Pula, G. and T. Peltonen, 2009, "Has Emerging Asia Decoupled? An Analysis of Production and Trade Linkages Using the Asian International Input-Output Table," ECB Working Paper No. 993, (January).

Sommer, M., 2009, "Why has Japan Been Hit So Hard by the Global Recession," in IMF Staff Position Note No. 09/05 (Washington: International Monetary Fund).

Thorbecke, W., 2009, "Can East Asia Be An Engine of Growth for the World Economy?" RIETI Discussion Paper Series 09-E-006 (Tokyo: Research Institute of Economy, Trade and Industry).

Wei, S. and X. Zhang, 2009, "The Competitive Saving Motive: Evidence from Rising Sex Ratios and Savings Rates in China," NBER Working Paper No. 15093 (Cambridge, Massachusetts, National Bureau of Economic Research).

Woolridge, D., 2008, "Asia: End of Decoupling," UBS Investment Research, Asian Focus (January).

World Bank, 2010, "Doing Business 2010" (Washington).

World Economic Forum, 2010, "Global Competitiveness Report 2009–2010" (Geneva, Switzerland).