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Regional Economic Outlook

Asia and Pacific

Navigating an Uncertain Global Environment While Building Inclusive Growth

OCT 11

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Page 18, Box 1.5, third figure, the line representing the United States has been corrected. The correct version of the figure appears below.

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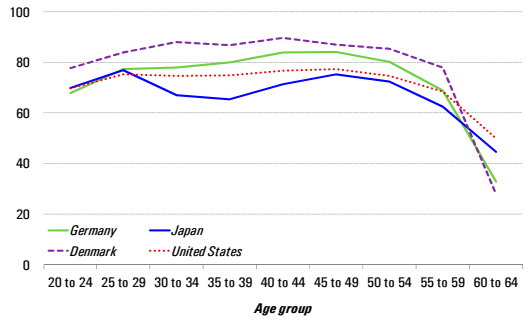
(In percent)



Source: Organisation for Economic Cooperation and Development (OECD).

Definitions

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

- "ASEAN" refers to Brunei Darussalam, Cambodia, Indonesia, Lao P.D.R., Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.
- "East Asia" refers to China, Hong Kong SAR, Korea, and Taiwan Province of China
- "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.
- "South Asia" refers to Bangladesh, India, and Sri Lanka
- "Asia" refers to ASEAN, East Asia, Industrial Asia, and South Asia.
- "EU" refers to the European Union
- "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.

The following abbreviations are used:

ASEAN	Association of Southeast Asian Nations
BIS	Bank for International Settlements
CCT programs	conditional cash transfer programs
CDS	credit default swap
CPI	consumer price index
ECCU	Eastern Caribbean Currency Union
FDI	foreign direct investment
FY	fiscal year
GDP	gross domestic product
GIMF model	Global Integrated Monetary and Fiscal model
IT	inflation targeting
LICs	low-income countries
MFI	microfinance institution
NDA	net domestic assets
NEER	nominal effective exchange rate
NFA	net foreign assets
NIE	newly industrialized economy
NPL	nonperforming loan

OECD	Organisation for Economic Cooperation and Development
PICs	Pacific Island countries
PMI	purchasing managers' index
REER	real effective exchange rate
SAAR	seasonally adjusted at an annual rate
SBV	State Bank of Vietnam
SMEs	small and medium-sized enterprises
SVAR	structural vector autoregression
TPP	Trans-Pacific Partnership
UNU-WIDER	United Nations University, World Institute for Development Economics Research
VAR	vector autoregression
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 Vivek Arora and Roberto Cardarelli of the IMF's Asia and Pacific Department, under the overall direction of Anoop Singh. Contributors include Ravi Balakrishnan, S. Pelin Berkmen, David Cowen, Sean Craig, Kessia De Leo, Nombulelo Duma, Selim Elekdag, Souvik Gupta, Fei Han, Sonali Jain-Chandra, Hye Sun Kim, W. Raphael Lam, Joedianna Mohammed, Sylwia Nowak, Ceyda Oner, Alexander Pitt, Phurichai Rungcharoenkitkul, Werner Schule, Shiyu Raj Singh, Chad Steinberg, Murtaza Syed, Patrizia Tumbarello, Olaf Unteroberdoerster, Jade Vichyanond, Yiqun Wu, Yi Xiong, and Yongzheng Yang. Jingfang Hao and Sanjeeda Munmun Haque provided research assistance. Kessia De Leo and Lesa Yee provided production assistance. Joanne Blake, Martha Bonilla and Michael Harrup of the IMF's External Relations Department edited the volume and coordinated its publication and release. This report is based on data available as of September 27, 2011 and includes comments from other departments and some Executive Directors.

In this version of the Asia and Pacific *Regional Economic Outlook* we introduced a change in format, as the analytical chapters are now shorter as they summarize the main results of research published or forthcoming in the IMF working paper series.

Executive Summary

The recovery in advanced economies is more sluggish than anticipated at the time of our April 2011 Asia and Pacific *Regional Economic Outlook* and the global outlook has become increasingly uncertain. The handover from public stimulus to private demand has stalled in the United States, and euro area financial turbulence has intensified. While the outlook for advanced economies is for a continuing, although weak, expansion over the remainder of 2011 and 2012, the risk of a renewed slowdown is greater now than six months ago, especially if structural fragilities remain unresolved.

Growth in Asia has also moderated since the second quarter of 2011, mainly as a result of weakening external demand. Domestic demand has been generally resilient, and overheating pressures remain elevated in a number of economies, with credit growth still robust and inflation momentum generally high. In line with the weaker global outlook, growth in Asia is expected to be slightly lower in 2011–12 than forecast in April 2011, but the expansion should remain healthy, supported by domestic demand, and inflation is expected to recede modestly after peaking in 2011. Nevertheless, risks for the Asia and Pacific region are also decidedly tilted to the downside. The sell-off in Asian financial markets in August and September 2011 underscores that an escalation of euro area financial turbulence and a renewed slowdown in the United States could have severe macroeconomic and financial spillovers to Asia.

The downside risks to growth amid persistent overheating pressures present Asian policymakers with a delicate balancing act, as they need to guard against risks to growth but also limit the adverse impact of prolonged easy financial conditions on inflation and balance sheet vulnerabilities. In economies where overheating pressures are more elevated and monetary conditions still accommodative, the return to more neutral monetary stances should continue, through both higher interest rates and more flexible exchange rates (Chapter II). However, in economies where inflation is within central banks' target ranges and the exposure to severe external shocks is greater, a pause in monetary tightening may be warranted until the global uncertainties have lessened. Meanwhile, the normalization of fiscal policy stances should run its course: in many economies, fiscal positions remain accommodative, with structural deficits higher than their precrisis levels. If the downside risks to the global outlook were to materialize, Asian economies have the scope to reverse course and use a range of measures to cushion the impact on economic activity, as many did in response to the global crisis in 2008.

At the same time, the weakness in global demand only confirms that Asia would greatly benefit from further progress in rebalancing growth by developing domestic sources of demand. In addition to structural reforms, this would require a reprioritization of fiscal spending, in order to create fiscal space for critical infrastructure investment and social priority expenditure. These measures would help increase domestic demand over time, as well as make the region more resilient to external shocks, and they would also help to make growth in Asia more "inclusive." Chapter III shows that despite fast growth and progress in poverty reduction, income inequality in Asia has increased over the last decade. Measures that deepen regional financial integration would also help with rebalancing, by improving access to finance and strengthening domestic demand (Chapter IV).

Asian low-income and Pacific Island economies face particular challenges in the near and medium term (Chapter V). In low-income countries, the fight against inflation is complicated by strong second-round effects, the need to phase out subsidies, and less well anchored inflation expectations. Pacific Island economies need to undertake further structural reforms to lift potential growth.

I. Navigating an Uncertain Global Environment

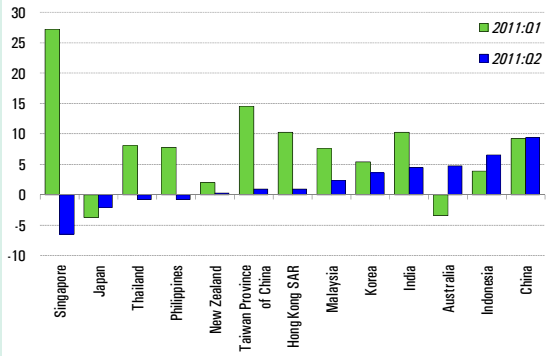
A. Resilient Domestic Demand Amid Pockets of Inflation Pressure

Global economic activity weakened in the first half of 2011. In advanced economies, the recovery was dragged down by the continued fragility in private sector balance sheets, as financial markets were buffeted by a series of shocks, including greater euro area sovereign risks and the credit downgrade of the United States. The increased uncertainty over the global outlook and greater risk aversion in financial markets spilled over to Asia in August and September 2011, with leveraged investors liquidating profitable positions in the region to cover their losses elsewhere. As a result, many Asian financial and currency markets experienced declines of magnitudes similar to those experienced in mid 2010.

After a strong start in the first quarter of 2011, economic activity in Asia has also moderated (Figure 1.1). Sluggish demand in advanced economies and supply-chain disruptions after the tragic March 2011 earthquake and tsunami in Japan led to a broad-based decline in industrial production and export growth across Asia (Figure 1.2). High frequency indicators, including manufacturing purchasing managers' indices (PMI) and export orders, suggest that the moderation of activity continued in the third quarter of 2011.

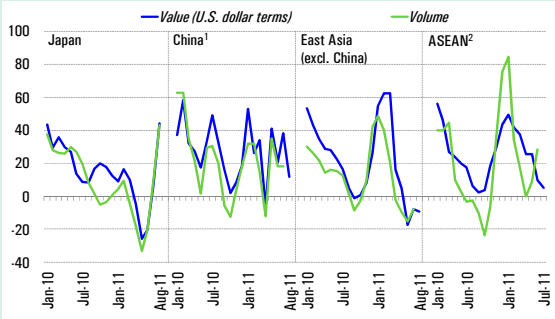
By contrast, Asian domestic demand has proven generally resilient in 2011. Employment gains and real wage growth supported private consumption, and high capacity utilization boosted private investment. Financial conditions have remained accommodative in most of Asia (Figure 1.3), as increases in interest rates were offset partly by higher inflation in some economies (such as Korea, Malaysia, and Thailand), and real effective exchange

Figure 1.1. Selected Asia: Real GDP at Market Prices
(Quarter–over–quarter percent change; SAAR)



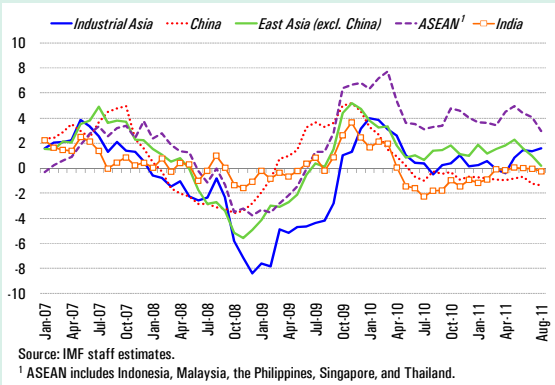
Sources: CEIC Data Company Ltd.; Haver Analytics; and IMF staff calculations.

Figure 1.2. Selected Asia: Exports of Goods
(3–month percent change of 3–month moving average, SAAR)



Sources: CEIC Data Company Ltd.; Haver Analytics; and IMF staff calculations.
[1] Adjusted for Chinese new year effect.
[2] ASEAN includes Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

Figure 1.3. Selected Asia: Financial Condition Index (FCI)
(Index; increase = loosening of financial conditions, zero=neutral)

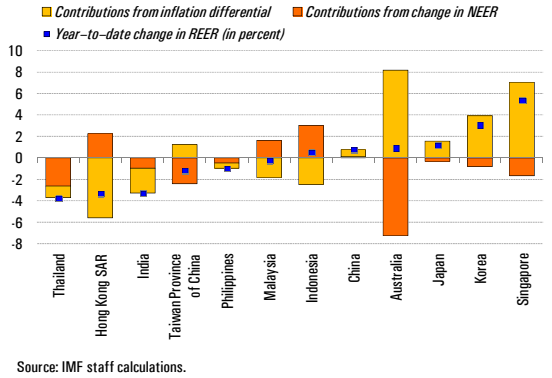


Source: IMF staff estimates.
[1] ASEAN includes Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

Note: The main authors of this chapter are Sonali Jain-Chandra and Olaf Unteroberdoerster.

Figure 1.4. Selected Asia: Contributions to Year-to-Date Changes in REER

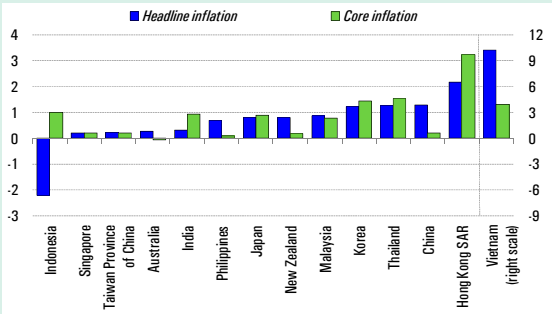
(In percentage points; as of August 2011)



Source: IMF staff calculations.

Figure 1.5. Selected Asia: Change in Inflation Rates since January 2011[1]

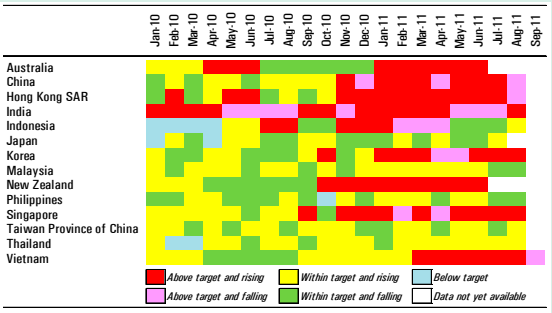
(In percentage points; change in year–over–year rates)



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

[1] Data as of August 2011 except for Australia and New Zealand (2011:Q2); Japan (July 2011), and Vietnam (September 2011).

Figure 1.6. Selected Asia: Inflation Target Tracker[1]



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

[1] Year–over–year headline inflation rates are used (core inflation for Thailand). For economies without any explicit target, one standard deviation bands around 2000–10 average headline inflation (year over year) used as target band.

rates have generally not strengthened during 2011, except in a few commodity exporters, including Indonesia, Australia, and New Zealand, as well as in Korea and Singapore (Figure 1.4). By contrast, monetary policy normalization and slowing credit growth have contributed to tighter financial conditions in China and India.

Notwithstanding the moderation in growth, inflationary pressures across the Asia and Pacific region remain elevated. Headline inflation continued to increase in most economies and averaged 5.5 percent (year over year) in July 2011, compared with 4.6 percent in January (Figure 1.5). In particular, inflation has continued to rise in China, Hong Kong SAR, Korea, and Vietnam, and remains above central banks' explicit or implicit targets in many cases (Figure 1.6). Inflation has been driven by commodity prices, but also in many economies by sustained demand pressures. Indeed, core inflation has increased in Hong Kong SAR, India, Indonesia, Korea, Malaysia, and Thailand, as second-round effects of previous commodity price rises have fed through to generalized inflationary pressures. Inflation expectations have also risen since the first quarter of 2011 in a number of economies. In contrast to the rest of the region, Japan's deflationary pressures persisted, with core inflation that excludes food and energy prices still in negative territory as of July 2011.

The dynamics and composition of growth in 2011 have varied across Asia:

- In much of Industrial Asia, economic activity has been significantly influenced by natural disasters. In Japan, the earthquake and tsunami led to a sharp contraction in domestic demand. In Australia, cyclones and flooding disrupted mineral output, although strong global demand for coal and iron pushed the terms of trade to 60-year highs and supported private investment. New Zealand's economy, however, continued to expand despite the impact of the January 2011 earthquake.

- In East Asia, growth has been held up by strong domestic demand. In China, gains in wages and

employment supported private consumption, whereas strong private investment, including real estate investment, offset a slowdown in public investment. Growing financial and economic integration with the mainland helped cushion Hong Kong SAR and Taiwan Province of China against weaker external demand from advanced economies. In Korea, continuing easy financial conditions and wage growth supported private domestic demand.

- In several ASEAN economies, strong domestic demand, particularly investment, helped mitigate the slowdown in export growth. In addition, commodity exporters, such as Indonesia and Malaysia, benefited from the rise in commodity prices through mid-2011. Inflation concerns have persisted in Vietnam (Box 1.1).

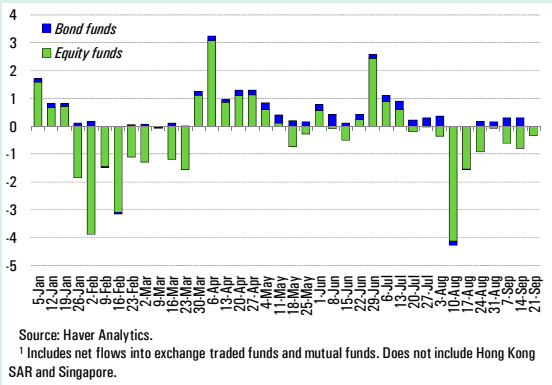
- In South Asia, private consumption remained robust in India on account of rising disposable income, but investment was subdued partly on concerns over governance and the global outlook. In Bangladesh, buoyant credit growth amid a still-accommodative monetary stance continued to fuel domestic demand, while in Sri Lanka activity benefited from greater political stability. In Nepal, domestic demand was subdued on investor concerns over banking system fragilities and a decline in remittances from the Middle East.

- In other low-income countries and Pacific Island economies, commodity exporters such as Mongolia and Papua New Guinea benefited from high mineral prices in the first half of 2011, and new garment quotas in European markets contributed to buoyant exports in Cambodia. In Mongolia, growth has also been fueled by expansionary macroeconomic policies, which boosted underlying inflation above the authorities' target. However, in a number of Pacific Island economies, high commodity prices continued to weigh on growth, although the strong Australian dollar boosted tourism flows.

Net capital flows into emerging Asia have moderated so far in 2011 relative to 2010, following the sharp rise in global risk aversion. Within the region, however, there are large disparities: in the first half of 2011, capital inflows remained strong in China, reflecting increased borrowing by mainland firms from Hong Kong SAR, and in India and Indonesia, where strong growth prospects and interest rate differentials attracted large equity and bond inflows, respectively. In East Asia (excluding China) and Singapore, however, concerns about slowing growth led to net capital outflows. Although direct investment and banking inflows to Asia have been relatively resilient, equity and bond inflows have been volatile, with equity recording sharp outflows since August 2011 (Figure 1.7).

Figure 1.7. Emerging Asia: Equity and Bond Funds—Weekly Net Flows in 2011[1]

(In billions of U.S. dollars)



Source: Haver Analytics.

[1] Includes net flows into exchange traded funds and mutual funds. Does not include Hong Kong SAR and Singapore.

B. An Uncertain Global Environment Poses Downside Risks

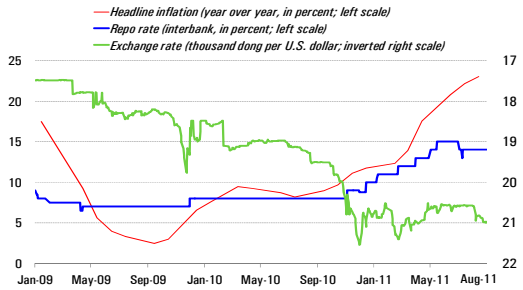
Looking ahead, we expect growth in Asia to be slightly lower than envisaged in the April 2011 *Regional Economic Outlook* (IMF, 2011b). For the region, growth is forecast to average 6¼ percent in 2011 and 6¾ percent in 2012, about ½ and ¼ percentage point less than our April 2011 forecast (Table 1.1).

The somewhat weaker growth forecast for Asia mainly reflects the deteriorating outlook for exports to advanced economies. The downward revision of

Box 1.1. Vietnam: Stabilization at the Crossroads

Vietnam entered 2011 with a legacy of expansionary policies adopted in response to the global economic crisis. Accommodative monetary policy and fiscal expansion sustained for too long had led to excessively high investment. The ensuing erosion of market confidence in the currency, together with rising commodity prices, resulted in a spike of inflation (figure). To tackle these challenges, the authorities in February 2011 announced a comprehensive stabilization package centered on monetary tightening as well as a rationalization of public investment. The dong was devalued and the flexibility of the official exchange rate increased, key policy interest rates were raised in several steps, and administrative measures taken to stem the flow of domestic currency into gold and increase the supply of foreign exchange to the financial system.

Vietnam: Inflation, Repo Rate, and Exchange Rate



Sources: Country authorities; and IMF staff calculations.

This strategy has been broadly successful, but has now reached a crossroads. The exchange rate stabilized at the new level, and credit growth began to slow. International reserves rose substantially. However, output growth slowed, while inflation continued to rise rapidly. With slower growth, pressure has been building on the State Bank of Vietnam (SBV) to loosen policies once again. In response, the SBV lowered the repo rate in July 2011, suspended recently introduced limits to the loan-to-deposit ratio, and recommended that banks lower lending rates. The SBV also kept dong liquidity at high levels, to support smaller and weaker banks. With confidence still fragile, these steps have led markets to question the authorities' resolve to sustain tight policies, although the prime minister has reemphasized the importance of low inflation and the SBV has maintained its credit growth target of below 20 percent.

For Vietnam to overcome macroeconomic instability and preserve the gains already made in the first part of 2011, it is critical to maintain tight monetary policies—supported by accelerated fiscal consolidation—until inflation expectations are firmly under control, confidence in the dong is restored, and reserves are rebuilt further. At the same time, it is important to strengthen the financial system through building capital and liquidity cushions, promoting the restructuring of small banks, and continuing to curb foreign currency lending.

Note: The main author of this box is Alexander Pitt.

about ¾ percentage point to advanced economies' growth in 2012 is estimated to have a first-round impact on growth in the region of between ¼ and ½ percentage point, depending on the degree of exposure of individual economies to exports. The impact would be smaller for domestic-demand-based economies, such as China, India, and Indonesia, and larger for highly open economies that specialize in income-sensitive, high-tech consumer and investment goods, such as Korea, Singapore, and Taiwan Province of China. Adverse regional supply-chain disruptions are not expected to play a major role in the future, as Japanese production in key sectors returned to normal levels by late summer (Figure 1.8).

The fundamentals for domestic demand in the region remain strong and are expected to cushion the impact of weaker external demand on overall growth for the rest of 2011 and in 2012 (Figure 1.9):[1]

[1] Model-based staff estimates of the drivers of private consumption and investment in Asia suggest that labor market conditions (wage and employment growth) are the leading drivers of consumption growth, while capacity utilization and consumption growth are major drivers of investment.

- In Industrial Asia, reconstruction investment will be the main driver of domestic demand growth in Japan, while investment in mining will propel growth in Australia.

- In East Asia, more spending on social housing is expected to support investment in China. Moreover, accommodative financial conditions and high capacity utilization should boost private investment in Korea, while strong employment is expected to sustain private consumption in Hong Kong SAR.

- In more advanced ASEAN economies, in addition to favorable labor market conditions and high capacity utilization, greater public investment projects will provide an additional boost to domestic demand in Indonesia, Malaysia, the Philippines, and Singapore. In Thailand, the new government is seeking to stimulate domestic demand through measures to increase disposable income and private investment.

- In India, robust disposable income growth (including from high agricultural prices) and accommodative financial conditions are expected to support private consumption and investment.

Headline inflation is expected to peak during the second half of 2011 and decelerate gradually in 2012. But inflation is expected to remain above the mid-point of the target range in most Asian economies (Figure 1.10), as commodity prices fall only slightly, domestic demand pressures persist, and inflation spillovers from key regional economies remain elevated. The September 2011 *World Economic Outlook,* (WEO) (IMF, 2011d) projects fuel and nonfuel commodity price inflation in 2012 to recede by 3.5 percent and 4.5 percent, respectively—a mild deceleration relative to the sharp run up in 2010–11. Moreover, output gaps in many Asian economies will remain positive in 2012. Finally, inflation in China is expected to settle at levels that, while lower than the peak in 2011, are higher than in the recent

Table 1.1. Asia: Real GDP

(Year-over-year percent change)

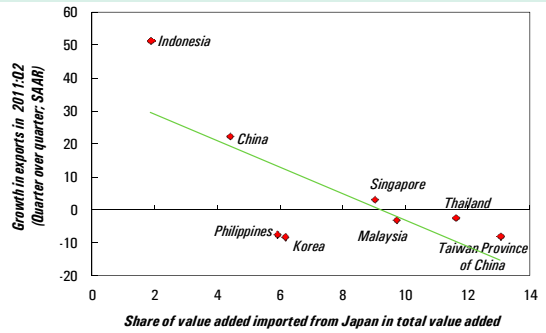
	Actual data and latest projections			Difference from April 2011	
	2010	2011	2012	2011	2012
Industrial Asia	**3.7**	**0.0**	**2.5**	**–1.7**	**0.2**
Australia	2.7	1.8	3.3	–1.2	–0.2
Japan	4.0	–0.5	2.3	–1.9	0.2
New Zealand	1.7	2.0	3.8	1.1	–0.3
East Asia	**9.8**	**8.5**	**8.2**	**–0.2**	**–0.4**
China	10.3	9.5	9.0	–0.1	–0.5
Hong Kong SAR	7.0	6.0	4.3	0.6	0.1
Korea	6.2	4.0	4.4	–0.5	0.2
Taiwan Province of China	10.9	5.2	5.0	–0.2	–0.2
South Asia	**9.8**	**7.7**	**7.4**	**–0.4**	**–0.3**
Bangladesh	6.4	6.3	6.1	0.0	–0.5
India	10.1	7.8	7.5	–0.4	–0.3
Sri Lanka	8.0	7.0	6.5	0.0	0.0
ASEAN	**7.6**	**5.3**	**5.5**	**–0.1**	**–0.1**
Brunei Darussalam	2.6	2.8	2.2	–0.3	–0.5
Cambodia	6.0	6.7	6.5	0.2	0.0
Indonesia	6.1	6.4	6.3	0.2	–0.2
Lao P.D.R.	7.9	8.3	8.4	0.8	1.0
Malaysia	7.2	5.2	5.1	–0.3	–0.1
Myanmar	5.5	5.5	5.5	0.0	0.0
Philippines	7.6	4.7	4.9	–0.3	–0.1
Singapore	14.5	5.3	4.3	0.1	–0.1
Thailand	7.8	3.5	4.8	–0.4	0.3
Vietnam	6.8	5.8	6.3	–0.5	–0.5
Emerging Asia[1]	**9.5**	**7.9**	**7.7**	**–0.2**	**–0.3**
Asia	**8.3**	**6.3**	**6.7**	**–0.5**	**–0.2**

Source: IMF staff projections.

[1] Emerging Asia includes East Asia, India, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

Figure 1.8. Selected Asia: Trade Links to Japan and Export Growth in 2011:Q2

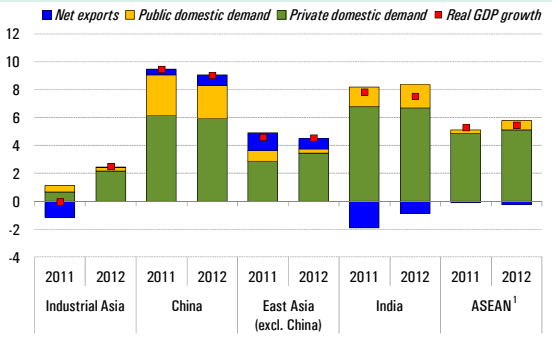
(In percent)



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

Figure 1.9. Selected Asia: Contributions to Projected Growth

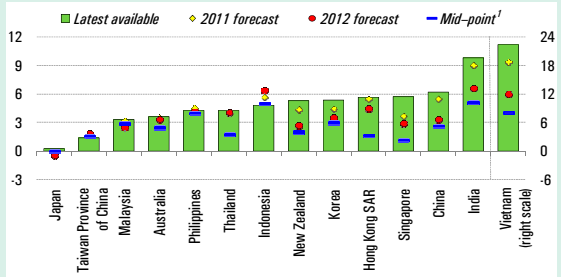
(In percentage points; year over year)



Source: IMF staff projections.

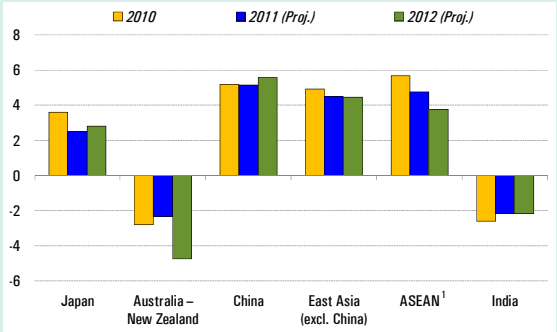
[1] ASEAN includes Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

Figure 1.10. Selected Asia: Headline Consumer Price Inflation
(Year over year; in percent)



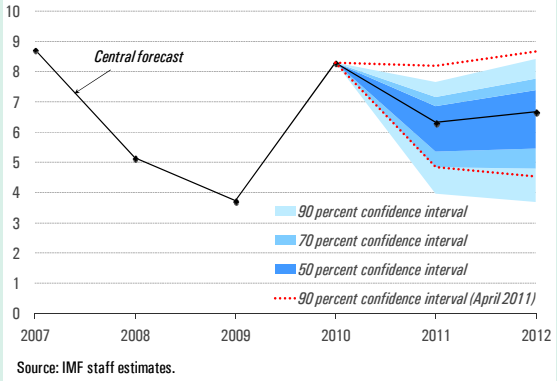
Sources: CEIC Data Company Ltd.; Haver Analytics; and IMF, WEO database and staff projections.
[1] Mid–point refers to the center of the inflation target band (headline for Australia, Indonesia, Korea, New Zealand, and the Philippines; and core inflation for Thailand), and average headline inflation over 2005–07 for other economies. Wholesale prices used for India.

Figure 1.11. Selected Asia: Current Account Balances
(In percent of GDP)



Sources: IMF, WEO database and staff calculations.
[1] ASEAN includes Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

Figure 1.12. Asia: GDP Growth
(Central forecast and selected confidence intervals; in percent)



Source: IMF staff estimates.

past— with spillovers to inflation in the rest of Asia (Box 1.2).

Notwithstanding a somewhat greater contribution to growth from domestic demand in the near term, Asia's current account surplus relative to the region's GDP is expected to narrow only moderately in 2011, to 3 percent of GDP from 3½ percent in 2010, and to remain broadly unchanged in 2012. This reflects the somewhat varied progress toward rebalancing across the region. External surpluses are likely to increase in East Asia, notably in China, but to decrease in several ASEAN economies (including Indonesia, the Philippines, and Thailand), in part reflecting public programs to boost investment (Figure 1.11).

C. Stress in the Euro Area and United States: Spillovers to Asia

Near-term risks to the forecast are tilted decidedly to the downside, more so than they were six months ago (Figure 1.12). A worsening of the financial turbulence in the euro area poses an extreme downside risk for Asia. The panic sell-offs across Asian financial markets and safe-haven flows into Japan that occurred when European troubles intensified in August-September 2011 demonstrate that there is "no place to hide" when advanced markets come under pressure. Asia may be affected through several channels, including:

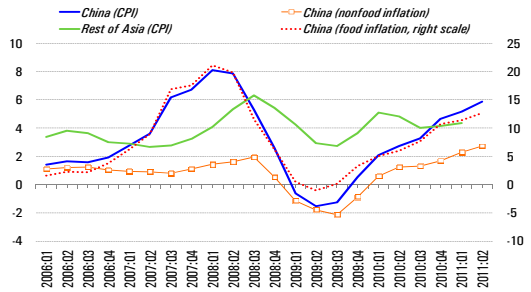
- *Liquidation of foreign investor positions.* Since 2009 investors from advanced economies have built up substantial positions in Asian markets, including Indonesia and other Asian sovereign debt markets (Figure 1.13). A sudden liquidation of these positions could trigger a loss of confidence, and contagion could spread from bond and equity markets to currency and other markets. "Crossover" investors in Asia—funds that are benchmarked against a mature market index but engage in investments in Asian emerging markets to boost returns—have expanded in recent years and they could cut positions more quickly than dedicated funds that are benchmarked against a regional index.

Box 1.2. How Large Are Chinese Inflation Spillovers to the Region?

Chinese inflation has been relatively elevated in recent quarters (first figure), and demographic and policy changes (such as the removal of subsidies on input costs) are expected to result in a structural increase in inflation over the coming years.

A structural model is used to assess the extent to which China's inflation spills over to prices across Asia. In the model, the rest of Asia is affected by commodity price fluctuations as well as two China-specific shocks: an aggregate supply shock associated with, for example, weather-related supply disruptions, and an aggregate demand shock associated with buoyant domestic conditions.[1]

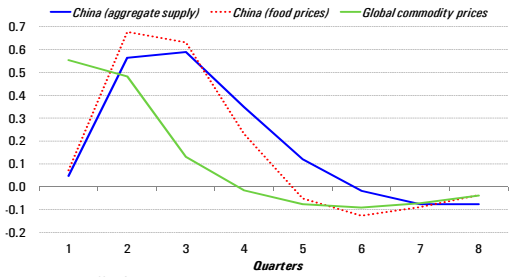
China and Rest of Asia: Inflation
(Year over year; in percent)



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

The results suggest that China's supply and demand shocks can have significant spillovers to the region. A one standard deviation supply shock appears to raise inflation in the rest of Asia by about 60 basis points (second figure). A 1 percentage point increase in Chinese inflation induced by a supply shock raises inflation across the region by about 25 basis points. Similar results are found when China's food price index is used in place of the CPI, suggesting that supply shocks are tightly linked with disruptions to the availability of food (for example, because of droughts, floods, and livestock diseases). In fact, 30 percent of Chinese inflation variation is explained by aggregate supply shocks, of which only 3 percentage points is due to nonfood price fluctuations.

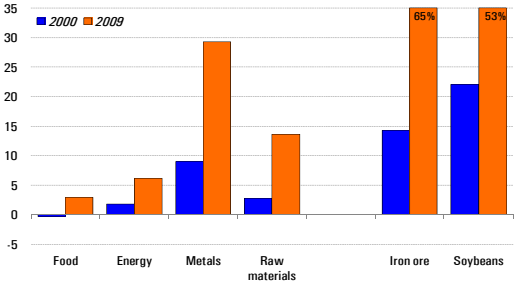
Rest of Asia: Impulse Response of Inflation to Selected Shocks[1]
(In percent)



Source: IMF staff estimates.
[1] Response to one standard deviation shocks.

Chinese demand shocks seem to spill over to the region through their influence on global commodity prices:

China: Share of Global Commodity Trade
(Net imports in percent of world imports)



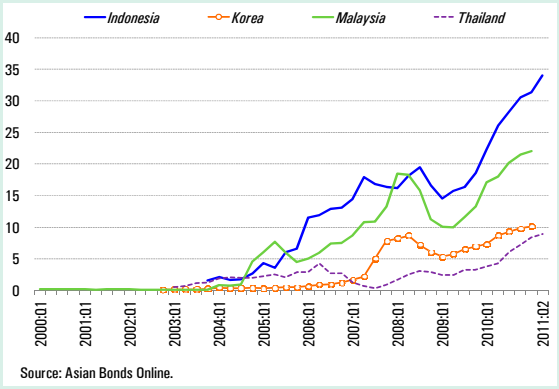
Source: IMF staff calculations.

- China has become a dominant importer across a range of commodities. China's demand for industrial inputs, in particular metals, has increased dramatically over the last decade (third figure). For example, as of 2009, China accounts for 65 percent of world iron ore imports. By contrast, China has not yet assumed as large a role in global food imports (with the exception of soybeans), although its share is rising.

- The growing share of China in world demand for commodities suggests that it may have an increasing influence on global commodity prices. Indeed, a 1 percentage point increase in Chinese output seems to raise commodity price inflation by about 5 percent. And commodity prices have immediate inflation spillovers to the region, through both their direct impact on domestic food and energy prices and their effect on core inflation. A one standard deviation commodity price shock appears to raise inflation in the rest of Asia by about 50 basis points. The strength of the spillover is closely associated with the weight of food and energy in CPI baskets.

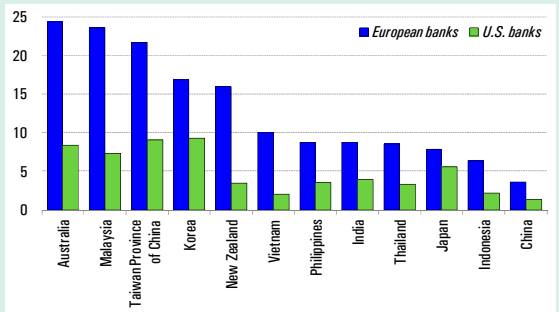
Note: The main authors of this box are Selim Elekdag and Fei Han.
[1] For further details, see Elekdag and Han (forthcoming-a).

Figure 1.13. Selected Asia: Foreign Holdings in Local Currency Government Bonds
(In percent of total outstanding bonds)



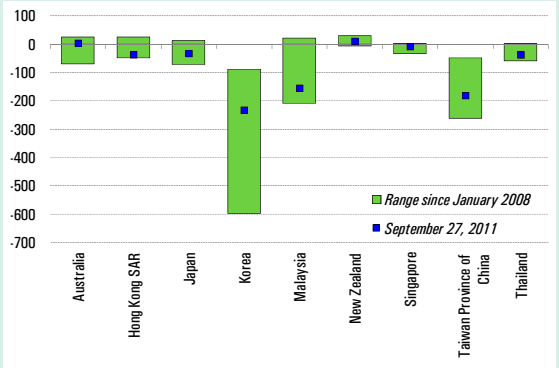
Source: Asian Bonds Online.

Figure 1.14. Consolidated Claims of European and U.S. Banks on Selected Asia[1]
(In percent of GDP; as of 2011:Q1)



Sources: Bank for International Settlements; CEIC Data Company Ltd.; Haver Analytics; and IMF staff calculations.
[1] Claims are on immediate borrower basis. Uses sum of quarterly GDP in U.S. dollar during 2010:Q2 to 2011:Q1.

Figure 1.15. Selected Asia: U.S. Dollar–Local Currency Basis Swap Spreads
(1-year tenor, in basis points; decrease implies a rise in U.S. dollar funding pressure)



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

- *Repatriation of liquidity by European banks.* Asian banks have cut exposures to European banks and sovereigns since May 2010, but contagion could still occur through foreign banks, which could sell assets, not roll over maturing loans, and cut credit lines in Asia if they face large losses at home. Such cutbacks could have a sizable impact in Asian economies that have large exposures to European and U.S. banks (Figure 1.14).

- *Loss of market liquidity in key derivative markets.* Contagion could also occur through Asian currency markets, as long and carry-trade positions are unwound. Hedge funds, in particular, in recent years have increased positions in currencies rather than in local debt and equity markets, where they can take advantage of embedded leverage in derivatives to boost returns. Although dollar funding pressures in August and September 2011 remained well below their 2008 peak (Figure 1.15), high leverage in currency derivatives makes investors vulnerable to a broader loss of confidence. A loss of liquidity in cross-currency swap markets—as in 2008—could be particularly disruptive and spill over to bank funding, as many banks rely on this market to fund dollar assets or to meet regulatory currency matching requirements, notably in Korea and Japan.

In addition to these direct channels of financial contagion, Asian economies would be greatly affected if greater financial stress in Europe were to lead to a severe economic contraction in the euro area and the United States. In addition to standard trade-channel effects, such a shock would exert substantial knock-on effects on domestic demand, in particular investment. Staff estimate that in a severe global downturn scenario, where growth in the European Union falls by 3½ percent below the current baseline for two years leading to a 1 percent slowdown in U.S. growth over the same period, GDP growth in the Asia and Pacific region could fall by 1½–4 percentage points relative to the baseline, in the absence of policy responses (Figure 1.16). Pressure points may vary across the region (Figure 1.17):

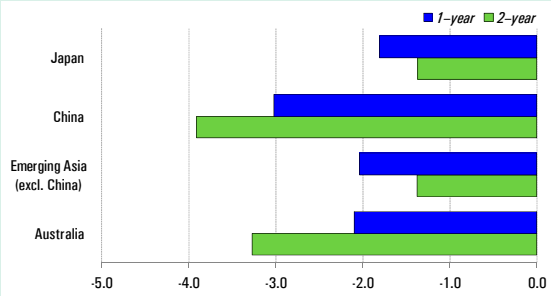
- In Japan, a rise in global risk aversion could spill over to concerns about the sustainability of sovereign debt and lead to tighter financial conditions. Australia would be affected through a sharp decline in the demand for and prices of commodities, as well as likely pressure on bank funding: both would combine to have a significant negative impact on investment. In addition, second-round effects could arise from a sharp decline in house prices.

- In East Asia, a sharp drop in China's exports would negatively affect investment in its tradable sector. Lower growth and a worsening of exporters' balance sheets would increase Chinese banks' nonperforming loans (NPLs) and lead them to significantly tighten credit conditions. A sudden large tightening of credit could trigger a property market correction, adversely affecting upstream (steel and cement) and downstream (household appliances) producers. Lower Chinese investment would also have significant spillovers to capital goods exporters, including Korea and ASEAN commodities exporters, such as Indonesia and Malaysia.

- South Asia would also be affected. In India, where corporate funding relies increasingly on external commercial borrowing and equity finance, a severe fall in investment would severely curtail growth. Furthermore, a sharp fall in remittances—including from the Middle East because of lower oil prices—would hurt domestic demand in Bangladesh and Sri Lanka.

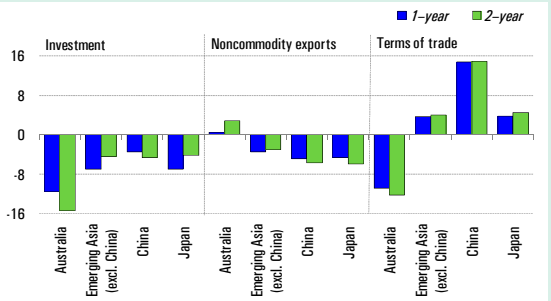
In general, trade-channel effects would exert a powerful drag on regional activity, given Asia's relatively high dependence on external demand. Greater intraregional demand could partially dampen the adverse impact from a sharply deteriorating global environment, but it is unlikely to fully offset it. Staff simulations using the IMF's Global Integrated Monetary and Fiscal (GIMF) model indicate that additional fiscal stimulus measures in China (by about 2–3 percent of GDP) would offset about one-fifth of the impact of the negative G-2 shock on output growth in emerging Asia and Japan (Figure 1.18). But

Figure 1.16. Selected Asia: Impact of Severe Global Slowdown on Real GDP Growth[1]
(Percent deviation from baseline scenario)



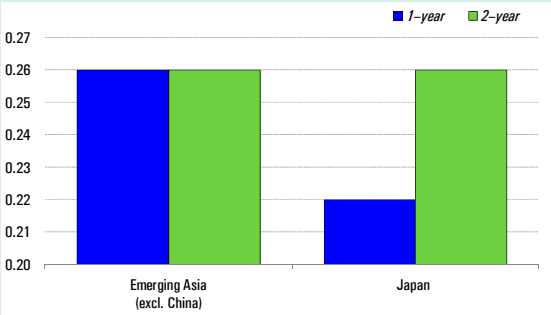
Source: IMF staff estimates.
[1] Based on the Global Integrated Monetary and Fiscal (GIMF) model imposing a –3.5 percent shock to output in Europe and –1 percent in the United States for two years. Assumes no discretionary policy response.

Figure 1.17. Selected Asia: Impact of Severe Global Slowdown on Selected Indicators[1]
(Percent deviation from baseline scenario)



Source: IMF staff estimates.
[1] Based on the Global Integrated Monetary and Fiscal (GIMF) model imposing a –3.5 percent shock to output in Europe and –1 percent in the United States for two years. Assumes no discretionary policy response.

Figure 1.18. Selected Asia: Impact on Real GDP Growth of Discretionary Fiscal Spending in China[1]
(In percentage points)



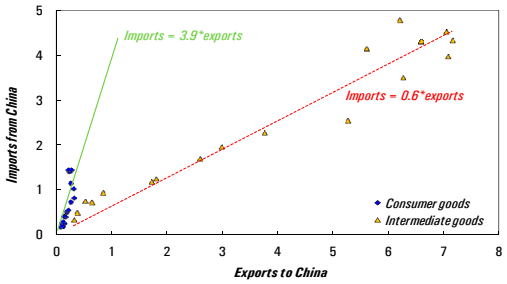
Source: IMF staff estimates.
[1] Based on the Global Integrated Monetary and Fiscal (GIMF) model assuming a 2 percent of GDP increase in discretionary fiscal spending by China.

Box 1.3. Recent Trends in ASEAN Exports to China[1]

Over the last two decades, ASEAN economies have become upstream suppliers to China, resulting in growing intermediate goods trade surpluses vis-à-vis China. For each U.S. dollar increase in intermediate goods exports to China (first figure), ASEAN countries have imported only $0.60 more of intermediate goods from China. By contrast, ASEAN economies have been net importers of consumer goods from China. For each dollar increase in consumer goods exports to China, ASEAN economies have imported nearly $4 more of consumer goods from China.

Selected ASEAN Economies: Trade with China by Products, 1995–2010

(In percent of total GDP)

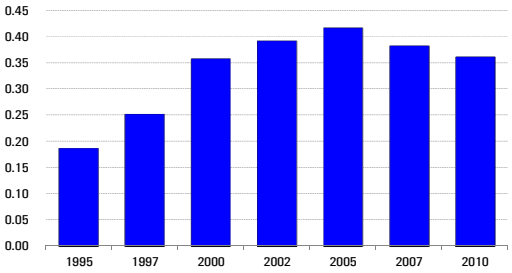


Sources: CEIC Data Company Ltd.; and IMF staff estimates.
[1] ASEAN includes Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

Against this general trend, the pattern of exports to China has started to diverge in recent years. The similarity index—a measure of overlap of the composition of exports between different countries—of ASEAN economies' exports to China has been declining since 2005 (second figure). Information technology products remain the single largest export category, but are no longer the most rapidly growing one. Instead, commodities exports are gaining momentum. Specifically, the share of commodities exports—in particular iron ore (Indonesia), petroleum (Malaysia and Singapore), and rubber (Thailand)—increased to 22 percent in 2010 from 13 percent in 2005.

Selected ASEAN Economies: Similarity Index of Exports to China

(Average)[1]

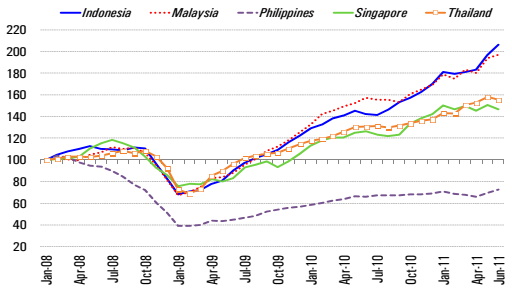


Sources: United Nations, *COMTRADE* database; and IMF staff estimates.
[1] Calculated by averaging the similarity indices over the five economies considered in this study.

The shift in favor of commodities exports has become stronger with the recovery after the global financial crisis. ASEAN exports to China recovered quickly above precrisis trends in 2009, led by Indonesia and Malaysia (third figure). The driving force behind the recovery was China's demand for commodities from fiscal stimulus-related infrastructure investment. Commodities exports will likely continue to outperform other exports. In the near term, China's strong import demand for commodities will be fueled by construction-related real estate investments, including increased outlays for social housing projects. Over the medium term, supply-chain integration of ASEAN electronics exporters with China may in part be offset by Chinese industries taking a larger share of the value chain from ASEAN medium- and high-end producers (IMF, 2011b).

Selected ASEAN Economies: Exports to China

(January 2008 = 100; 3–month moving average)



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

Note: The main author of this box is Yi Xiong.
[1] The economies considered in this box include Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

increased demand from China could help especially those economies that have benefited from China's rapidly growing demand for commodities, such as Indonesia and Malaysia (Box 1.3).

D. How Vulnerable Are Asian Banks and Firms?

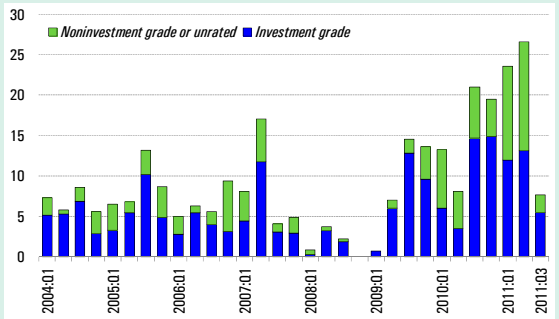
Over the medium term, a key risk for the region derives from the potential for a gradual build up of balance sheet imbalances after a protracted period of easy financial conditions (see the September 2011 *Global Financial Stability Report*) (IMF, 2011c). Indeed, Chapter II finds that the episodes of very rapid credit growth in emerging markets that ended with a financial crisis were generally characterized by high corporate leverage, rapid capital inflows, and low policy rates and borrowing costs.

How real is this risk for Asia? So far in 2011, bank credit growth has remained rapid in many regional economies, and loan-to-deposit ratios in Hong Kong SAR, Indonesia, and Thailand climbed by 6–10 percentage points over the 12-month period ending in July 2011. In addition to strong growth in bank loans, corporate debt issuance by Asian firms has picked up sharply since 2010 (Figure 1.19). At the same time, leverage in corporate Asia rose in 2009–10 (Figure 1.20), particularly in India, Korea, the Philippines, and Vietnam (Figure 1.21).

Leverage ratios are still below historical peaks, but two aspects of the current cycle suggest room for caution:

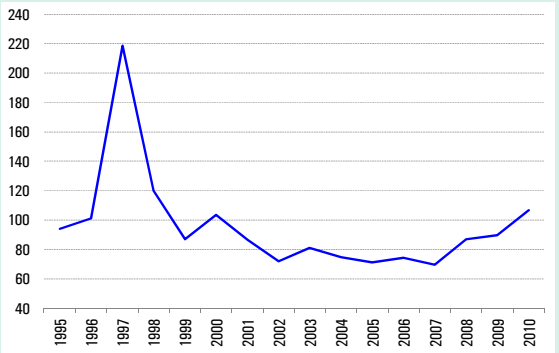
- First, while corporate leverage tends to rise as the economy recovers from a recession, the increase in leverage this time around has been far more rapid than after the 2001 recession (Figure 1.22).
- Second, the uptick in leverage in Asia has so far been more prominent for firms that are already highly indebted and in sectors where there are more concerns that excess capacity may be building up, such as construction (Figure 1.23).

Figure 1.19. Emerging Asia: External Bond Issuances by Corporations[1]
(In billions of U.S. dollars)



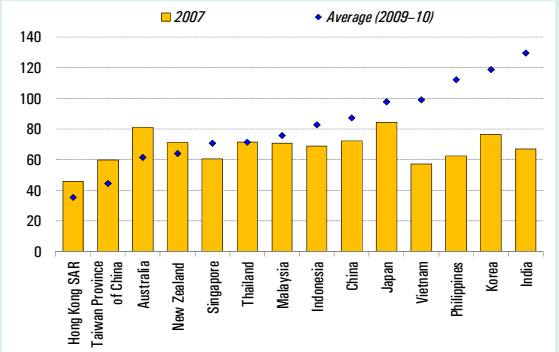
Source: Bond Radar.
[1] Data as of September 27, 2011. Includes financial and nonfinancial entities from private and public sectors.

Figure 1.20. Emerging Asia: Leverage in Corporate Sector
(Debt-to-equity ratio, market capitalization weighted average)



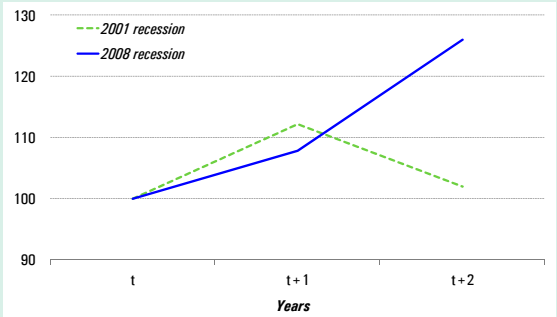
Sources: Worldscope database; and IMF staff calculations.

Figure 1.21. Selected Asia: Debt-to-Equity Ratio
(Market capitalization weighted average)



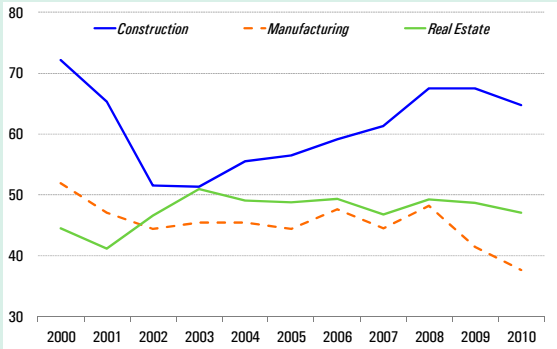
Sources: Worldscope database; and IMF staff calculations.

Figure 1.22. Asia: Debt-to-Equity Ratio during Recoveries from 2001 and 2008 Recessions[1]
(Market capitalization weighted average; beginning of recovery in year t = 100)



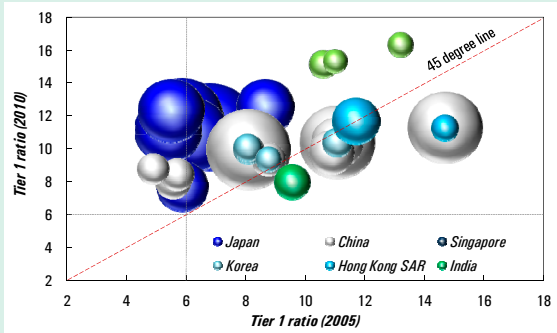
Sources: Worldscope database; and IMF staff calculations.
[1] Includes economies in recession during these two episodes.

Figure 1.23. Emerging Asia: Leverage in Different Sectors
(Debt-to-equity ratio, in percent; market capitalization weighted average)



Sources: Worldscope database; and IMF staff calculations.

Figure 1.24. Selected Asia: Tier 1 Ratio of Top 25 Banks
(In percent)



Sources: Bankscope; and IMF staff calculations.
Note: Bubbles are proportional to the assets of the banks.

It is reassuring, however, that Asian banks appear to have emerged from the global financial crisis with strong balance sheets. Most of the 25 largest Asian banks had higher Tier 1 capital ratios by the end of 2010 than in 2005 (Figure 1.24), and all comfortably meet the Basel III guideline of at least 6 percent. Moreover, profitability of Asian banks is strong, and many have raised provision coverage ratios (in the case of China, to over 200 percent of impaired loans), which should provide an additional cushion against deterioration of asset quality.

E. Policy Challenges

The Near Term—Safeguarding Growth While Curbing Overheating

Against the backdrop of unusual uncertainty, a key policy issue is whether this warrants a pause in the pace of monetary tightening in many economies. Clearly, the room for pausing varies considerably across economies, depending on the magnitude of their domestic overheating pressures and vulnerabilities from their position in the credit cycle. In economies where such overheating pressures remain high (Figure 1.25), inflation remains above target, and inflation expectations have continued to rise (Figure 1.26), such as in China, India, and Korea, the current pace of monetary tightening remains appropriate.[2] In economies where inflation is within target and with greater vulnerability to a global slowdown, a pause in monetary tightening may be warranted at the current juncture, until the downside risks to growth abate (Figure 1.27). At the same time, policymakers also need to remain vigilant regarding balance sheet vulnerabilities, as

[2] For each economy, the overheating index of Figure 1.25 is a weighted average of inflation, real equity prices, real bank credit, and the current account balance as a percent of GDP (each as deviation from a linear trend, estimated over the last two decades), using the inverse of their standard deviation as weights. The color indicates the degree of overheating: a red color indicates that the index is above the 90th percentile of the distribution of the index for all economies and time periods; orange between the 75th and 90th percentiles, yellow between the 50th and 75th percentile, and green below the 50th percentile.

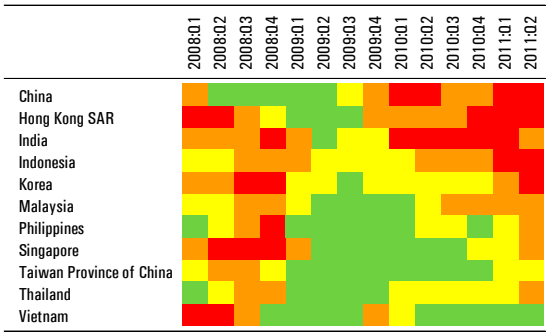
maintaining accommodative financial conditions for an extended period could fuel further credit expansion and result in lower asset quality (see Chapter II). Once the uncertainty over the global outlook is reduced, monetary tightening would need to resume.

Macroprudential measures remain an important complement to more conventional tools of monetary management. Many of the prudential measures adopted in Asia since 2010 were designed to minimize the risks to financial stability, including from large capital inflows, and may continue to be relevant in the absence of a severe global financial shock. International experience clearly suggests that strengthening the regulatory framework would play an important role in limiting adverse spillovers from a potential euro area crisis. For example, in Korea, a ceiling on the loan-to-deposit ratio has significantly reduced banks' wholesale funding, while more stringent liquidity requirements and limits on foreign exchange exposures have prevented short-term debt from returning to 2008 levels. In New Zealand, the introduction of a core funding ratio has helped reduce banks' reliance on short-term external funds. Australian banks have also reduced their short-term external borrowing, and early adoption of a requirement along the lines of the Basel III net stable funding ratio could reduce vulnerabilities further.

Allowing greater exchange rate appreciation in line with fundamentals would also help manage existing inflationary pressures in addition to helping rebalance economic growth in many economies. Moreover, enhanced upward exchange rate flexibility would reduce the perception of a one-way bet and enable the region to better deal with capital inflows that are likely to be attracted by favorable growth and interest rate differentials. Furthermore, greater upward exchange rate flexibility would mitigate additional pressures for sterilizing the impact of greater reserve accumulation on monetary aggregates (Box 1.4).

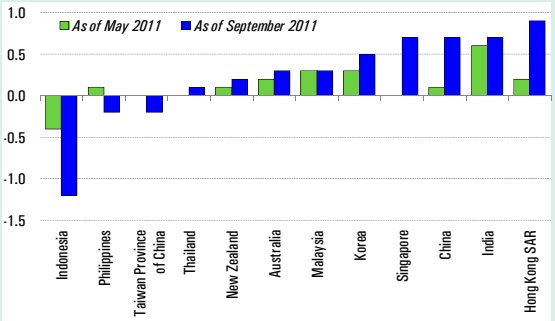
The return of fiscal policy to more neutral stances should continue, reflecting the greater difficulty in changing course for fiscal policy. In several

Figure 1.25. Emerging Asia: Overheating Map[1]



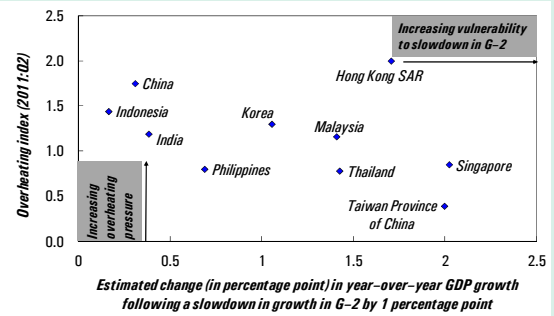
Source: IMF staff estimates.
[1] See footnote 2 for description of the overheating map.

Figure 1.26. Selected Asia: Change in Inflation Expectations for 2011 since March 2011[1]
(In percentage points)



Source: Consensus Economics Inc.
[1] For India, change in expectations of average annual wholesale price inflation for fiscal year ending in March 2012.

Figure 1.27. Selected Asia: Overheating Index and Vulnerabilities to a Slowdown in Growth in G–2[1]

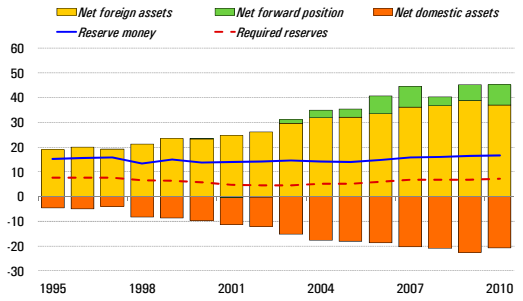


Source: IMF staff estimates.
[1] Response to a slowdown in G–2 growth are based on regression estimates, and includes effects of discretionary policy measures.

Box 1.4. Sterilization of Reserve Accumulation in Times of Large Capital Inflows

Many Asian economies have resumed reserve accumulation at a rapid pace, since large capital inflows returned to the region in mid-2009 (first figure).[1] This box argues that the extent to which central banks undertake sterilization operations to limit the effect of reserve accumulation on the monetary base typically depends on whether their policy priority is to stabilize the exchange rate or inflation, with the latter requiring stricter sterilization. In addition, the extent of sterilization appears to be influenced by the size and duration of capital inflows, as sterilization operations can be costly for central banks and can also strain the absorption capacity of banking systems.

Selected Asia: Composition of Central Bank Balance Sheet
(In percent of GDP)



Sources: Haver Analytics; and IMF staff calculations.

In the absence of sterilization data, we estimate the degree of sterilization by comparing how much net domestic assets (NDA) change relative to the monetary base in response to changes in net foreign assets (NFA), after controlling for the cyclical stance of the economy.[2] "Full sterilization" is interpreted as restoring liquidity conditions to a stance that is in line with the central bank's policy objective. For an inflation-targeting central bank, full sterilization entails adjusting liquidity post-intervention so as to keep the short-term money market rates close to the policy rate. In contrast, for a central bank that targets the exchange rate, full sterilization results in adjusting banks' cash balances so as to keep the relative supplies of domestic and foreign currencies in line with the exchange rate target. In either case, sterilization can be "full" even if changes in NFA and NDA do not cancel each other out and base money is not constant.

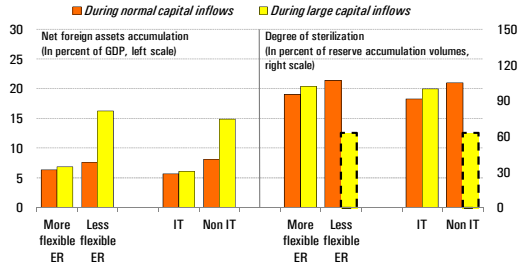
Selected Asia: Sterilization Instruments

	China	India	Indonesia	Korea	Malaysia	Philippines	Singapore	Taiwan Province of China	Thailand
Central bank notes	√		√	√	√		√		√
Reserve requirement ratio	√	√	√		√	√			
Reverse repos		√	√		√	√	√		√
FX swaps			√	√		√	√		√
Deposits at central bank			√		√	√			
Other		√	√				√	√	

Sources: Central bank publications; and country authorities.

Not all sterilization operations are captured within NDA. Central banks use a variety of instruments, including higher reserve requirements, which can withdraw liquidity from circulation without changing NDA (second figure). Thus, we proxy the volume of sterilization operations by the sum of NDA and required reserves, and also control for central banks' net forward positions.

Selected Asia: Net Foreign Assets Accumulation and Degree of Sterilization by Policy Framework[1]



Sources: Haver Analytics; and IMF, *International Financial Statistics* and staff calculations.
[1] IT refers to inflation–targeting regimes. Dashed borders indicate less–than–full sterilization at 5 percent significance level.

We find that, as expected, economies that have less flexible exchange rate regimes accumulate more reserves during surges of capital inflows than other economies (including inflation-targeting economies; third figure).[3,4] On average, all economies fully sterilize their reserve accumulation during "normal" times. However, during surges

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Note: The main authors of this box are Sylwia Nowak and Ceyda Oner.

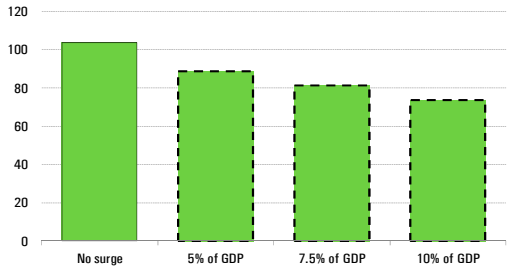
[1] The economies considered in this box are China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, the Philippines, Singapore, and Thailand. For further details see Nowak and Oner (forthcoming).

[2] See Aizenman and Glick (2009). Our sample covers from 1990:Q1 to 2011:Q1. Estimates for inflation-targeters start from 2002:Q1.

of capital inflows sterilization drops to about 60 percent of reserve accumulation volumes in non-inflation-targeting economies, including exchange rate targeters.

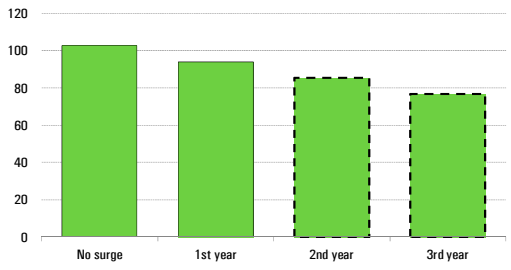
The stronger and more persistent the inflows, the lower is the degree of sterilization. When capital inflows reach 5 percent of GDP per quarter (median size in the sample), non-inflation targeters sterilize only 90 percent of accumulated reserves, and even less as capital inflows strengthen (fourth figure). On average, these economies fully sterilize during the first year of a surge, but sterilization drops to about 80 percent after three years (fifth figure).

Selected Emerging Asia: Degree of Sterilization by Size of Capital Inflows in Non-Inflation-Targeting Economies[1]
(In percent)



Sources: Haver Analytics; and IMF, *International Financial Statistics* and staff calculations.
[1] Dashed borders indicate less–than–full sterilization at 5 percent significance level. Non–inflation–targeting economies include those with less flexible exchange rate regimes.

Selected Emerging Asia: Degree of Sterilization by Duration of Capital Inflows in Non-Inflation-Targeting Economies[1]
(In percent)



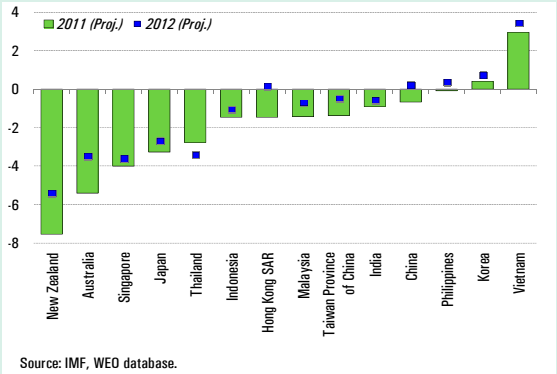
Sources: Haver Analytics; and IMF, *International Financial Statistics* and staff calculations.
[1] Dashed borders indicate less–than–full sterilization at 5 percent significance level. Non–inflation–targeting economies include those with less flexible exchange rate regimes.

The results suggest that sterilization during episodes of large and persistent capital inflows poses a challenge to monetary policymakers. For economies that manage exchange rate regimes tightly, capital inflows mean accumulating more reserves and sterilizing less. As for inflation targeters, the need to fully sterilize may limit how much the central bank can effectively intervene during surges of inflows. In either case, it may not be possible to stem a real appreciation when inflows are large and persistent, rendering sterilization ineffective in real terms.

[3] The episodes of large capital inflows are defined in Chapter 2 of IMF, 2011b.
[4] The de facto exchange rate classification is based on Ilzetzki, Reinhart, and Rogoff (2008). The inflation-targeting economies are identified in Roger (2010). "Less flexible exchange rate" refers to a de facto crawling band that is narrower than or equal to a ±2 percent, de jure crawling band, or tighter regimes.

economies, including China and Korea, the normalization of fiscal policies will be largely completed by 2012 as cyclically adjusted fiscal balances return close to their precrisis averages (Figure 1.28). However, in several emerging Asian economies, in particular many ASEAN economies and India, structural deficits in 2012 are still expected to be about 1–2½ percentage points of GDP higher than before the global financial crisis. Japan and New Zealand are also facing significant fiscal challenges on account of their post-disaster reconstruction programs. Moreover, in Japan establishing confidence in long-term fiscal sustainability through a comprehensive and credible fiscal consolidation plan remains an overriding

Figure 1.28. Selected Asia: Change in General Government Cyclically Adjusted Fiscal Balance
(Deviation from 2002–07 average; in percent of GDP)

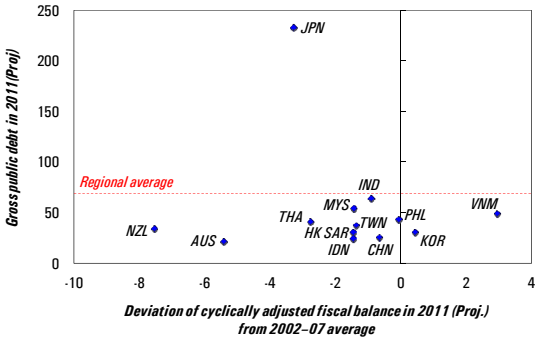


Source: IMF, WEO database.

concern. In Mongolia, the steady erosion of fiscal discipline has raised the risk of macroeconomic instability. There is an urgent need to reorient policies to contain overheating and strengthen the economy's resilience to a deterioration in the global environment. Principally, this will mean restraining fiscal spending and tightening monetary conditions.

Should extreme downside risks to growth materialize, Asian policymakers could resort, as in the past, to a menu of measures. The withdrawal of fiscal stimulus could be halted or even reversed, especially where public debt levels are low (Figure 1.29). To break the negative feedback loops and limit contagion, Asian central banks could draw on their large foreign exchange reserves and regional reserve pooling arrangements. They could reactivate central bank swap lines to support the continued functioning of cross-currency swap markets. Asian bank supervisors can also help mitigate cutbacks by foreign banks by ensuring their subsidiaries maintain sound credit and liquidity management policies.

Figure 1.29. Selected Asia: Fiscal Space
(In percent of GDP)



Source: IMF, WEO database.

The Medium Term—Making Growth More Balanced and Inclusive

From a medium-term perspective, sustaining growth in Asia will require addressing the key challenges of rebalancing growth and addressing social imbalances. Although the current global environment is making the need for Asia's rebalancing more urgent, Chapter III highlights that income inequality in Asia has risen over the last two decades, notwithstanding rapid economic growth and a notable reduction in poverty. The implication is that continued high growth alone may not be sufficient to address social imbalances and policy measures are needed to make growth more inclusive. In particular:

- As previous Asia and Pacific *Regional Economic Outlooks* have highlighted, investment in public infrastructure can help crowd in private investment, in particular where domestic investment has been relatively low, such as Indonesia, Malaysia, the Philippines, and Thailand. However, under current plans, outlays for capital spending are set to increase only marginally, and even to decline in some cases (Figure 1.30).

- Policymakers also need to find room for more social spending in support of inclusive growth, such as greater investment in education and training and social protection schemes. Indeed, public spending on social areas in Asia generally falls short of levels in comparable regions at similar levels of development even after accounting for country-specific factors, such as demographics, economic structure, and urbanization (Figure 1.31). A higher quality of spending, for example through reforms to enhance teacher performance, establish self-financing unemployment insurance mechanisms, and improve governance can help improve the effectiveness of public spending in reducing social imbalances.

  Over the longer term, Asian economies will need to deal with fiscal pressures from aging populations. In a number of Asian economies, including China and Korea, the projected living standards of the elderly are low by international comparison (Jackson, Howe, and Nakashima, 2010). As these economies grow "older," designing mechanisms for old-age income support, which may have to rely in part on public funds, will be important for avoiding old-age poverty. In Japan, promoting greater old-age labor participation is a key element of the medium-term growth strategy that would reduce

income inequality as well as enhance fiscal sustainability (Box 1.5).

How can Asian economies create the fiscal space necessary to support rebalancing and more inclusive growth? Consistent with a more neutral fiscal stance to avoid undue demand pressures, greater attention will need to be given to the composition of spending. So far, an important obstacle in Asia to reprioritizing budgets has been the approach to managing rising and volatile fuel prices. Asian governments have deployed a wide range of measures to cushion the impact of rising fuel prices since 2008, entailing substantial budgetary costs.

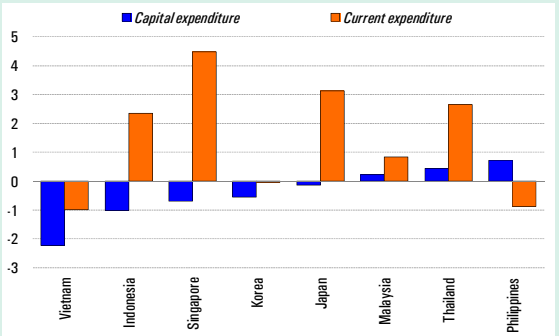
- Comparing the rise in domestic retail prices for gasoline and diesel between end-2008 and end-2010 with the changes in international prices suggests that a majority of governments in Asia cut effective taxation or increased subsidies (Figure 1.32).

- The fiscal costs from the foregone tax revenue or higher subsidies can be significant, including for low-income countries. For example, for Sri Lanka and Vietnam the fiscal cost of addressing higher fuel prices between 2008 and 2010 is estimated at about 2 percent of GDP. The budgetary impact of the rise in global fuel prices between 2008 and 2010 is substantial and, in some cases, comparable to social priority expenditures (Figure 1.33).

The benefits of fiscal price-stabilization strategies are not clear cut. Such strategies do little to address underlying supply and demand imbalances and are not targeted at the most vulnerable households. Substantial benefits leakage can flow instead to higher-income groups, which tend to consume more fuel than low-income households.[3] As a result, streamlining fiscal subsidy schemes while adopting carefully targeted social safety nets can go a long way in helping governments to reprioritize budgets in

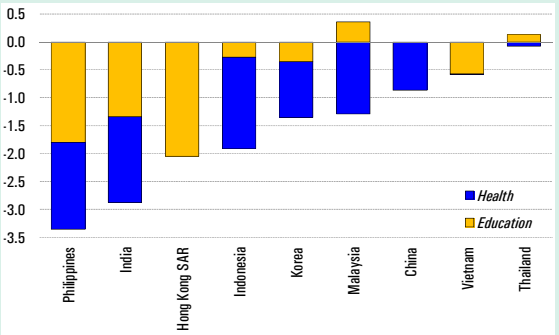
[3] Arze del Granado and others (2010) show that for a broad cross-section of low-income countries, transferring one dollar to the poorest 20 percent of households via gasoline subsidies implies a budgetary cost of 14 dollars. This result also applies broadly to Asian economies in the dataset, including Bangladesh and Sri Lanka.

Figure 1.30. Selected Asia: Cyclically Adjusted Changes in General Government Spending[1]
(2011–12 average vis-à-vis 2002–07 average; in percent of GDP)



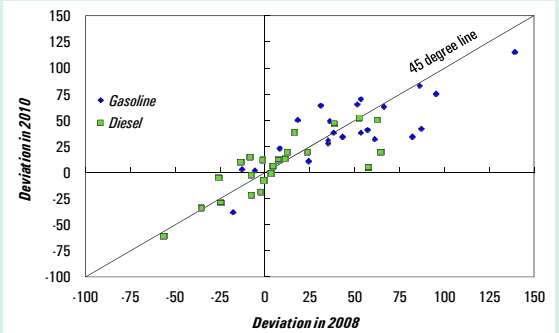
Sources: IMF, WEO database and staff calculations.
[1] Negative number means decrease (increase) in spending (revenue).

Figure 1.31. Selected Asia: Deviation from Model-Based Norms of Public Spending on Health and Education[1]
(In percent of GDP)



Source: IMF staff estimates.
[1] Based on a sample of 171 developing and advanced economies.

Figure 1.32. Selected Asia: Deviation of Retail Gasoline and Diesel Prices from International Prices
(In U.S. cents)



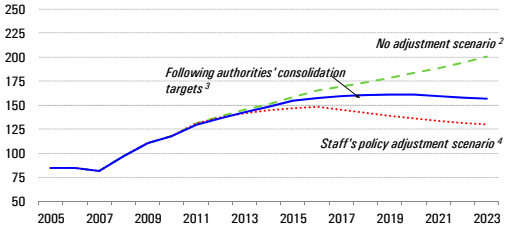
Sources: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ); and IMF staff estimates.

Box 1.5. A Strategy for Growth and Fiscal Sustainability in Japan

In June 2010, Japan introduced a growth strategy and a fiscal management strategy to revive growth and place public debt on a sustainable footing over the medium term. The growth strategy targets raising the real GDP growth rate to 2 percent over the next decade by focusing on various key sectors, including environment and energy, health care, and science and technology. The fiscal strategy aims to halve the primary deficit in term of GDP by FY2015 and achieve a primary surplus by FY2020. In June 2011, the authorities decided on a plan to reform the social security system, including by doubling the consumption tax to 10 percent by the mid-2010s, raising the retirement age for social security, and adjusting pension benefits in line with demographic changes.

Japan: Net Public Debt[1]

(In percent of GDP)

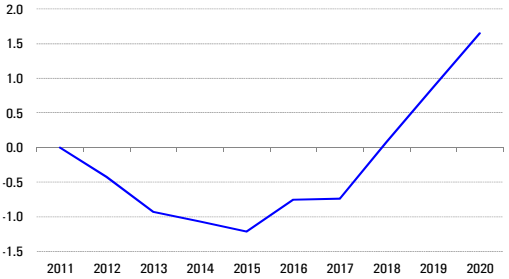


Sources: Cabinet Office; and IMF, staff estimates and projections.
[1] Net debt of the general government including the social security fund.
[2] No new tax measures are assumed.
[3] IMF staff estimates.
[4] Policy adjustment scenario assumes a 10 percent of GDP improvement (7.5 percent of GDP relative to no adjustment scenario) of the structural primary balance during 2010–20.

While the fiscal strategy is an important step toward consolidation, more needs to be done to put the net debt-to-GDP ratio on a downward path. According to staff calculations, stabilizing the net debt ratio by 2016 and reducing it to about 135 percent of GDP by 2020 would require a reduction of the primary fiscal deficit by 10 percent of GDP over a 10-year horizon (first figure). This could be achieved through a balanced approach of limiting spending growth and comprehensive tax reforms.

Japan: Impact on GDP of Adjustment Scenario[1]

(In percent of GDP)



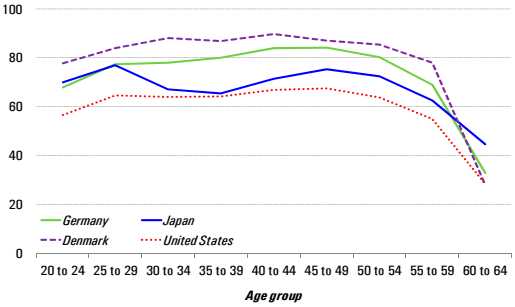
Source: IMF, staff estimates using Global Integrated Monetary and Fiscal (GIMF) model.
[1] GDP impact is measured as the deviation from the GDP level under no fiscal adjustment.

Such a fiscal adjustment could, however, depress growth in the short term. Depending on specific measures, growth could be lowered by 0.3–0.5 percentage point per year on average during the initial years of adjustment (second figure). It is, therefore, important to start the fiscal consolidation during the cyclical recovery. However, over the longer term, growth is likely to improve, supported by lower long-term real interest rates, a switch to less distortionary consumption taxes, a reduction in precautionary savings (particularly for younger generations), and improved confidence in public finances.

Reforms to raise potential growth are needed to support growth during fiscal consolidation. Building on the authorities' strategy, policies should also aim to boost employment, deepen regional integration, and promote start-ups and restructuring of small to medium-sized enterprises (SMEs).

Selected Advanced Economies: Female Labor Participation Rate by Age Group

(In percent)



Source: Organisation for Economic Cooperation and Development (OECD).

- Given Japan's shrinking labor force, policies should aim to tap underutilized sources of labor among the youth, elderly, and women. Improving access to child care would increase Japan's low female labor participation (third figure). Raising Japan's mandatory retirement age of 60 (OECD average: 64.4) would increase the share of elderly in the labor force.

Note: The main author of this box is S. Pelin Berkmen.

A new, more flexible labor contract that gradually increases employment protection would facilitate the employment of young workers and help narrow the gap between regular and nonregular workers.

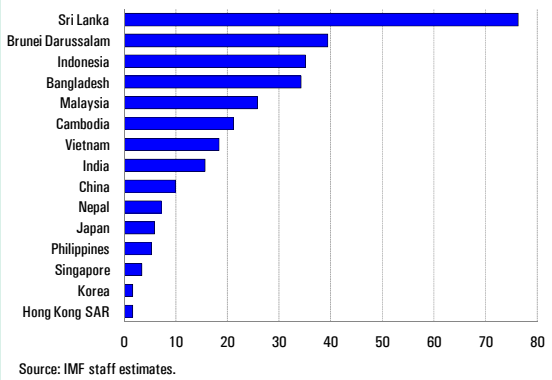
- Further trade liberalization, for example through the proposed Trans Pacific Partnership Agreement (TPP), could open the door to new export markets and greater inward foreign direct investment (FDI). Negotiations would likely cover protected sectors, and further deregulation and market opening could be a catalyst for productivity improvements, particularly in agriculture, health, and other services.
- Finally, promoting start-ups and restructuring SMEs could stimulate investment. To support start-ups, the time limit on public credit guarantees should be shortened and some preference for guarantees be given to businesses in new growth areas. Establishing asset management companies to purchase distressed loans would promote bank-led restructuring and reduce leverage in the SME sector.

support of economic rebalancing and inclusive growth.

Revenue measures can also play a role in creating fiscal space. In Japan, comprehensive tax reform with a gradual increase in the consumption tax and a reduction of the corporate tax rate (with revenue losses offset by reforms of personal income tax that reduce allowances and base exemptions) will help ensure fiscal sustainability in the face of reconstruction costs and the need to promote private investment. In low-income economies, including Cambodia and Nepal, as well as emerging economies like the Philippines, significant revenue enhancement can be achieved by efforts to strengthen tax administration.

Structural reforms are also needed to support economic rebalancing and inclusive growth, or, more broadly, sustain the high growth potential across the region. Previous Asia and Pacific *Regional Economic Outlooks* discussed the challenges involved in raising private consumption and investment. This *Regional Economic Outlook* focuses on structural reforms to address rising inequality and the role of regional financial integration in rebalancing. Chapter III reviews reforms to social protection schemes,

Figure 1.33. Selected Asia: Increase in Net Oil Subsidy
(In percent of public spending on education and health; base year = end–2008, and final year = end–2010)



Source: IMF staff estimates.

market policies, and health and education investment as key elements of a strategy to reduce the share of vulnerable households in Asian economies. Chapter IV focuses on financial policies and how to improve the quality of financial labor integration to allow better risk sharing. While greater regional financial integration would help Asian economies to reduce exposure to external shocks, it would also help economic rebalancing as measures that deepen regional financial markets would improve access to finance and strengthen domestic demand.

II. DRIVERS AND IMPLICATIONS OF RAPID CREDIT GROWTH IN EMERGING ASIA

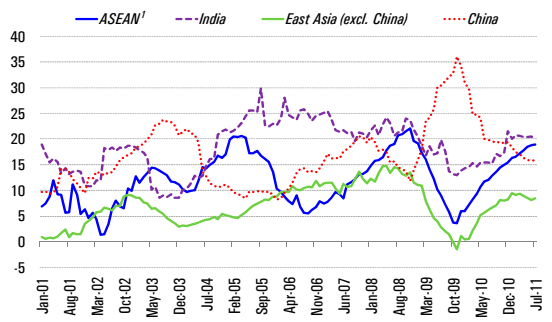
Credit growth is still relatively rapid across most of Asia (Figure 2.1). This may raise some concerns because, historically, episodes of rapid credit growth in Asia have been characterized by a higher incidence of crises relative to other emerging economies (Figure 2.2).[4]

This chapter focuses on the following questions: When might an episode of rapid credit growth be associated with mounting financial imbalances? Are domestic or external factors more important in driving emerging Asian credit growth? At this juncture, what are the monetary policy challenges in terms of navigating near-term macroeconomic uncertainty while recognizing financial stability risks in the future?

The following main conclusions of this chapter are based on two working papers by IMF staff:[5]

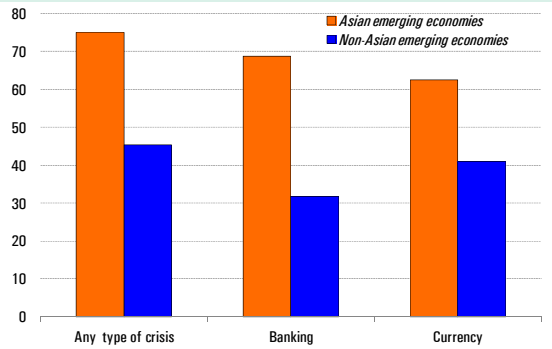
- First, episodes of rapid growth in emerging economies that ended disruptively tended to be associated with both external (large capital inflows) and domestic (unusually low policy rates) factors.
- Second, assessing the relative importance of these factors in driving rapid credit growth in Asia suggests that domestic factors are more dominant than external ones. In particular, domestic monetary policy plays a pivotal role in influencing credit growth.
- Third, greater exchange rate flexibility could also promote financial stability as it reduces the role of external factors affecting domestic credit dynamics.

Figure 2.1. Nominal Credit to Private Sector
(Year-over-year percent change)



Sources: CEIC Data Company Ltd.; Haver Analytics; and IMF staff calculations.
[1] ASEAN includes Indonesia, Malaysia, the Philippines, and Thailand.

Figure 2.2. Crises Associated with Emerging Market Credit Booms
(In percent of respective booms)



Source: IMF staff calculations.

- Fourth, a pause in monetary tightening may be appropriate for some economies in view of the current exceptionally uncertain global growth prospects, but policymakers need to keep in mind the possibility of lingering financial imbalances over the medium term.

A. Episodes of Rapid Credit Growth in Emerging Asia

Credit booms are episodes during which real credit to the private sector expands substantially

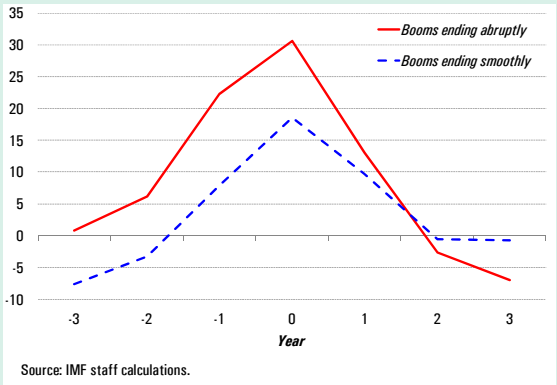
Note: The main authors of this chapter are Selim Elekdag, Fei Han, and Yiqun Wu.

[4] Crisis dates are based on Reinhart and Rogoff (2009), and include banking, currency, and debt crises.

[5] Elekdag and Wu (forthcoming); and Elekdag and Han (forthcoming-b).

faster than has been observed in previous expansions. To determine the occurrence of a credit boom, a pattern recognition algorithm is implemented using annual data going back to 1960.[6] Specifically, a credit boom occurs when the deviation of real credit from trend is in the upper tail of the distribution. In Asian and non-Asian emerging economies, 16 and 44 booms were identified, respectively. In 2010, the last year of our sample, a boom was identified for Hong Kong SAR.[7] Using an event study, credit booms that were associated with crises are differentiated from booms that were not. Figure 2.3 shows the typical evolution of these booms over seven-year windows centered at their peaks. Credit booms with greater deviations of credit from trend in the buildup phase are associated with disruptive busts. Typical credit booms last three years with a buildup, peak, and ending phase lasting one year each.

Figure 2.3. Real Credit
(In percent, deviation from trend)



Source: IMF staff calculations.

Credit booms are influenced by both domestic and external factors. Selected macroeconomic, financial, corporate, and banking sector indicators help to uncover warning signs that may help differentiate booms that ended more smoothly versus those that ended in disruptive credit busts (Figure 2.4). In terms of external factors, credit booms seem tightly interconnected with episodes of large capital inflows. Other (bank) flows—which tend to be less stable sources of financing and to have short maturities—increase during the buildup phase, particularly for booms that are followed by credit busts.

In terms of domestic factors, it seems that low policy rates have been associated with booms ending in disruptive credit busts (Figure 2.4). Low policy rates bring down the cost of borrowing, implying lower firm-level average interest rates, leading to increasing corporate leverage (debt-to-equity ratio). At the same time, lower prepeak interest rates tend to artificially boost firm-level valuations, which are then reflected in buoyant stock prices. This dynamic incentivizes excessive risk taking, borrowing, and looser lending standards, which seem to be related to the distinct increase in bank credit-to-asset ratios. Booms that were followed by particularly sharp reversals in key macroeconomic variables, including for example, domestic demand, seem to have been especially vulnerable to these bank and corporate balance sheet-related imbalances.

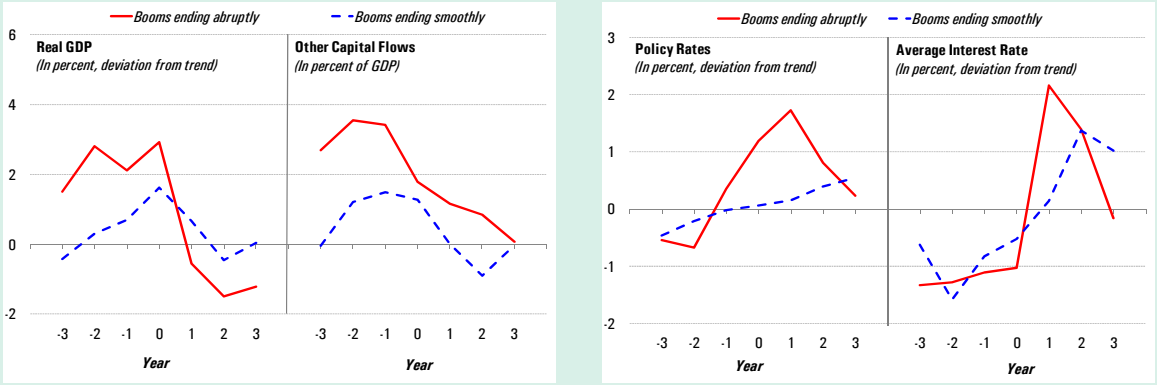
B. Domestic versus External Factors and the Role of Monetary Policy

While the event study suggests that domestic and external factors play an important role in determining how credit booms come to an end, it does not allow for the assessment of their relative importance in driving credit growth in emerging Asia. To do so, in this section, a structural vector autoregressive (SVAR) model is used. The model incorporates two blocks: (i) emerging Asia and (ii) the United States and euro area (taken as the foreign block), each including GDP-weighted averages of real GDP growth, CPI inflation, real credit growth, and the level of short-term interest rates. For each block, three shocks are identified: an aggregate supply, an aggregate demand, and a monetary policy shock.

[6] See, for example, Gourinchas, Valdes, and Landerretche (2001), Mendoza and Terrones (2008), and Barajas, Dell'Ariccia, and Levchenko (2011).

[7] The rapid rise in nonbank intermediation poses a challenge in detecting booms (see Elekdag and Wu, forthcoming, for an example), implying that the perimeter of financial supervision should be widened to ensure that vulnerabilities are detected early and contained.

Figure 2.4. Credit Booms Across Emerging Economies



Sources: IMF, WEO database and staff calculations.

[1] Year zero denotes peak of booms.

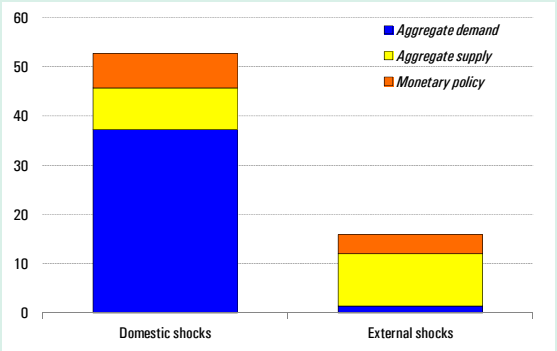
Two main results are worth emphasizing:

- First, on average for emerging Asia over the last two decades, a larger proportion of real credit growth variation is explained by domestic shocks than by external shocks (Figure 2.5). Specifically, domestic nonmonetary (aggregate demand and supply) shocks account for a larger share of credit variation relative to their foreign counterparts. Interestingly, domestic monetary policy also accounts for a larger share of credit variation in emerging Asia than foreign monetary policy, a proxy for global liquidity conditions.

- Second, while they still account for a relatively lower share of real credit growth variation in emerging Asia, external shocks have become more important over time. Specifically, foreign nonmonetary shocks have grown in importance, likely reflecting increased trade openness across the region.

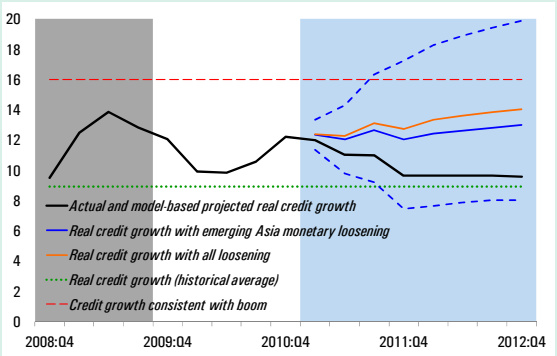
To highlight the important role of domestic monetary policy in driving real credit growth in emerging Asia, two illustrative scenarios are developed. These scenarios are depicted in Figure 2.6, showing a two-year forecast horizon up to end-2012 in light blue, a gray shaded area corresponding to a growth recession (growth was below the sample average of 4.6 percent), the actual

Figure 2.5. Emerging Asia: Real Credit Growth and the Role of Domestic versus External Factors
(In percent)



Source: IMF staff calculations.

Figure 2.6. Real Credit Growth in Emerging Asia: Forward-Looking Scenarios
(In percent)



Source: IMF staff calculations.

real credit growth rate, and its historical average. The horizontal red dashed line corresponds to a level of real credit growth which—based on the credit boom event study discussed in section A above—may serve as an illustrative warning threshold above which real credit growth may be excessive. The model-based forecast is the baseline, shown with the black line, and gradually converges to the historical average (albeit at a much slower rate after 2011). Focusing on the forecast horizon, the first illustrative scenario is shown with the blue line (along with 90 percent nonsymmetric confidence bands, shown by the dotted blue lines), whereas the second scenario is depicted with the orange line. Three points worth underscoring are as follows:

- First, barring major global economic disruptions, if the current stance of monetary policy continues in the future, then credit growth in emerging Asia is likely to be higher than the baseline and follows an upward trajectory as indicated by the blue line.

- Second, credit is more likely to grow faster, rather than slower, under this scenario, as indicated by the nonsymmetric 90 percent Bayesian confidence bands (in dashed blue). By end-2012, there is a one in three chance that real credit growth in emerging Asia will exceed the warning threshold discussed above.

- Third, although an increase in global liquidity in line with the 2009 experience could surely exacerbate credit growth throughout the region (indicated by the orange line), the impact seems to be more modest.

These scenarios serve to illustrate that the monetary response to the immediate macroeconomic downside risks should be balanced by a consideration of the risks associated with lingering financial imbalances over the medium term. Country-specific circumstances need to be recognized, but these illustrative scenarios highlight that if the current loose monetary policy stance within the region continues over the near term, it could exacerbate financial imbalances, which have a tendency to end abruptly. Tighter monetary policy stances could be usefully complemented by macroprudential measures as highlighted in the April 2011 Asia and Pacific *Regional Economic Outlook*.

The results discussed so far refer to the region as a whole, but there are important differences across economies, especially in terms of exchange rate regimes. The model was estimated for each country in the sample separately, allowing an individual breakdown of factors affecting credit growth. These factors were compared with various structural characteristics of the economies within the region. The results indicate that economies with more flexible exchange rate regimes (for example, Indonesia, the Philippines, and Thailand) are characterized by a lower share of external factors driving credit growth (the correlation is –60 percent). Greater exchange rate flexibility acts as a shock absorber by smoothing out cyclical fluctuations that affect credit dynamics, and also helps mitigate the buildup of financial imbalances.

C. Conclusions

Although credit growth has eased in recent months, it still appears elevated across emerging Asia. Although external factors such as global liquidity conditions matter, and increasingly so over time, domestic factors (including monetary policy) remain a more important driver of real credit growth in emerging Asia.

While near-term macroeconomic policy would be geared toward managing exceptionally uncertain global growth prospects, policymakers should remain focused on potential risks to financial stability and the real economy from lingering financial imbalances, including rapid credit growth. In particular, while they may have abated more recently, overheating pressures (which are associated with rapid credit growth) are still a concern in several economies including China, Hong Kong SAR, and Indonesia. Therefore, depending on country circumstances, policymakers should be prepared to use monetary, macroprudential, and exchange rate policies to limit financial imbalances that could eventually jeopardize macroeconomic stability.

III. Asia's Quest for Inclusive Growth

Income inequality has risen across the world over the last two decades. The academic literature attributes the rise mainly to three factors: globalization, skill-biased technological change, and the decreasing bargaining power of workers. The global financial crisis and recent social turmoil in different parts of the world have heightened global awareness, including in Asia, of the potential impact of rising inequality on economic and social stability and on the sustainability of growth (Berg and Ostry 2011 and Rajan 2010).

This chapter examines how pro-poor and inclusive Asia's recent growth has been compared with its own history and other emerging regions, and discusses some policies that are currently being considered to make growth more inclusive. The main findings are that poverty has fallen in the last two decades in Asia, but income inequality has increased and has dampened the impact of growth on poverty reduction. Relative to other regions, the recent period of growth in Asia has been both less inclusive and less pro-poor. There is scope for policy measures, including those related to spending on health and education, labor markets, financial inclusion, and governance, to broaden the benefits of growth.

A. How Does Asia Compare With Other Regions?

Over the last two decades, growth in most Asian economies has been robust and higher on average than in other emerging regions (Figure 3.1). In turn, this has translated into significant reductions in poverty; however, Asia still remains home to the largest number of the world's poor (Table 3.1).

Inequality has increased across the region, in sharp contrast to the previous three-decade record of equitable growth in Japan, the newly industrialized economies (NIEs), and the ASEAN.[8] While some decline in the impact of growth on poverty is to be expected as poverty rates fall, in Asia this decline has been exacerbated by the larger rise in inequality than in other emerging regions. Earlier work (IMF, 2006) attributes the rise in inequality to skill-biased technological change and the transition from agriculture to industry for lower-income Asian economies (consistent with the Kuznets hypothesis).[9] At the same time, even as the size and purchasing power of Asia's middle class have grown in the last two decades, their share of overall income has fallen while that of the richest quintile has increased. By contrast, in Latin America and the Middle East and North Africa, the share of the richest quintile has declined.

More recently, poverty has generally continued to fall in Asia, but the global crisis exacerbated the rise in inequality in several economies for which data are available (Figure 3.2). This trend has been particularly pronounced in China, Indonesia, and Malaysia, but has also been observed for some NIEs and Japan.

B. Poverty, Growth, and Inequality

Going beyond the stylized facts, regression analysis can be used to quantify how pro-poor and

Note: The main authors of this chapter are Ravi Balakrishnan, Chad Steinberg, and Murtaza Syed, and it is based on their forthcoming working paper. Jingfang Hao and Sanjeeda Munmun Haque provided research assistance.

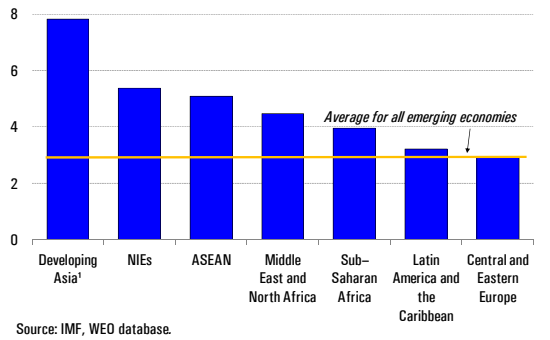
[8] This chapter follows the old *Regional Economic Outlook* classification and so "NIEs" include Hong Kong SAR, Korea, Singapore, and Taiwan Province of China, whereas "ASEAN" refers to Indonesia, Malaysia, the Philippines, Thailand, and Vietnam only. "South Asia" in this chapter also includes Bhutan and Nepal.

[9] Jaumotte, Lall, and Papageorgiou (2008) also argue that skill-biased technological progress is a key driver of rising inequality. In China, growing disparities between coastal and inland regions as well as between urban and rural areas are sometimes cited as explaining much of the rise in inequality.

Figure 3.1. Stylized Facts: Asia's Growth Experience over the Last Two Decades

Emerging Markets: Real GDP Growth

(Annual percent change, 1990–2010)

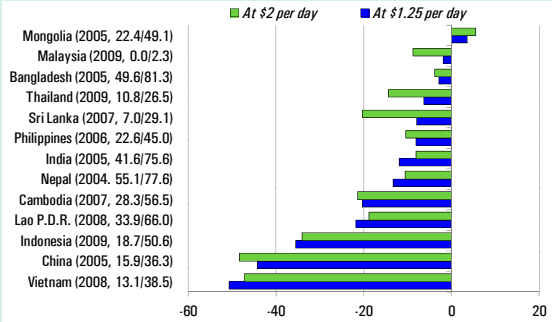


Source: IMF, WEO database.

[1] Developing Asia inlcludes Bangladesh, Cambodia, China, India, Lao P.D.R., Mongolia, Nepal, and Sri Lanka.

Selected Asia: Change in Poverty Headcount Ratio[1]

(In percentage points, since 1990)

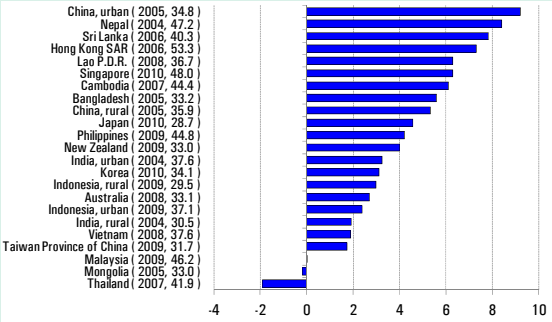


Sources: World Bank, *World Development Indicators* database; and IMF staff calculations.

[1] At 2005 purchasing power parity prices. In parentheses, the latest available year and corresponding headcount ratios at $1.25 per day and $2 per day, respectively.

Selected Asia: Change in Gini Index[1]

(In Gini points, since 1990)

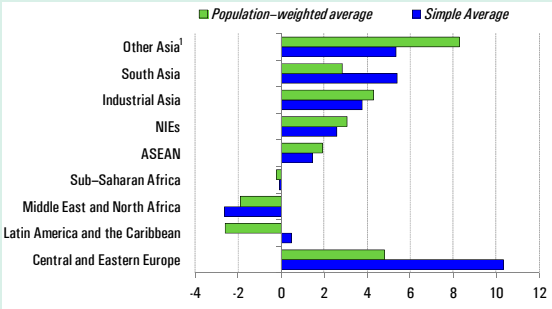


Sources: CEIC Data Company Ltd.; World Bank, *PovcalNet* database; UNU–WIDER, *World Income Inequality* database; Milanovic (2010); country authorities; and IMF staff calculations.

[1] In parentheses, the latest available year and corresponding Gini coefficients.

Change in Gini Index

(In Gini points, since 1990)



Sources: CEIC Data Company Ltd.; World Bank, *PovcalNet* database; UNU–WIDER, *World Income Inequality* database; Milanovic (2010); country authorities; and IMF staff calculations.

[1] Other Asia here includes Cambodia, China, Lao P.D.R., and Mongolia.

Table 3.1. Number of People Living on Less than $1.25 per Day

(At 2005 purchasing power parity prices)

	Percent of population		Number (millions)	Percent of world total	Number (millions)	Percent of world total
	1990	2005	1990		2005	
Europe and Central Asia	2	4	9	<1	17	1
Latin America and the Caribbear	11	8	50	3	45	3
Middle East and North Africa	4	4	10	1	11	1
Sub–Saharan Africa	58	51	297	16	388	28
Asia	53	27	1452	80	912	66
China	60	16	683	38	208	15
India	51	42	436	24	456	33
Rest of Asia	45	26	333	18	248	18
Total	42	25	1818		1374	

Source: World Bank, *PovcalNet* database.

inclusive growth has been in Asia relative to other emerging regions.[10]

How Pro-Poor and Inclusive Is Growth?

There are various ways to interpret what it means for growth to be inclusive and pro-poor. In this chapter, we follow the Ravallion and Chen (2003) approach and define growth as *pro-poor* simply if it reduces poverty. *Inclusive growth*, on the other hand, is defined as growth that is not associated with an increase in inequality, following Rauniyar and Kanbur (2010). In particular, we

[10] The main sources of data are the April 2011 version of the *PovcalNet* database and the *Penn World Tables*. To this, household survey data for the NIEs is added, resulting in an unbalanced panel between 1971 and 2010, with the sample skewed toward the latter part of the period.

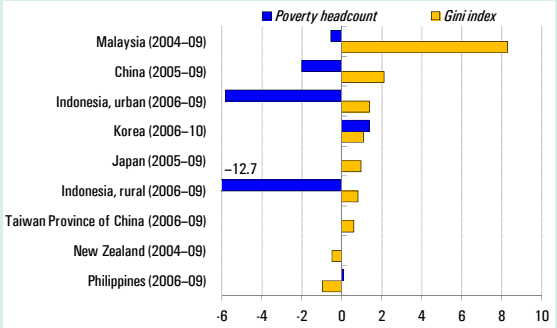
define growth as inclusive when it is not associated with a reduction in the share of the bottom quintile of the income distribution.

The regression analysis suggests that growth is in general pro-poor, with growth leading to significant declines in poverty across all economies and time periods. Specifically, a 1 percent increase in real per capita income leads to about a 2 percent decline in the poverty headcount. The relationship, however, varies across regions and economies. In particular, in East Asia and Latin America, income growth has a significantly lower impact on poverty than in the Middle East and North Africa, Eastern Europe and Central Asia, and sub-Saharan Africa, which make up our baseline economies (Figure 3.3). The impact is particularly weak in India and Indonesia.

However, a 1 percent increase in the Gini coefficient more or less directly offsets the beneficial impact on poverty reduction of the same increase in income. Moreover, inequality *interacts* with income, meaning that a higher level of inequality tends to reduce the impact of income growth on poverty reduction. An increase in the Gini coefficient of about 25 percent (the case of urban China from 1995–2005) reduces the impact of a 1 percent increase in income to about a 1½ percent decline in the poverty headcount from 2 percent in the base case. The implication of this result is that past rises in inequality in Asia are likely to reduce the future impact of income growth on poverty, even if the level of inequality remains constant.

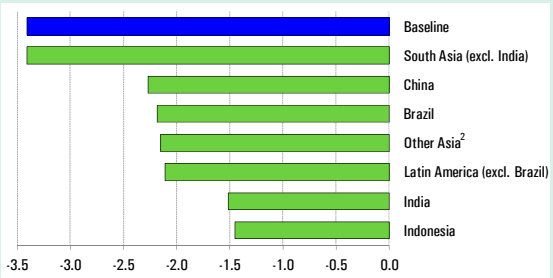
As a second step, we follow Dollar and Kraay (2002) and look at the relationship between a broader definition of "the poor"—the income of the bottom quintile of the income distribution—and per capita income. If the income of the poor tends to rise equiproportionately with average incomes—that is, income growth is not associated with a decrease in the income share of the bottom quintile—then growth would be considered *inclusive*. Given that much of the ongoing debate on inclusiveness has not just focused on the poorest fifth of society being left behind, but the richest fifth doing particularly well, we also estimate a similar relationship for income in the top quintile.

Figure 3.2. Selected Asia: Change in Poverty and Inequality during the Global Crisis[1]
(In percentage points)



Sources: CEIC Data Company Ltd.; World Bank, *PovcalNet* database; UNU–WIDER, *World Income Inequality* database; country authorities; and IMF staff calculations.
[1] For China and the Philippines, based on World Bank estimates.

Figure 3.3. Income Elasticity of Poverty Reduction[1]
(Impact on poverty headcount of a 1–percent increase in per capita income; in percent)

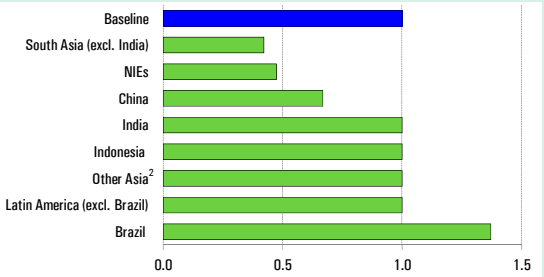


Sources: WorldBank, *PovcalNet* database; University of Pennsylvania, *Penn World Table*; and IMF staff calculations.
[1] The elasticity is set equal to that for baseline countries when the null hypothesis of a significant difference cannot be rejected.
[2] Other Asia here includes Cambodia, Malaysia, the Philippines, Thailand, and Vietnam.

We find that income of the bottom quintile rises significantly *less* than proportionately with average income and income of the top quintile rises significantly *more* than proportionately with average income. Moreover, these elasticities vary significantly across regions and economies. For the bottom quintile, the elasticity is significantly less than one for China, the NIEs, and South Asia (excluding India). For Brazil, the elasticity is significantly greater than one (Figure 3.4). Turning to the top quintile, the results are the mirror image of those for the bottom quintile. The elasticity is significantly greater than one

for China, the NIEs, and South Asia (excluding India); and significantly less than one for Brazil. In sum, the results suggest that growth has generally not been inclusive in China, the NIEs, and South Asia (excluding India), whereas it has been inclusive in Brazil.[11]

Figure 3.4. Degree of Inclusiveness of Growth[1]
(Impact on income of the bottom quintile of a 1–percent increase in per capita income; in percent)



Sources: WorldBank, *PovcalNet* database; University of Pennsylvania, *Penn World Table*; and IMF staff calculations.
[1] The elasticity is set equal to one when the null hypothesis of a significant difference cannot be rejected.
[2] Other Asia here includes Cambodia, Malaysia, the Philippines, Thailand, and Vietnam.

How Important Is Growth for the Poor?

Using the regression estimates, Table 3.2 constructs measures of pro-poor and inclusive growth for Brazil, China, India, Indonesia, Mexico, and Russia over recent decades. Although the income elasticities of poverty and income of the bottom quintile vary significantly across economies, per capita income growth remains a key driver of income of the poorest fifth of society. Some of the more specific results include:

- Inequality has widened in China, in contrast to Brazil and Mexico. Yet China has still experienced the greater poverty reduction given its higher growth in average income.[12]
- The importance of average income growth is reinforced when looking at trends in Indonesia and Russia. For both economies in the 2000s relative to the 1990s, poverty reduction was much greater despite inequality worsening, as growth was much higher.
- A similar story emerges when looking at measures of inclusive growth. For example, while growth has been only half as inclusive in China compared with Brazil, the income of the poorest fifth of society has increased by relatively more in China as average income growth has been much stronger.

C. Policies

This section examines some policies that can reduce inequality and increase inclusiveness. The multiple factors behind rising inequality suggest that a set of mutually reinforcing policies will likely be needed, and that the necessary mix will vary from country to country.[13]

Fiscal Policy

The relatively low share of education and health spending in GDP across Asia points to an important potential role for fiscal policy in strengthening inclusiveness (Figure 3.5; OECD, 2011). *Conditional cash transfer programs* (CCT) are being increasingly used in low-income emerging economies. Brazil and Mexico have two of the largest schemes (in the former, "Bolsa Familia" covers about 25 percent of the population) with transfers contingent on requirements such as children's school attendance or vaccination records. Both are considered to have been successful, with the Mexican program being associated with a 10 percent reduction in poverty within two years of its introduction. In Asia, the Philippines introduced a CCT in 2008 ("the 4Ps") to help redirect resources toward socially desirable programs in a well targeted way. By 2012, it is budgeted to reach 60 percent of the poor.

[11] One important caveat is that Brazil entered the 1990s with a relatively higher level of inequality. A second caveat regarding India is that the last observation is for 2005, and thus the picture may have changed more recently.
[12] The contrast is even more striking in the 2000s, as the latest datapoint for China is 2005 relative to 2009 in Brazil and Indonesia.
[13] Balakrishnan, Steinberg, and Syed (forthcoming) model the determinants of inclusiveness more formally. The policies that follow are partly motivated by this work.

In Asian economies with higher per capita income and lower poverty, enhancing other safety nets could be a higher priority. In particular, few emerging Asian economies have *unemployment insurance schemes* and many have *low pension coverage rates*—less than 20 percent of the working age population is covered in most of emerging Asia compared with an average of 60 percent in OECD countries (OECD, 2009). Enhancing such safety nets, as well as increasing inclusiveness, would also reduce precautionary motives to save, thereby increasing consumption and facilitating global rebalancing.

A key question about such policies is their fiscal cost. The Bolsa Familia program in Brazil costs only 0.4 percent of GDP and recent IMF work on

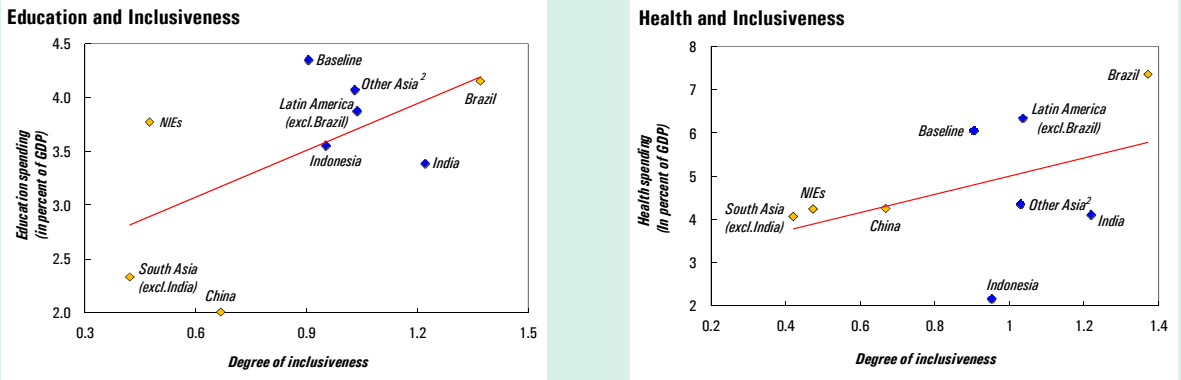
Table 3.2. Pro-poor and Inclusive Growth Measures

	Elasticity of poverty with respect to income growth	Degree of inclusiveness	Income growth[1]	Change in Gini index[1]	Predicted change in poverty[1]	Predicted change in bottom fifth income[1]
	[1]	[2]	[3]	[4]	[5]= [1]*[3] + 2*[4]	[6]=[2]*[3]
China 1980s	–2.3	0.7	84	54	–81	56
China 1990s	–2.3	0.7	88	36	–127	59
China 2000s	–2.3	0.7	88	11	–176	58
Indonesia 1990s	–1.4	1.0	15	–5	–31	15
Indonesia 2000s	–1.4	1.0	90	23	–84	90
India 1990s	–1.5	1.0	10	–1	–17	10
India 2000s	–1.5	1.0	13	8	–4	13
Brazil 1980s	–2.2	1.4	24	5	–42	33
Brazil 1990s	–2.2	1.4	5	–3	–18	7
Brazil 2000s	–2.2	1.4	34	–9	–92	47
Mexico 1990s	–2.1	1.0	–17	–3	31	–17
Mexico 2000s	–2.1	1.0	41	–4	–94	41
Russia 1990s	–3.4	1.0	–47	–26	109	–47
Russia 2000s	–3.4	1.0	92	12	–289	92

Sources: WorldBank, *PovcalNet* database; University of Pennsylvania, *Penn World Table* ; and IMF staff calculations.

[1] As proxied by 100 times the change in the logarithm over the corresponding period.

Figure 3.5. Fiscal Policy and Inclusiveness[1]



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

[1] The yellow diamonds represent those economies whose inclusiveness coefficient has been estimated to be significantly different from one.

[2] Other Asia here includes Cambodia, Malaysia, the Philippines, Thailand, and Vietnam.

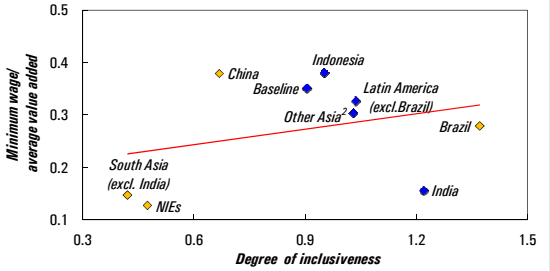
China and Korea (Barnett and Brooks, 2010; and Feyzioglu, Skaarup, and Syed, 2008) argues that a minimum social safety net can be provided at low cost, with more comprehensive nets funded by broadening the tax base and increasing some taxes, along with reallocating existing spending. For many economies, introducing a general sales tax (or increasing the rate) and reducing poorly targeted fuel subsidies would be obvious candidates. Some policies may have no fiscal cost, such as unemployment insurance schemes with employee/employer contributions to individual accounts. Regarding education, in many cases, the challenge is to improve quality. Expanding pension provision could entail costs, but not necessarily if benefits are provided on a defined-contribution basis and contribution rates are increased.

Labor Market Reform

Inclusiveness also seems to be positively associated with the degree of employment protection and minimum wage levels, with South Asia and the NIEs having particularly low

minimum wages (Figure 3.6). This is consistent with recent academic work that links rising inequality in advanced economies to weakened bargaining power of workers (for example, Levy and Temin, 2007). A comprehensive discussion of the impact of labor market institutions (for example, collective bargaining structures and dual labor markets) on the inclusiveness of growth is beyond the scope of this chapter; however, minimum wages are being increasingly advocated in the region to support the income of low-earning workers.[14]

Figure 3.6. Labor Market Institutions and Inclusiveness[1]



Sources: Lopez de Silanes and others (2004); World Bank, *Doing Business* database; and IMF staff estimates.
[1] The yellow diamonds represent those countries whose inclusiveness coefficient has been estimated to be significantly different from one.
[2] Other Asia here includes Cambodia, Malaysia, the Philippines, Thailand, and Vietnam.

Minimum wages are one of the most well-studied policies. Yet both theory and empirical evidence are largely ambiguous on their disemployment effects (Boeri and Van Ours, 2008). It is usually a matter of fine-tuning: set the rate too low and it has no impact, set it too high and it will have significant disemployment effects. Moreover, minimum wages usually work better in combination with benefits conditional on employment as they reinforce each other. In particular, while the latter may be a good way of providing targeted assistance and work incentives, if labor has limited voice, employers could use such benefits to drive down wages, which a minimum wage can help avoid (Gregg, 2000).

Other Policies

While *financial development* generally increases incomes of the poorest households (Claessens and Perotti, 2005), unequal access to financial markets can reduce it by impeding investments in human and physical capital. These barriers are widespread in Asia, with nearly 60 percent of the population in East Asia and 80 percent in South Asia lacking access to the formal financial system, and there is evidence that they worsened during the global crisis (Financial Access, 2010). Reforms such as promoting rural finance, extending microcredit, and expanding credit information sharing should significantly expand credit availability. Already, there are some promising initiatives underway in Asia, such as the microfinance institution (MFI) card in the Philippines.

Institutional reforms can also play an important role. Work by the IMF suggests that high and rising corruption increases inequality and poverty, including by reducing the progressivity of the tax system, the level and effectiveness of social spending, and the formation of human capital (Gupta, Davoodi, and Alonso-Terme, 1998). Across Asia, notably in China and India, corruption has been identified by governments as a key challenge in recent years, with governance and institutional reforms high on the agenda.

[14] Hong Kong SAR introduced a minimum wage in May 2011, and Malaysia is considering one for 2012. Moreover, rates were increased in China, India, the Philippines, and Vietnam in 2011. China and Thailand are also looking at increasing existing minimum wages considerably in the near future.

IV. The Benefits of Further Financial Integration in Asia

The need for economic rebalancing in the aftermath of the global financial crisis and the recent surge of capital inflows to emerging Asia have revived the debate about deeper financial integration in the region. On the one hand, financial integration is seen as an important tool to deepen regional financial markets, strengthen regional sources of funding, reduce the impact on Asian economies from negative shocks, and so allowing more "risk sharing," and improve access of consumers and investors to financial services and, therefore, help rebalance growth by strengthening domestic demand. On the other hand, greater financial integration may imply larger risk of contagion from negative external shocks.

This chapter presents key findings from two working papers by IMF staff on these issues:[15]

- Asia's degree of financial integration, both with the world and within the region, is relatively low, especially when compared with Asia's high degree of trade integration.
- There is scope for Asia's financial integration to be more effective, in particular intraregional integration: for the same level of contagion risks, Asian economies currently benefit less from risk sharing compared with advanced economies.
- Greater financial integration offers the largest benefits to Asian economies when done in a regional context. Therefore, Asian policymakers should coordinate efforts to deepen regional financial markets by harmonizing legal, institutional, and macroeconomic policy objectives.

Note: The main authors of this chapter are Phurichai Rungcharoenkitkul and Olaf Unteroberdoerster.

[15] Pongsaparn and Unteroberdoerster (forthcoming) and Rungcharoenkitkul (forthcoming).

A. Assessing the Degree of Financial Integration in Asia

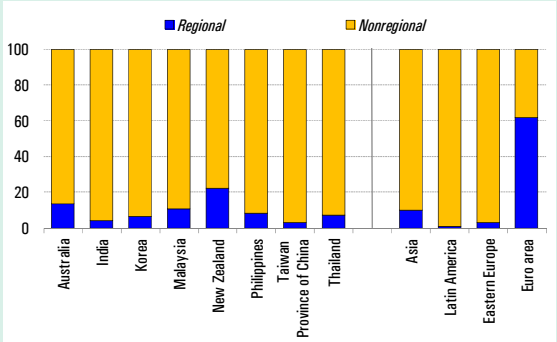
Over the last decade, cross-border portfolio investment, foreign direct investment (FDI), and banking activities have been on an upward trend in Asia, as in other regions, except for a sharp decline during the global financial crisis of 2008–09. Relative to GDP, cross-border financial positions in Asia are comparable with other emerging economies of Latin America and Eastern Europe, but substantially smaller than in the euro area (the group of advanced economies that are the most financially integrated). However, cross-border portfolio investment in Asia is predominantly interregional (that is, with economies outside the region), especially after adjusting for the role of Hong Kong SAR and Singapore in intermediating inflows from outside the region (Figure 4.1).[16]

Typically, a country's degree of financial integration tends to increase with its degree of trade integration. However, compared with the world, most Asian economies' rapid expansion into global trade has not been matched by a commensurate increase in their degree of financial integration (Figure 4.2). This is true especially for the many ASEAN economies (including Indonesia, Malaysia, the Philippines, and Thailand) for which the main channel of financial integration is through FDI flows.

Controlling for a broad set of structural and cyclical factors confirms that Asian economies tend to be less financially integrated than other regions. We estimate what the degree of financial integration

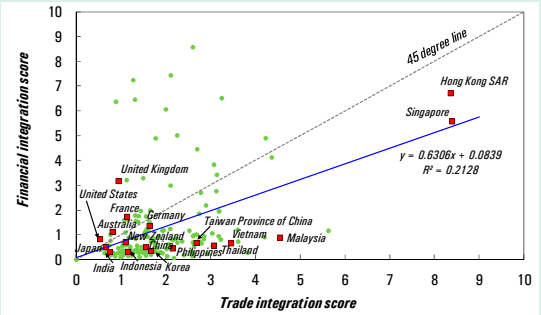
[16] By contrast for FDI flows, the share of intraregional flow accounts for about half of total flows, mainly on account of round-tripping between Mainland China and Hong Kong SAR, and FDI from Japan. Other regional economies only account for about 10–30 percent of intraregional FDI flows.

Figure 4.1. Regional and Nonregional Sources of Portfolio Investment Liabilities, 2001–09
(In percentage points)



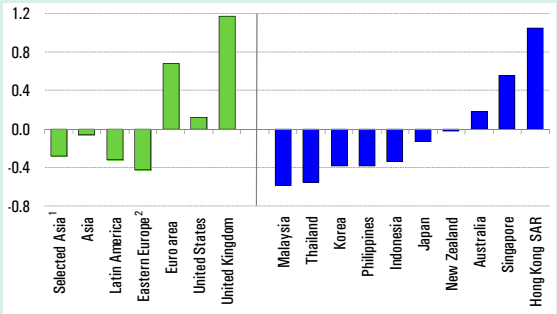
Sources: IMF, *Coordinated Portfolio Investment Survey* and staff calculations.

Figure 4.2. Trade and Financial Integration, 2001–09



Source: IMF staff calculations.
[1] Integration scores measure country ratios (of exports and imports; or capital flows) to GDP over global average.

Figure 4.3. Deviations from Model-Based Norms of Financial Integration
(In number of standard deviations from global mean)



Source: IMF staff calculations.
[1] Excludes Hong Kong SAR and Singapore.
[2] Excludes Luxembourg.

"should" be based on a set of country characteristics including trade integration, relative GDP growth, interest and exchange rate movements, and exchange rate volatility. We consider a panel of 90 advanced and emerging markets. Except for the financial centers of Hong Kong SAR and Singapore, the degree of financial integration of many Asian economies is below the level predicted by the model for all economies, and in several cases falls behind the norm for Latin America and Eastern Europe (Figure 4.3). Furthermore, a gravity-type regression of pair-wise cross-border portfolio investment on the same variables also suggests a lower degree of financial integration within the Asia region.[17]

B. Risk Sharing versus Contagion

An important potential benefit of financial integration is that it affords countries insurance against shocks. Through borrowing and lending, countries can stabilize their consumption around their long-term potential growth, even in the presence of idiosyncratic shocks. This "risk sharing" benefit remains low in Asia, however. Our measure of risk sharing captures the degree to which countries succeed in insuring each other against shocks—a perfect risk sharing implies no further potential gain from redistributing risk.[18] The risk-sharing index for each pair of regions, which has a maximum value of one, is depicted in Figure 4.4.[19] The newly industrialized economies (NIEs) share risks substantially with the United States, but much less so with other Asian economies. Meanwhile, intraregional risk sharing is below average

[17] For the average country pair within the Asia region, our estimates suggest that cross-border portfolio investment is about 0.8 percent of own GDP lower than it would be for any other pair.

[18] Typically, a risk-sharing index compares how growth in marginal utility of consumption differs across countries, which is indicative of how much risk is shared. Our index is similarly constructed, but is based on a term structure model and bond market data..

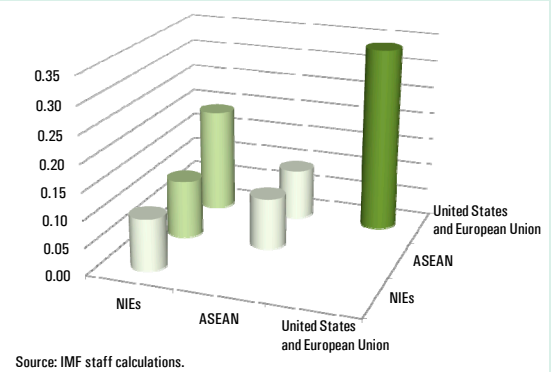
[19] This chapter follows the old *Regional Economic Outlook* classification and so "NIEs" include Hong Kong SAR, Korea, Singapore, and Taiwan Province of China. For data availability reasons "ASEAN" refers to Indonesia, Malaysia, the Philippines, and Thailand only.

for both NIEs and ASEAN. Among NIEs, only risk sharing between Hong Kong SAR and Singapore is above average, whereas Korea in fact achieves more risk sharing with ASEAN countries than with other groups of economies. Overall, the risk-sharing benefits enjoyed by all Asian economies, including China, Japan, and India (not shown), are dwarfed by those between the United States and the European Union.

Financial integration also has potential costs, particularly the greater risk of contagion, which can arise through interconnected banking sectors (Box 4.1) as well as through financial linkages more generally. As the recent global financial crisis illustrates, contagion costs can be large, calling into question the virtue of having an integrated financial market. To evaluate the trade-offs arising from financial integration we estimate an index of financial contagion (the lower the index the greater the contagion; see Rungcharoenkitkul, forthcoming, for details). Setting this index against the risk-sharing index in Figure 4.5 shows that there is a negative and statistically significant relationship between the two measures (green line), suggesting that more risk sharing can be obtained only at a cost of greater financial contagion risk. As Figure 4.5 reveals, however, there remains substantial room for most Asian economies to improve their trade-offs, thereby to enhance the "quality" of financial integration. The trade-off for the United States (red line) is noticeably superior, and in effect defines the efficient frontier. Most Asian economies, in contrast, have room to benefit more from risk sharing without incurring higher contagion costs.

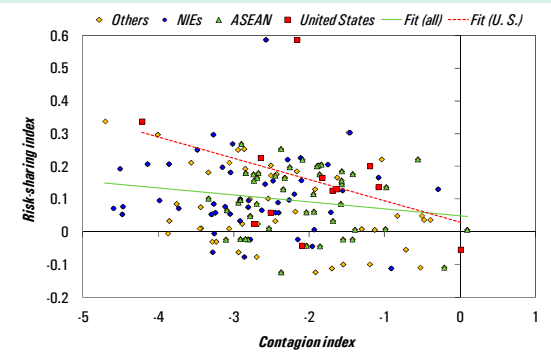
One way to enhance the quality of financial integration is to further develop financial markets, and enable them to play a better risk-sharing role. Meanwhile, risk sharing should not be expected to contain the most extreme of shocks. Moreover, the ability of markets to provide insurance against even moderate shocks may be hampered by structural cross-country differences in macroeconomic conditions and policy objectives. To test these hypotheses, intraregional risk sharing within NIEs, ASEAN, and

Figure 4.4. Risk Sharing within and between Regions
(Risk–sharing Index)



Source: IMF staff calculations.

Figure 4.5. Trade-Offs between Risk Sharing and Contagion



Source: IMF staff calculations.

the G-2 (the United States and European Union) are regressed against (i) the degree of intraregional financial integration; (ii) financial development, captured by stock market capitalization over GDP; (iii) the magnitude of real economic shocks, measured by deviations of industrial production growth from trends; and (iv) inflation rate differentials, which reflect differences in policy objectives. The fitted model is then used to decompose the contribution of each factor to the overall degree of risk sharing. As Figure 4.6 shows, policies that promote lower inflation differentials, contain volatility of real shocks, and foster financial development can go a long way in reducing this difference and therefore can help Asia attain a better trade-off between costs and benefits from financial integration.

Box 4.1. Assessing the Contagion of Systemic Risk from Financial Integration through Banks

We exploit comovements of daily equity prices and CDS spreads among 20 large financial institutions across 10 regional economies to estimate the interconnectedness and the common dependence on external shocks. The analysis uses a probability-based model developed by Segoviano and Goodhart (2009) to analyze risk transmission and provides a systemic distress indicator measuring potential spillovers within and outside the region.[1] The main results are as follows:

While the systemic risk from external vulnerability has remained low, the risk indicator has increased sharply since June, to levels similar to those observed during the Lehman Brothers episode, reflecting weakening global growth and U.S. and European debt turmoil. The risk indicator on Asian financial institutions has been highly correlated with global distress events, but the magnitudes appear to be smaller than for other regions (see IMF 2011a and 2011c).

Financial institutions in the region appear to be more exposed to distress from advanced economies outside the region than within the region (table), consistent with the pattern of low intraregional financial integration. If systemic distress occurred in the United States and Europe, it would likely have significant financial spillovers.

Within the region, distress from regional financial centers, including Hong Kong SAR and Singapore, tends to have higher spillovers to the financial institutions in the region. The significance of regional financial centers could arise from direct loan exposures by banks in the region and higher funding sources from these regional financial centers.

Heat Map of Potential Spillover of Systemic Risk

	Sources of distress									
Spillover to	Australia	China	Hong Kong SAR	Japan	Korea	Indonesia	Malaysia	Singapore	Thailand	U.S. and Europe
Australia										
China										
Hong Kong SAR										
Japan										
Korea										
Indonesia										
Malaysia										
Singapore										
Thailand										

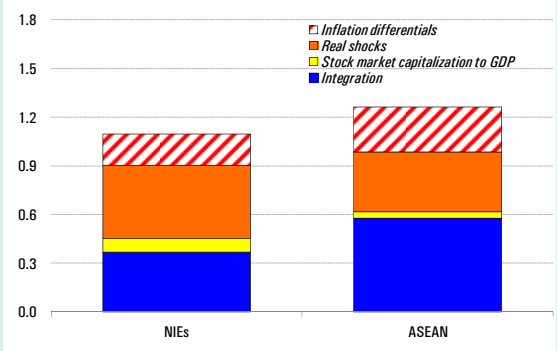
Sources: Bloomberg L.P. ; Markit; and IMF staff estimates.

[1] Each cell indicates the conditional probability of banks in distress for the economy of i-th row given the banks in the economy of j-th column is in distress. Cells in red indicate high conditional probabilities of above 0.3, whereas yellow cells are considered middle risk (conditional probabilities between 0.2 and 0.3), and green cells indicate low probabilities (below 0.2).

Note: The main author of this box is W. Raphael Lam. For further details see Lam and Oura (forthcoming).

[1] The systemic risk indicator is defined as the joint probability of distress, which is a probability that all financial institutions in the sample become distressed. The probability includes individual idiosyncratic risk and distress owing to common dependence among financial institutions.

Figure 4.6. Decomposing the Gap between International Risk Sharing in Asia and the G-2



Source: IMF staff calculations.

C. Policy Implications

Greater quality of financial integration could yield significant benefits to Asian economies. Indeed, policies that can help enhance the benefits from risk sharing at a minimal risk of financial contagion are being pursued by many governments in the region and include:

- Developing harmonized market standards and rules, by building common trading rules and platforms, as well as harmonizing accounting standards and securities regulations, which in

turn will help engender financial development and facilitate the creation of institutional investors, and Asia-wide portfolio investments.

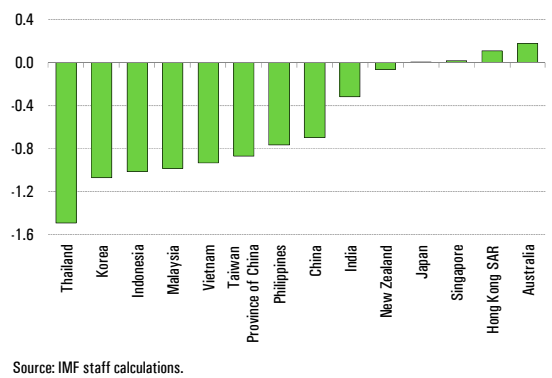
- Fostering policy coordination in response to shocks, through policy dialogue and recognition of risks to regional stability and common policy priorities. With deeper cross-border linkages, improved cross-border supervision and cooperation will also become important, in particular coordinated efforts to move toward risk-based supervision.

- Harmonizing macroeconomic and monetary policy objectives, to foster more universal macroeconomic stability in the region and create an environment that is more conducive to intraregional risk sharing. With greater regional capital mobility, macroeconomic policies will need to converge to avoid sharp fluctuations in cross exchange rates with potential disruptions to trade and the real economy.

Against this background, ongoing coordinated efforts by policymakers in the region to further develop common regional financial markets should continue to be a priority. The Asian Bond Market Initiative, for example, has already led to a notable expansion of the investor base.[20] Combining these initiatives with ongoing efforts to promote convergence in macroeconomic policy objectives, such as through regional surveillance, peer review, policy discussions, and, ultimately, greater regional policy coordination, can help ensure that the benefits of financial integration are maximized for Asia.

Deeper financial integration with better access of consumers and investors to financial services would also strengthen domestic demand in the region and support economic rebalancing. Moreover, by facilitating the transfer of financial know-how, financial integration could foster financial innovation and lessen the motives for precautionary savings. Similarly, pressure for greater transparency exerted by foreign investors may reduce asset price volatility, as it would improve the quality and frequency of information (Prasad and Rajan, 2008). Model-based estimates using the macroeconomic balance approach (which analyzes structural determinants of savings and investment) suggest that if the degree of financial integration in Asia were to be at the global norm, on average across emerging Asia (excluding Hong Kong SAR and Singapore), the region's current account surplus would be reduced by about 1 percent of GDP (Figure 4.7).

Figure 4.7. Effect of Financial Integration on Current Account Surplus
(In percent of GDP)



Source: IMF staff calculations.

D. Conclusions

Further financial integration of Asian economies, in particular at the regional level, would strengthen Asia's domestic sources of growth and improve economic resilience. In particular, policymakers should focus on ways to harmonize legal, institutional, and macroeconomic policy objectives and reduce discrepancies in the stage of development across different financial markets in the region. Such efforts would enhance risk sharing among regional economies at minimal cost of financial contagion, which is an inevitable by-product of greater financial integration. Deeper financial integration with better access of consumers and investors to financial services is also likely to support further economic rebalancing.

[20] See Felman and others (2011).

V. Asian Low-Income and Pacific Island Countries: Managing Inflation Risks and Strengthening Growth Prospects

This chapter highlights a few issues facing Asian low-income countries (LICs) and Pacific Island countries (PICs). For most Asian LICs, headline inflation has picked up following the rise in global commodity prices in 2010 (Figure 5.1). Section A suggests that Asian LICs need to be vigilant in their inflation-fighting efforts, despite a recent slowdown in commodity prices. For Asian PICs, the main issue remains how to achieve higher and sustainable growth. As section B shows, over the last decade PICs have grown more slowly than emerging Asia and similar comparators. To increase their resilience, the PICs should continue to rebuild policy buffers and implement growth-oriented structural reforms.

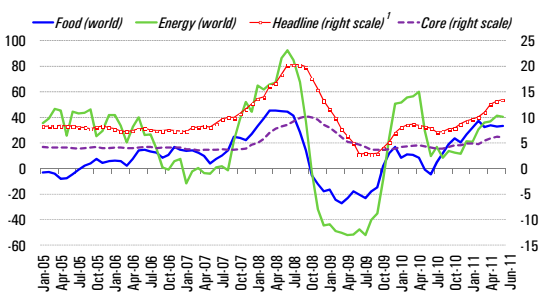
A. Recent Inflation Trends in Asian LICs

Headline inflation for Asian LICs reached a three-year high in 2011. Generally, food inflation has been the main driver of inflation (Figure 5.2). In some cases, however, the procyclicality of macroeconomic policies, along with second-order effects of higher food prices, contributed to raise core inflation rates. As of September 2011, futures prices for rice and wheat imply price increases for these major staples of about 10 percent through end-2012. Higher food and commodity prices carry with them a risk of more generalized inflation if they destabilize inflation expectations.

What Distinguishes the Current Inflation Episode?

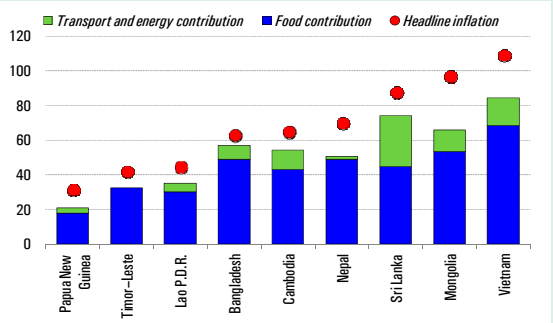
A few factors distinguish the current inflation episode in Asian LICs from the one in 2007–08.

Figure 5.1. Selected Asia: Inflation and World Prices
(Year-over-year percent change)



Sources: Country authorities; IMF, WEO database, and staff calculations.
[1] Weighted average, based on purchasing power parity GDP weights, headline inflation rates of Bangladesh, Cambodia, Lao P.D.R., Mongolia, Nepal, Sri Lanka, Timor–Leste, and Vietnam. Core inflation includes Nepal, Cambodia, Lao P.D.R., Sri Lanka, and Vietnam.

Figure 5.2. Selected Asia: Headline Inflation, January 2005–Latest[1]
(Cumulative percent change)



Sources: Country authorities; IMF, WEO database, and staff calculations.
[1] Energy includes water and housing for Bangladesh, Nepal, and Sri Lanka.

- *Incomplete pass-through.* Headline inflation has increased by less in the current episode in Asian LICs, reflecting the smaller run-up in global oil and food prices (particularly rice prices) and a lower pass-through to domestic prices owing to efforts to contain the cost of basic foodstuffs and related inputs.[21]

Note: The main authors of this chapter are Nombulelo Duma, David Cowen, Joedianna Mohammed, Shiu Raj Singh, Patrizia Tumbarello, Yiqun Wu, and Yongzheng Yang.

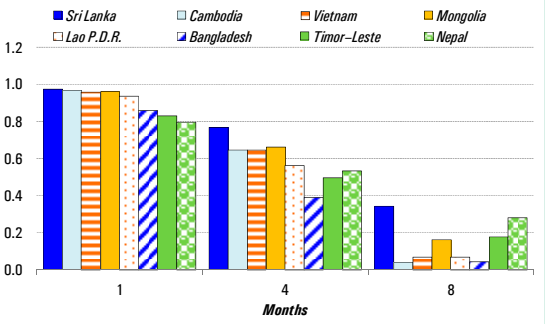
[21] For example, the increase in official food imports and fertilizer subsidies in Bangladesh; selling off of strategic food stocks (meat) in Mongolia; and a new rice policy in Cambodia.

- *Subdued core inflation.* Asian LICs' core (or nonfood) inflation has been lower for the most part in the current episode, even though it is increasing in some countries—in particular Vietnam. Core rates have also risen more slowly than in emerging Asia suggesting that inflation may not yet have run its course in Asian LICs. Indeed, wage pressures in Mongolia, Nepal, Timor-Leste, and Vietnam have been rising in recent months.

A few factors suggest inflationary pressure may continue in the near future in Asian LICs:

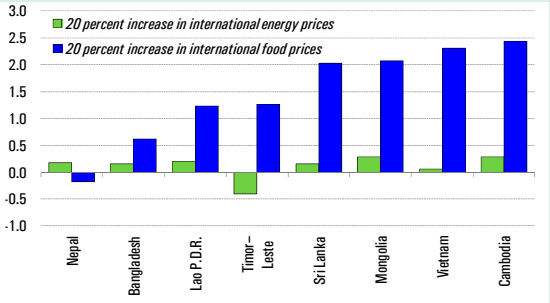
- *Inflation persistence.* Inflation persistence is higher (Figure 5.3) in countries where the pass-through from international to domestic prices is low in the first 12 months (Figure 5.4). Among Asian LICs, Nepal has the lowest pass-through and highest degree of inflation persistence.

Figure 5.3. Selected Asia: Inflation Persistence, 2005–11[1]



Sources: IMF staff calculations.
[1] Decay of autocorrelation functions in months. Monthly data unavailable for Bhutan and Papua New Guinea.

Figure 5.4. Pass-Through from International Prices to Domestic Prices[1]



Sources: Country authorities; and IMF staff calculations.
[1] The pass-through is estimated using country-by-country vector autoregressions of international food and energy prices and domestic CPIs.

- *Regional spillovers.* Headline inflation in Asian LICs is more affected by inflation in China than in India or advanced countries (Table 5.1). Given the heavy weight of China in imports of Cambodia, Lao P.D.R., Mongolia, and Vietnam, this is unsurprising. However, the spillovers from Chinese inflation appear stronger than those from India even in Asian LICs for which India is a major trade partner, such as Bangladesh. This suggests that China has an indirect impact on price movements even where direct trade ties are relatively small (see Box 1.2). Inflation spillovers from China and India tend to be lower in economies that have relatively more flexible exchange rates, such as Mongolia, Papua New Guinea, and Sri Lanka, than in economies with less flexible rates.

Amid unusual uncertainty over the global economic outlook, Asian LICs may be reluctant to withdraw policy stimulus rapidly. But accommodative policy stances can add to inflation pressures over the near term.

- *Fiscal policy.* Although fiscal deficits are expected to fall in 2011 in most Asian LICs, they are likely to remain larger than in 2008 (Table 5.2), suggesting that policies are still accommodative. In the event of a larger-than-anticipated rise in food or fuel prices, direct and indirect subsidy costs could rise more than expected, leading to larger fiscal imbalances and a higher public debt burden.[22]

- *Monetary policy.* Strong monetary growth and negative real interest rates point to loose monetary conditions in some countries (Table 5.2).

- *Exchange rates.* Negative terms-of-trade shocks and continued monetary and fiscal policy

[22] In Bangladesh and Nepal, some of these costs, especially related to oil, are being absorbed by state-owned enterprises.

accommodation have led to rising current account deficits in a few Asian LICs. Downward pressures on exchange rates could pose a further risk for inflation.

B. Pacific Island Countries: Improving Resilience to External Shocks

Most PICs seem to be stuck on a low-growth path (Figure 5.5). In the 10 years preceding the 2008–09 global financial crisis, PICs grew on average by only 2 percent a year—a much lower rate than the Asian LICs (6 percent) and countries of the Eastern Caribbean Currency Union (ECCU) (4 percent). PICs were hit hard by the 2008–09 global crisis, and they are recovering only slowly—although at different paces. Commodity exporters (Papua New Guinea and Solomon Islands) have benefited from high global commodity prices, but, excluding them, real GDP for the PICs fell by 1.2 percent on average in 2009. The flood in Fiji and the earthquake and tsunami in Samoa, in January and September 2009, respectively, further weighed negatively on growth performance.

The PICs' recovery is also slower than that of Asian LICs and emerging economies. The slower recovery pattern reflects PICs' relatively small export base, which does not allow the global recovery to feed into a large increase in external demand. Helped in part by the resilience of Australia during the crisis, the PICs have, however, recovered more strongly than some comparators in other regions, such as the ECCU, which relies more heavily on U.S. demand. Indeed, PIC growth performance appears to be strongly correlated to the business cycle in Australia and New Zealand (Figure 5.6). In particular, the strong appreciation of the Australian and New Zealand dollars supported the PIC tourism sector in 2011.

The PIC economies are also recovering more slowly this time around than in previous recessions.

Table 5.1. Selected Asia: Decomposition of Inflation and Exchange Rate Regimes[1]

Country	Horizon (months)[2]	By inflation innovations in				Exchange rate regime[3]
		OECD	China	India	Own	
Bangladesh	3.0	2.4	12.2	6.2	79.2	Stabilized
	12.0	11.3	43.5	8.5	36.7	
Bhutan	1.0	2.4	1.4	8.5	87.7	Conventional peg
	4.0	3.4	24.4	20.8	51.4	
Cambodia	3.0	2.5	9.5	9.4	78.7	Stabilized (dollarized)
	12.0	11.3	43.5	8.5	36.7	
Lao P.D.R.	3.0	9.2	1.4	2.7	86.8	Stabilized
	12.0	2.6	37.0	10.5	50.0	
Mongolia	3.0	6.4	2.5	2.9	88.1	Multiple (flexible)
	12.0	8.0	27.1	12.2	52.6	
Nepal	3.0	8.3	1.2	11.6	78.9	Conventional peg
	12.0	15.7	2.7	18.7	62.9	
Papua New Guinea	1.0	1.9	1.3	18.5	78.3	Floating
	4.0	3.2	16.3	12.1	68.5	
Sri Lanka	3.0	0.3	36.4	3.8	59.6	Stabilized
	12.0	0.4	47.8	20.3	31.5	
Timor–Leste	3.0	0.1	29.5	6.9	63.5	Dollarized
	12.0	3.4	65.8	5.8	25.0	
Vietnam	3.0	0.8	1.2	7.9	90.1	Stabilized
	12.0	29.0	26.6	16.6	27.8	

Source: IMF staff estimates.

[1] Error variances (in percent) of 3- and 12-month-ahead forecasts of each country's inflation rates. Sample covers 2005–11 period.

[2] Horizon in quarters for Bhutan and Papua New Guinea.

[3] Based on IMF *Annual Report on Exchange Arrangements and Exchange Restrictions* .

Table 5.2. Selected Asia: Monetary Conditions

	Inflation bias[1]	Monetary growth[2]	Real interest rate[3]	Real effective exchange rate[4]	Change in fiscal balance[5]
Bangladesh	down	+	–	/	–
Bhutan	...	+	+	+	+
Cambodia	/	+	+	/	+
Lao P.D.R.	down	+	–	+	+
Mongolia	/	+	+	+	–
Nepal	up	–	+	+	+
Papua New Guinea	...	+	/	/	+
Sri Lanka	/	+	/	+	–
Vietnam	down	+	–	–	+

Source: IMF staff estimates.

[1] The inflation bias points up if inflation is higher in both first and second quarters in 2011, "/" if inflation is higher in one quarter, or down if inflation is lower in both quarters in 2011 relative

[2] A "+" ("–") if money growth in 2011 (projection) is higher (lower) than in 2008.

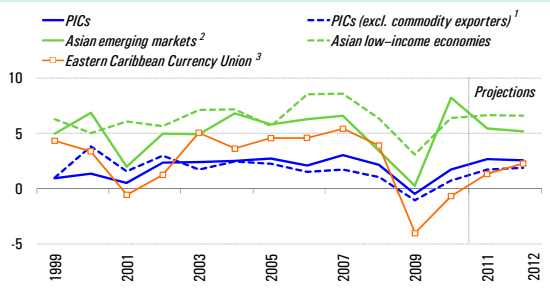
[3] Policy rates as of end–August 2011, except Cambodia, which is a weighted–average commercial bank rate.

[4] "+" denotes one year appreciation of more than 3 percent in June 2011, "–" depreciation of more than 3 percent, and "/" otherwise.

[5] A "+" ("–") if the fiscal deficit in 2011 (projection) is higher (lower) than in 2008.

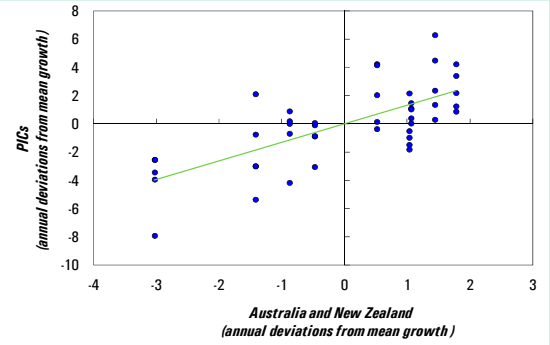
Over the past four decades, PICs have experienced five episodes of economic contraction—1975, 1980, 1987, 1997, and 2009. Only two of these five episodes coincided with global recessions (1975 and 2009). For commodity importers the 2009 contraction was milder than in previous downturns, yet the recovery has been much weaker (Figure 5.7).

Figure 5.5. PICs: Real GDP Growth
(Year over year; in percent)



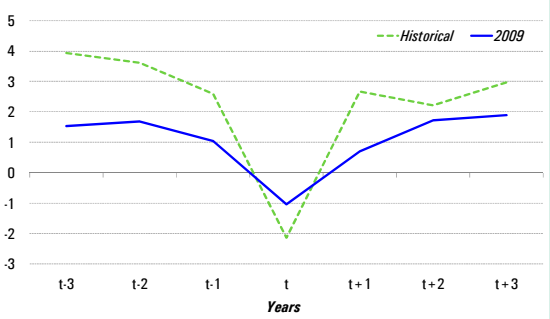
Sources: Country authorities; and IMF staff calculations.
[1] Commodity exporters refer to Papua New Guinea and Solomon Islands.
[2] Excludes China and India.
[3] Eastern Caribbean Currency Union (ECCU) includes Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia, and St. Vincent.

Figure 5.6. PICs: Real GDP Growth—Correlation with Australia and New Zealand, 2002–10



Sources: Country authorities; and IMF staff calculations.

Figure 5.7. PICs (Commodity Importers): Real GDP Growth around Downturns[1]
(Year over year; in percent)



Source: IMF staff calculations.
[1] Historical is average of four downturns.

What explains the current slow recovery of PICs compared to past episodes and relative to Asian LICs? A VAR analysis is carried out to identify which shocks have a larger and more persistent impact on PIC growth. Shocks to the terms of trade result in a considerably greater output loss than do shocks to external demand (Figures 5.8 and 5.9). This may explain the milder recession experienced by PICs in 2009 as well as the slower recovery, compared with previous episodes. By contrast, external demand shocks have a more substantial impact on output in Asian LICs (IMF, 2009), which may help explain the greater impact of the global recession on those economies.

Resilience to Shocks: Looking Ahead

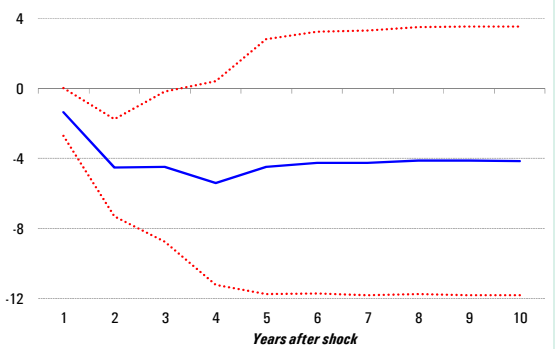
PICs remain vulnerable to external shocks, although vulnerabilities differ across countries. In the event of a global downside scenario, Fiji, Palau, Samoa, and Vanuatu would be affected through falls in tourism, which accounts for between 20 percent and 50 percent of GDP. Remittances would be one of the main channels of contagion in Samoa, Tonga, and Tuvalu, and to a lesser extent in Fiji and Kiribati. A deterioration in the terms of trade would negatively impact Papua New Guinea and Solomon Islands. A fall in stock prices in advanced economies would also impact PICs with large trust funds whose assets are invested offshore (Kiribati, Marshall Islands, Micronesia, Palau, and Tuvalu), worsening fiscal sustainability in Kiribati, Marshall Islands, and Micronesia. Aid flows to PICs are expected to hold up well, in line with the experience during the previous crises and planned increases in official development assistance from Australian and New Zealand.

Fiscal space is limited in PICs, with high public debt narrowing the scope for countercyclical policies in Fiji, Marshall Islands, Tonga, and Tuvalu. In countries with large trust funds, fiscal rules that prevent additional draw-downs to finance budget deficits in the face of a crisis could lead to procyclical policies. Papua New Guinea

and Vanuatu still have some fiscal space. Several islands have accumulated comfortable levels of foreign exchange reserves (Fiji, Papua New Guinea, Tonga, and Vanuatu), which could provide a temporary cushion. Greater exchange rate flexibility would be warranted in economies with relatively weak monetary transmission mechanisms. In Papua New Guinea, for example, the exchange rate channel of monetary policy continues to be effective, but excess liquidity is weakening the interest rate and credit channels. In Vanuatu, lower-than-anticipated inflation could allow a pause in monetary tightening.

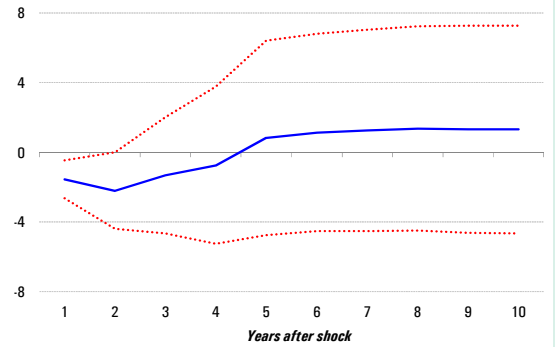
To strengthen their resilience to shocks, PICs will need to step up the rebuilding of policy buffers and implement growth-oriented structural reforms, which would help boost investors' confidence as well as ensure sustainable and inclusive growth. Focusing on the quality of spending, for example on education and infrastructure, could be key in lifting long-term growth potential. While rebuilding policy buffers, additional assistance from donors would also provide countercyclical support in several islands.

Figure 5.8. PICs: Impulse Response of Output Loss to Terms-of-Trade Shock
(Percent deviation from baseline trend)



Source: IMF staff calculations.

Figure 5.9. PICs: Impulse Response of Output Loss to External Demand Shock
(Percent deviation from baseline trend)



Source: IMF staff calculations.

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