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Regional Economic Outlook

Asia and Pacific

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This *Regional Economic Outlook* was prepared by a team coordinated by Jerald Schiff and Paul Gruenwald, under the direction of David Burton of the Asia and Pacific Department. Kay Chung, Janice Lee, and Fritz Pierre-Louis provided research assistance and Yuko Kobayashi and Livia Tolentino provided production assistance.

Definitions

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

- “Emerging Asia” refers to China, India, Hong Kong SAR, Korea, Singapore, Taiwan Province of China, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.
- “Industrial Asia” refers to Japan, Australia, and New Zealand.
- “Asia” refers to emerging Asia plus industrial Asia.
- “Newly industrialized economies (NIEs)” refers to Hong Kong SAR, Korea, Singapore, and Taiwan Province of China.
- “ASEAN-5” refers to Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.

The following abbreviations are used:

- SAAR refers to seasonally adjusted increase at an annual rate.
- y/y refers to a year-on-year increase.
- q/q refers to a quarter-on-quarter increase.

Executive Summary

Growth across Asia was strong again in 2006 and the outlook is for solid economic performance to continue in 2007 (Chapter I). Emerging Asia's growth rate reached 9 percent last year, reflecting continued fast growth in China and India, and is expected to moderate only slightly to 8½ percent in 2007. Exports were buoyant in 2006, although there was a loss of momentum late in the year, particularly in technology goods, with mixed forward-looking indicators adding some uncertainty to the near-term outlook. The rotation toward domestic sources of growth was somewhat less than expected in 2006, and the outlook is for continued gradual improvement this year. Outside of China, the pick-up in consumption growth is projected to be modest. Investment in the ASEAN countries is expected to bounce back following a weak 2006 in response to lower interest rates and improved sentiment, and should also gather pace in the Newly Industrialized Economies (NIEs). In China and India, by contrast, a continued tightening of policies is expected to bring investment and credit growth down to more sustainable levels. In industrial Asia, Japan's expansion remains solid, and growth should continue to firm in Australia and New Zealand.

Inflation pressures are contained in much—though not all—of Asia. Soft domestic demand, some appreciation of exchange rates, policy tightening and, to a lesser extent, lower oil prices, have all been factors. On the other hand, high credit growth and asset price rises remain a concern in some countries. Food prices have risen for weather-related reasons in a number of economies, but are not seen as a major concern for the region as a whole. Overall, inflation is expected to remain at around 3 percent for emerging Asia this year, with India and the ASEAN countries—where inflation came down sharply in 2006 owing to base effects—somewhat higher.

Asia's aggregate current account surplus widened further to 4¼ percent of GDP in 2006, but is expected to stabilize. A higher-than-expected outturn was seen nearly across the board, owing to strong export growth and lower oil prices. The bulk of the increase came from the trade balance, and China—where the current account surplus reached 9 percent of GDP and official reserves passed \$1 trillion—accounted for two-thirds of the nominal rise. Moreover, China's trade balance has again surged in early 2007 on an acceleration of exports. In light of the expected moderation in global growth as well some pick-up in domestic demand outside the region's largest emerging economies, Asia's current account (in terms of GDP) should stabilize in 2007.

Asian financial markets fared relatively well in the February-March bout of turbulence, and sentiment toward the region remains strong. As was the case in May-June 2006, the recent turbulence was seen as a correction. However, unlike the previous episode, it was triggered by investor nervousness about U.S. growth, rather than inflation, underscoring the market perception that the region's fortunes are still closely linked to external conditions,

particularly those in the United States. Equities were again hit harder than other asset classes, but conditions stabilized relatively quickly and investors have begun to cautiously re-engage. Looking ahead, Asia's high growth and solid fundamentals point to continued investor interest in the region including both direct and portfolio investments.

The nature of Asian capital flows continues to evolve (Chapter II). While *net* flows remain close to their long-term average, *gross* inflows and outflows have risen rapidly in a number of economies, reflecting the ongoing attractiveness of the region to investors as well as reforms taken to liberalize financial systems and capital accounts. There is little evidence that capital inflows have played a major role in currency appreciation, inflation or macroeconomic imbalances, although the increase in their volatility points to the need to enhance the resilience of financial systems, including through improved risk management.

On balance, the risks to this largely favorable outlook remain on the downside:

- While global growth has become more balanced, the main risk remains uncertainty surrounding U.S. growth prospects. The IMF's *World Economic Outlook* has marked down its U.S. growth forecast to 2.2 percent in 2007, with some moderation in the level of downside risk. That said, ongoing weakness in the housing sector, and the potential for spillovers into consumption—and Asian exports—is still a key concern.
- A repricing of financial assets in conjunction with a much lower-than-expected U.S. growth trajectory could be larger than in recent bouts of turbulence, and could have a real impact on Asia through financial sector and household balance sheets. An onset of high volatility in markets could also trigger an unwinding of yen carry trades, with potential knock-on effects on the “target” markets in Asia (and elsewhere).
- Inflation risks have subsided, aided by expected slower growth and lower world oil prices. Nevertheless, a spike in oil prices cannot be discounted given tight capacity and still-unresolved geopolitical tensions.
- Within the region, China and India present upside risks to growth given their recent outperformance and continued high productivity growth. However, positive spillovers from China to the rest of the region may be diminishing in light of the fast growing domestic, rather than imported, content of many goods it exports.

At the current juncture, the monetary policy picture across Asia is mixed. Where inflation remains under control and policy rates are close to neutral (most of the NIEs and ASEAN economies) there is some flexibility to cut rates should the downside risks to growth materialize. Elsewhere, owing to concerns about overheating and/or asset price growth, the scope for a monetary policy response to slower growth is more limited. For some countries, a particular challenge has been the recent sharp run-up in housing prices (Chapter III).

Fiscal policy has been managed prudently in recent years, creating some space for countercyclical policies if needed. Policymakers have generally taken advantage of the recent

favorable environment by consolidating fiscal positions and, where applicable, undertaking liability management, including repaying the IMF. While the current, broadly neutral, fiscal stances across much of the region are appropriate, there is room to allow automatic stabilizers to operate should growth falter. On structural issues, in a number of lower income, resource-rich economies, the recent commodity price boom has resulted in a positive “fiscal shock” that has the potential to help address developmental needs as well as to improve living standards and reduce poverty (Chapter IV).

I. Overview

Recent Developments and the Outlook

Asia recorded another year of strong growth in 2006, and the prospects are for the favorable economic performance to continue into 2007. That said, there has been somewhat less rebalancing of growth than expected, which leaves much of the region exposed to changes in external conditions. Indeed, weaker U.S. growth in recent quarters and ongoing inventory corrections led to a loss in export momentum in late 2006. Lower oil prices combined with modest domestic demand growth have helped to reduce inflation pressures in parts of the region, while overheating as well as real estate and equity price rises are a concern in some economies. Real sector risks have diminished in line with a more balanced G-3 growth profile. Meanwhile, financial risks are seen to have risen somewhat owing to possible spillovers from weakness in the U.S. mortgage market.

Growth

GDP growth strengthened further across most of Asia in 2006, with China and India continuing to lead the way. Growth in the region as a whole was up by 0.4 percentage point from a year earlier to 7.6 percent, while emerging Asia's growth rate rose by a similar amount to reach 9 percent. Emerging Asia exceeded the growth projections of the previous outlook by 0.6 percent. China's rapid growth continued to be largely investment led, although net exports have been contributing a growing share. Meanwhile, India's domestic demand gained further momentum, taking growth there to more than 9 percent. Led by Singapore and Korea, the pace of activity in the NIEs rose to 5.3 percent while growth in ASEAN-5 rose modestly.¹ In industrial Asia, growth rose to 2.3 percent as the

Note: The authors of this chapter are Paul Gruenwald, David Cowen, and Ranil Salgado.

¹ Effective this edition of the *Regional Economic Outlook*, Vietnam has been added to the ASEAN group (and included in the historical data) and the group has been named "ASEAN-5."

recovery in Japan gained traction, but remained below previous projections.

Table 1.1. Asia: Real GDP Growth
(Year-on-year percent change)

	2005	2006	2006	2007	2007	2008
			REO Sept '06		Latest Proj.	
Industrial Asia	2.0	2.3	2.7	2.3	2.4	2.1
Japan	1.9	2.2	2.7	2.1	2.3	1.9
Australia	3.0	2.4	3.1	3.5	2.6	3.3
New Zealand	2.2	1.5	1.3	1.7	2.5	2.6
Emerging Asia	8.6	9.0	8.4	8.2	8.5	8.1
Hong Kong SAR	7.5	6.8	6.0	5.5	5.5	5.0
Korea	4.2	5.0	5.0	4.3	4.4	4.4
Singapore	6.6	7.9	6.9	4.5	5.5	5.7
Taiwan POC	4.0	4.6	4.0	4.2	4.2	4.3
China	10.4	10.7	10.0	10.0	10.0	9.5
India	8.7	9.1	8.3	7.3	8.4	7.8
Indonesia	5.7	5.5	5.2	6.0	6.0	6.3
Malaysia	5.2	5.9	5.5	5.8	5.5	5.8
Philippines	5.0	5.4	5.0	5.4	5.8	5.8
Thailand	4.5	5.0	4.5	5.0	4.5	4.8
Vietnam	8.4	8.2	7.8	7.6	8.0	7.8
NIEs	4.7	5.3	4.9	4.4	4.6	4.6
ASEAN-5	5.5	5.7	5.3	5.8	5.8	6.0
Asia	7.2	7.6	7.3	7.1	7.2	6.9

Sources: IMF, APCORE and WEO databases; and staff estimates.

The more favorable outturn for growth mainly reflected higher-than-projected exports. Exports outperformed across much of the region (India being the main exception), particularly in most of the ASEAN-5 group as the effects of somewhat stronger exchange rates were outweighed by robust foreign demand as U.S. consumption remained resilient and the recovery in Europe gained pace. Investment fell short of projections in ASEAN-5, reflecting higher interest rates and implementation constraints in Indonesia, and political uncertainties in Thailand, but picked up pace in the second half of the year in the NIEs. Outside of China and Singapore (where the outturn was weak), private consumption grew broadly as expected in 2006, helped by lower oil prices and continued low unemployment. This was buttressed, particularly in some ASEAN-5 countries, by strengthening consumer confidence. Overall though, consumption growth continues to run below GDP growth in most countries such that, in combination with the softer investment outturn, the rotation to domestic demand has been less than expected.

Table 1.2. Asia: Real Export Growth

(Year-on-year percent change; national accounts basis)

	2005	2006 Prel.	2006 2007		2007 2008	
			REO Sept. '06	Latest Proj.	Latest Proj.	Latest Proj.
Industrial Asia	6.1	8.6	8.4	5.3	4.4	5.2
Japan	7.0	9.5	9.4	5.1	4.5	5.0
Australia	2.3	3.5	3.6	6.3	3.6	7.0
New Zealand	-0.5	2.0	0.7	6.3	2.3	3.5
Emerging Asia	18.3	17.4	17.4	16.6	16.0	16.2
Hong Kong SAR	11.2	9.9	7.2	6.1	6.7	6.3
Korea	8.5	12.4	13.5	10.8	7.9	9.6
Singapore	11.3	10.4	8.9	6.9	7.2	8.4
Taiwan POC	7.3	10.1	7.5	7.6	9.0	7.1
China	22.4	23.3	21.1	20.2	20.4	19.5
India	18.5	11.0	18.2	17.7	14.2	16.3
Indonesia	16.4	9.2	7.3	6.5	8.0	9.1
Malaysia	8.6	6.3	8.3	7.8	8.7	7.2
Philippines	4.2	12.1	7.6	7.5	10.9	10.4
Thailand	4.3	8.5	6.4	5.0	5.3	6.8
Vietnam	20.5	23.0	12.7	11.7	10.6	16.9
NIEs	8.6	11.3	10.6	9.0	8.0	8.4
ASEAN-5	10.9	10.7	7.9	7.1	8.2	9.5
Asia	15.7	15.6	15.7	14.5	13.7	14.2

Sources: IMF, APDCORE and WEO databases; and staff estimates.

Table 1.3. Asia: Investment Growth

(Year-on-year percent change; constant prices)

	2005	2006 Prel.	2006 2007		2007 2008	
			REO Sept. '06	Latest Proj.	Latest Proj.	Latest Proj.
Industrial Asia	3.3	3.9	5.6	3.8	3.7	2.4
Japan	2.6	3.7	5.5	3.9	4.1	2.7
Australia	7.7	6.3	7.5	4.2	1.9	1.2
New Zealand	3.6	-2.7	-2.2	-3.4	-1.0	0.9
Emerging Asia	13.1	12.5	13.1	11.7	12.4	11.4
Hong Kong SAR	4.6	7.9	11.6	9.9	10.0	8.3
Korea	2.4	3.2	1.8	4.0	4.2	3.9
Singapore	0.1	11.5	8.0	8.0	6.8	6.7
Taiwan POC	1.2	0.3	0.5	5.0	5.0	7.0
China	17.1	15.9	18.0	15.0	14.3	13.1
India	13.5	14.5	10.2	8.3	13.9	10.7
Indonesia	10.8	2.9	6.0	7.7	9.1	12.1
Malaysia	4.7	7.9	6.9	7.8	9.5	8.8
Philippines	-3.9	0.6	5.0	10.0	6.6	9.0
Thailand	11.1	4.0	6.8	9.5	6.8	7.8
Vietnam	9.7	8.6	19.7	17.0	11.1	12.2
NIEs	2.1	3.4	2.9	5.2	5.3	5.5
ASEAN-5	7.4	4.0	7.6	9.6	8.4	10.2
Asia	11.0	10.7	11.7	10.2	10.7	9.7

Sources: IMF, APDCORE and WEO databases; and staff estimates.

Table 1.4. Asia: Private Consumption Growth

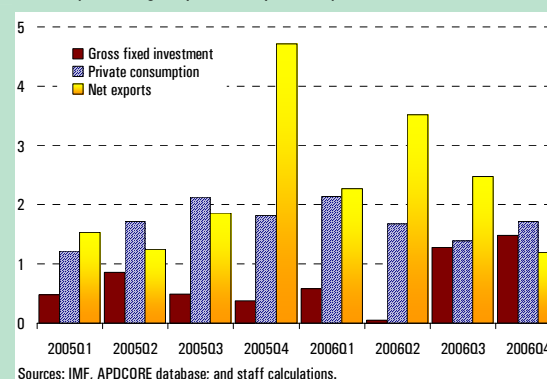
(Year-on-year percent change; constant prices)

	2005	2006 Prel.	2006 2007		2007 2008	
			REO Sept. '06	Latest Proj.	Latest Proj.	Latest Proj.
Industrial Asia	1.8	1.2	2.0	2.1	1.8	2.1
Japan	1.6	0.9	1.9	2.0	1.6	1.9
Australia	3.0	3.1	3.2	3.1	3.4	3.0
New Zealand	4.6	1.9	1.5	0.5	2.0	2.1
Emerging Asia	7.2	6.3	7.7	8.3	9.1	7.9
Hong Kong SAR	3.3	5.1	5.5	5.3	5.3	4.7
Korea	3.6	4.2	4.4	3.6	3.3	3.5
Singapore	3.1	2.5	4.4	4.2	3.1	3.8
Taiwan POC	2.7	1.5	2.0	3.3	2.7	4.2
China	9.1	7.2	9.8	10.9	12.3	10.3
India	6.4	7.0	7.0	6.3	6.7	5.2
Indonesia	4.0	3.2	3.0	4.8	4.7	5.0
Malaysia	9.2	7.0	5.3	5.6	5.7	6.9
Philippines	4.9	5.5	4.9	5.3	5.4	5.5
Thailand	4.3	3.1	3.5	4.1	4.0	4.0
Vietnam	7.3	7.5	5.7	8.2	8.8	8.8
NIEs	3.3	3.4	3.8	3.7	3.3	3.9
ASEAN-5	5.2	4.5	4.0	5.2	5.3	5.5
Asia	6.1	5.3	6.6	7.2	7.7	6.8

Sources: IMF, APDCORE and WEO databases; and staff estimates.

Figure 1.1. NIEs: Contributions to GDP Growth

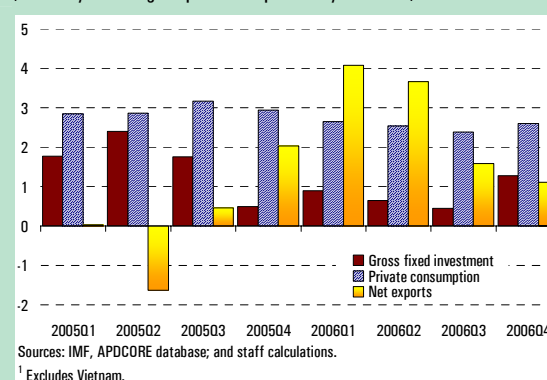
(Year-on-year change in percent of previous year's GDP)



Sources: IMF, APDCORE database; and staff calculations.

Figure 1.2. ASEAN-5: Contributions to GDP Growth¹

(Year-on-year change in percent of previous year's GDP)



Sources: IMF, APDCORE database; and staff calculations.

¹ Excludes Vietnam.

Export momentum eased in late 2006. The reduction of export momentum was concentrated in the tech sector (Box 1.1), most notably in Korea, Singapore, and Taiwan Province of China. There was also some softening in the growth rate of exports destined for the United States, consistent with below-trend growth there late in the year, as well as a reported drawdown in inventories. Reductions in inventories for some tech goods were reported in Japan as well. The decline in Asian tech export momentum began to reverse in early 2007 and forward-looking indicators on balance suggest prospects for a recovery.

Box 1.1. Asia's Electronic Sector: Looking Back and Ahead

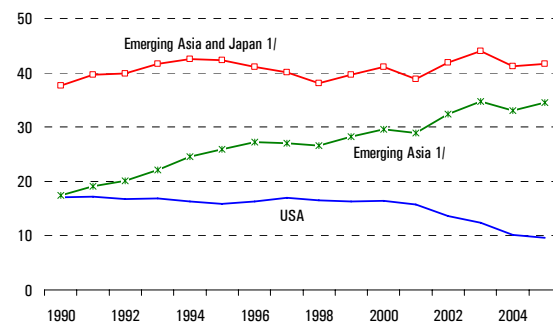
Asian economies have steadily raised their share of the global electronics market, from 38 percent in 1990 to 42 percent in 2005. The increase is more marked for sales of semiconductors, for which Asia's share has more than doubled from 20 percent in 1995 to 47 percent last year.

The rise in market share has largely been driven by the rise of China as a production platform for these products. China's share of electronics exports among Asian countries has more than tripled since 2000. In fact, although the electronic sector remains an important domestic source of growth for many Asian economies, its share in total exports has stabilized or even fallen in recent years. This reflects both export diversification as well as vertical diversification through outsourcing of low-end electronics production to low-cost countries, including China. At the same time, several countries, in particular NIEs, have moved up the value-added chain within the electronics cluster.

Turning to more recent trends, the regional electronics sector experienced overall solid growth during 2006. This reflected robust demand from major markets such as the United States, Japan, and emerging Asia. Sales growth was largely driven by popular consumer products; indeed, sales in the United States of flat panel TVs is estimated to have doubled in 2006 due to a sharp drop in prices and expansion of available high-definition programs. Exports from NIEs were supported by strong demand for MP3 players, mobile phones, and flat panel displays. In Korea, flat panel displays and flash memory products continued to benefit from buoyant demand while Singapore's semiconductor industry benefited from strong demand for inputs to mobile phones and music players, although other product segments such as disk drives experienced a marked drop in activity, partly related to sector consolidation. Increased penetration of computers and other electronics in emerging economies also supported electronics exports.

Note: The main author of this box is Leif Eskesen.

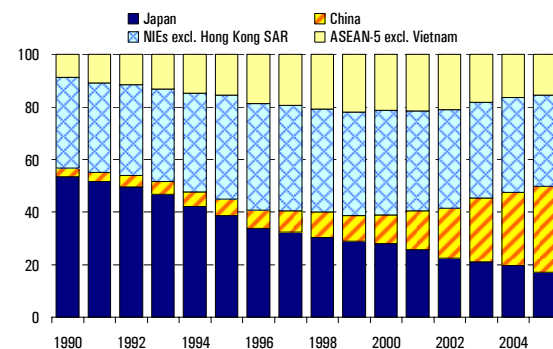
Global Trade Shares in Electronics
(In percent of world total)



Source: World Bank and UNCTAD, World Integrated Trade Solution.

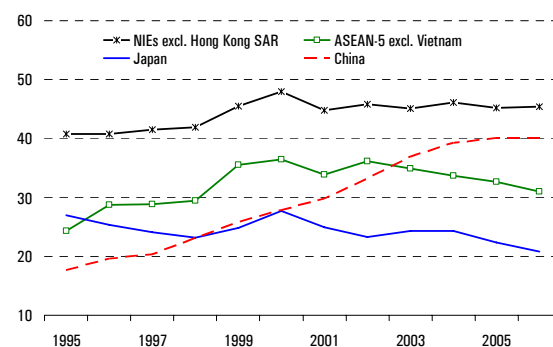
¹ Excludes Hong Kong SAR.

Electronics: Relative Trade Shares
(In percent)



Source: World Bank and UNCTAD, World Integrated Trade Solution.

Asia: Share of Electronics in Total Exports
(In percent)



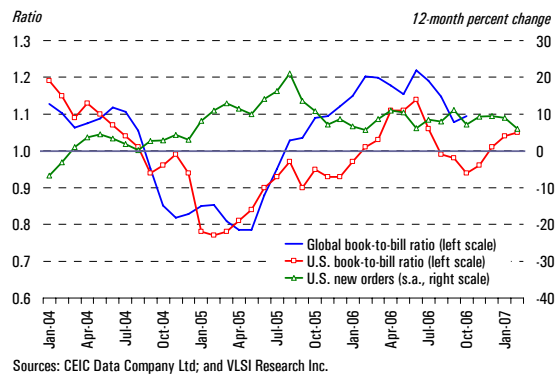
Sources: Statistics Singapore; CEIC Data Company Ltd; and Haver Analytics.

Box 1.1 (continued)

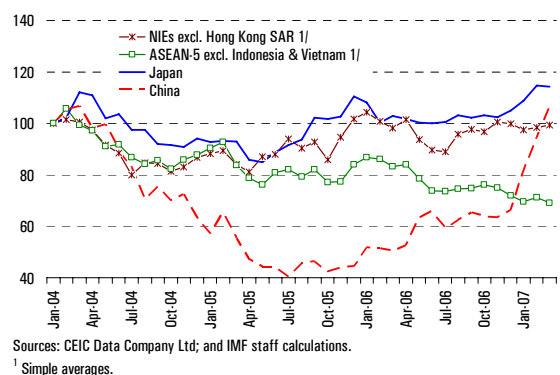
Notwithstanding the solid performance for 2006 as a whole, momentum waned in most economies late in the year in line with the slowdown in external demand, but also reflecting inventory drawdowns in the United States and Japan. For NIEs, electronics exports decelerated towards year-end. In Singapore, the slowdown was broad-based, while for Korea it was more concentrated on telecom equipment, including handsets. ASEAN-5 countries also generally saw slower momentum in exports, except for Thailand, while China and Japan experienced stronger activity, in the latter case supported by buoyant demand for semiconductor equipment.

The near-term outlook for the electronics sector is generally favorable, although the moderation in global growth is expected to dampen exports during the first half of 2007, especially for more cyclically sensitive consumer electronics and related inputs. There are also questions regarding the ultimate extent of the ongoing inventory correction. Reflecting these uncertainties, forward-looking indicators give a mixed picture of the outlook. On the positive side, U.S. book-to-bill ratio has increased in recent months, and U.S. electronics orders are holding up. However, sector stock indices and sentiment indicators have been mixed. With the global slowdown expected to be relatively shallow and short-lived, tech export growth will likely pick up during the latter half of 2007. Launches of new products and software, including Microsoft's Vista, will also support activity during the year. Of course, a larger-than-anticipated slowdown in the global economy would act as a drag to such an outlook, especially if driven by a consumption-led slowdown in the United States.

Tech Sector Indicators
(3-month moving average)

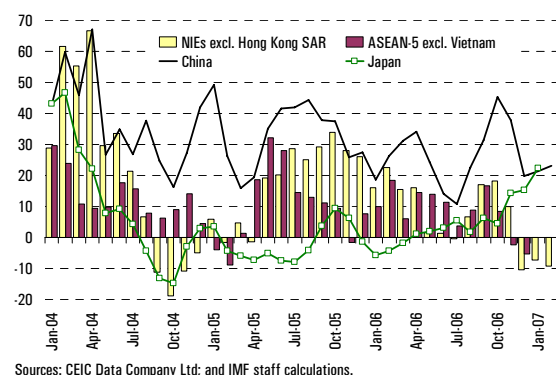


Asia: Tech Stock Indices
(January 2004 = 100)

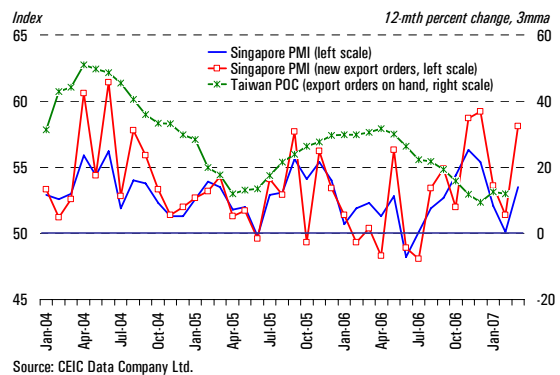


Asia: Electronic Export Growth

(3-month moving average of 3-month percent change, SAAR)



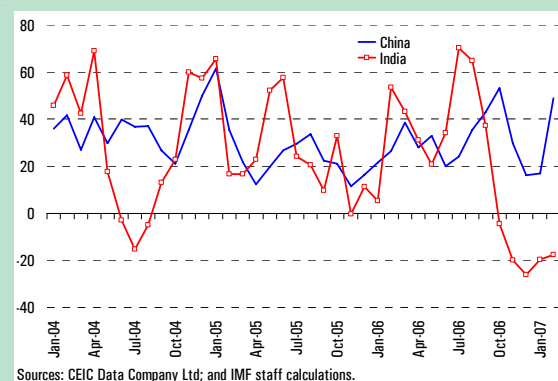
Electronic PMI and Export Orders



Box 1.1 (concluded)

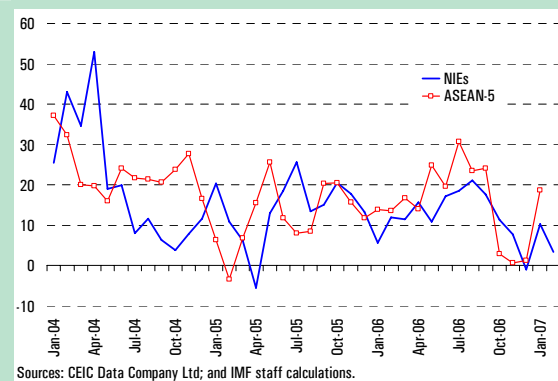
Over the medium term, the Asian electronics sector faces a broadly positive outlook, partly supported by increased penetration of electronic products in emerging markets, including India and China. However, increased competition on price and technological innovation will impact the relative performance for individual countries. The Semiconductor Industry Association (SIA) projects that global semiconductor sales will be supported by continued strong demand for consumer electronics, which increasingly use semiconductors. SIA projects the annual growth in global sales to rise from around 9 percent in 2006 to almost 11 percent in 2008 before slowing to 6 percent in 2009. Among regions, Asia-Pacific is projected by SIA to remain the fastest growing, with their global market share rising modestly to around 48 percent in 2009.

Figure 1.3. China and India: Exports of Goods
(3-month moving average of 3-month percent change, SAAR)



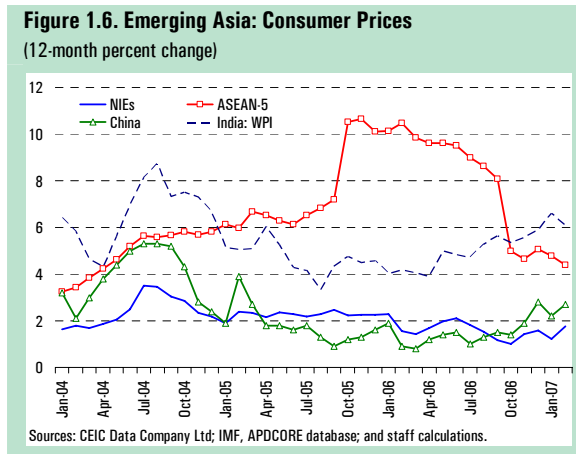
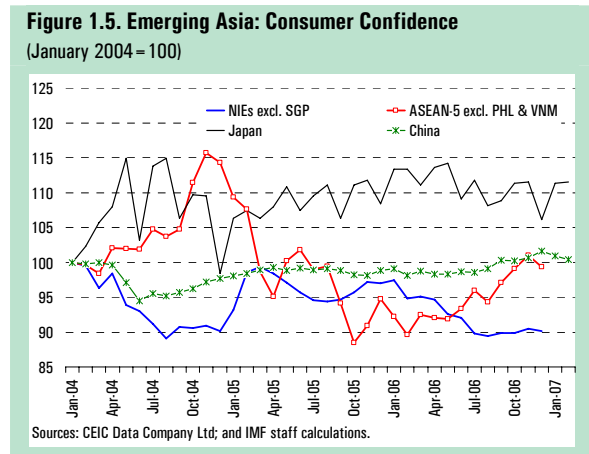
in the U.S., offset in part by steady growth in Europe and a continuation of recent momentum in Japan. In line with this relatively favorable external environment and strong fundamentals, IMF staff expects emerging Asia's growth to ease only slightly to 8½ percent in 2007. China and India should again lead the way with growth of 10 percent and 8½ percent, respectively. Growth in the NIEs should decline modestly to 4½ percent reflecting somewhat softer exports, while growth in ASEAN-5 and industrial Asia are seen as broadly unchanged.

Figure 1.4. Emerging Asia: Exports of Goods
(3-month moving average of 3-month percent change, SAAR)



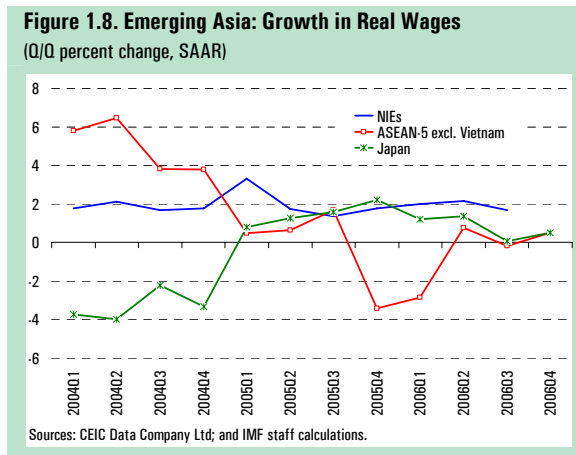
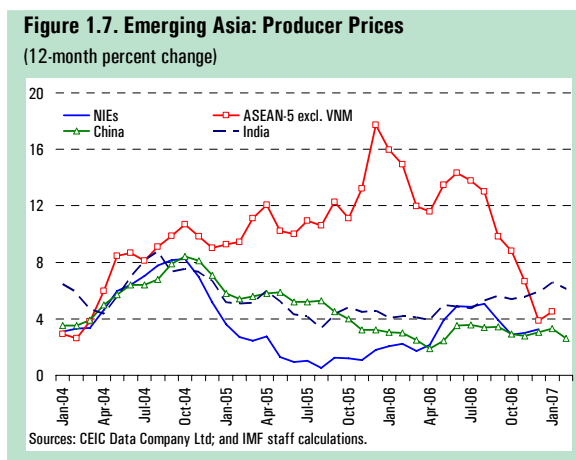
Once again, only a modest rebalancing of growth toward domestic demand is in prospect for emerging Asia in 2007. Net exports, particularly outside of China and India, will continue to be the main engine of growth. Consumption growth for the region is expected to increase, reflecting a strengthening in China in light of efforts there to rebalance growth, as well as a recovery in ASEAN-5 on improved sentiment. In contrast, investment growth in the region should remain broadly unchanged as increases in most of the NIEs and ASEAN-5 (reflecting a normalization following last year's slowdown in Indonesia and the Philippines) are offset by policy-induced lower investment growth in China (through a mix of administrative measures and monetary measures) and India (largely through higher interest rates).

The outlook for 2007 is for the overall pace of activity to moderate to 2004–05 levels. This forecast assumes a successful tightening of policies in China and India, a firming of domestic demand elsewhere in emerging Asia and a modest reduction in foreign demand. The last of these is based on slower growth



Inflation and Prices

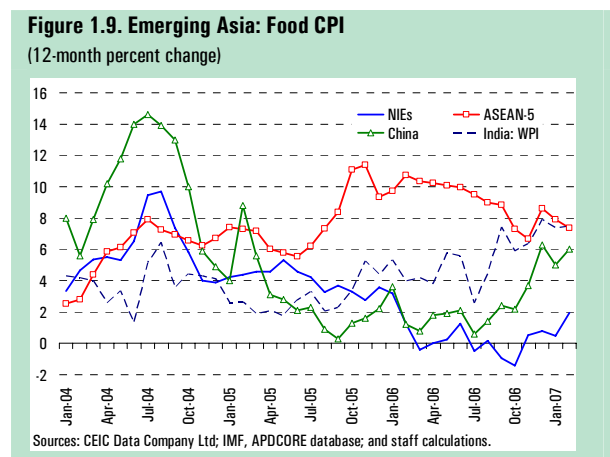
Inflation pressures remain low in much of emerging Asia, albeit less so in India and Vietnam. Through early 2007, relatively weak domestic demand, continued competitive pressures and modest real wage growth have contained consumer price increases in the NIEs and China to around 2 percent, while inflation in ASEAN-5 has dropped back to around 5 percent as the spike in Indonesian prices in late 2005 has fallen out of the data. Trends in core CPI across the region are broadly similar, with somewhat lower readings than headline CPI in the ASEAN-5 and China. Producer prices are also contained across much of emerging Asia, and the wedge with consumer prices has narrowed. India and Vietnam are the outliers in the region. India's WPI—its main inflation measure—has risen from around 4 percent in late 2005 and early 2006 to over 6 percent at present as growth remains above potential, capacity constraints have started to bind and nonfood credit growth continues to expand at around 30 percent per year. In Vietnam, inflation is running at 6½ percent reflecting wage pressures, adjustments in administered prices and unsterilized capital inflows.



The effects of the drop in global oil prices since the summer of 2006 on consumer prices have been, for the most part, modest. In Hong Kong SAR and Singapore, the drop in crude prices in the second half of 2006 was small relative to domestic taxes on petroleum products, limiting the effects on final

prices. In other economies, unchanged administered prices had the effect of transferring the potential gains from lower global oil prices from end-users to the budget or state enterprises. Exceptions to these trends were Australia and New Zealand, where petrol taxes are relatively low, pump prices are flexible, and lower prices were passed on to consumers.²

A rise in food prices in some economies has partially offset the modest benefits of lower oil prices. Increases in food prices have been most pronounced in Australia, India, Indonesia and Taiwan Province of China, and have been related to weather events. While the weight of food in consumer price indices across the region is typically much higher than that of oil products, food has historically contributed less to the volatility of CPIs. Moreover, these shocks, unlike oil, are local in nature and therefore are expected to have only a minor impact on regional price pressures.



Notwithstanding largely favorable price developments for goods and (to a lesser extent) services, housing price pressures have become more pronounced in some parts of Asia. Housing price developments and the associated policy options are explored in Chapter III.

² Malaysia is the sole country in the region that had a measurable negative fiscal impact from lower world oil prices, with the net loss estimated at 1 percent of GDP on an annual basis.

External Sector

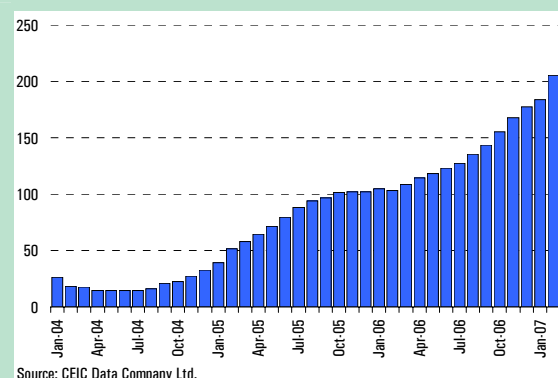
External positions remained strong across most of the region in 2006 with outturns uniformly higher than expected. For the year, Asia's overall current account surplus reached 4.3 percent of GDP, nearly 1 percentage point of GDP higher than the 2005 outcome and earlier projections for 2006. As noted above, exports generally outperformed for the year, while lower oil prices in the second half of the year reduced imports across much of the region by ¼ to ½ percent of GDP. The bulk of the increase in Asia's overall current account surplus in 2006 came from China's trade balance, which has again begun to rise further in early 2007 on a surge in export growth. In nominal terms, China accounted for about two-thirds of the region's higher current account surplus compared with 2005. Current account balances in Indonesia and Thailand increased sharply in 2006 stemming from a combination of stronger exports, and lower imports owing to domestic fuel price hikes.

Table 1.5. Asia: Current Account Balances
(In percent of GDP)

	2005	2006	2006 2007		2007 2008	
			REO Sept. '06	Latest proj.	Latest proj.	Latest proj.
Industrial Asia	2.1	2.3	2.2	2.0	2.1	1.9
Japan	3.6	3.9	3.7	3.5	3.9	3.6
Australia	-5.7	-5.4	-5.6	-5.3	-5.6	-5.5
New Zealand	-9.0	-9.0	-9.6	-9.1	-8.4	-7.6
Emerging Asia	4.8	6.1	4.6	4.5	6.1	6.2
Hong Kong SAR	11.4	10.7	8.7	7.8	9.6	9.3
Korea	1.9	0.7	0.4	0.3	0.3	0.0
Singapore	24.5	27.5	28.5	27.3	27.1	28.6
Taiwan POC	4.6	7.1	5.8	5.9	7.1	7.1
China	7.2	9.1	7.2	7.2	10.0	10.5
India	-1.1	-1.1	-2.1	-2.7	-2.4	-2.3
Indonesia	0.1	2.6	0.2	0.6	1.8	1.3
Malaysia	15.3	17.1	15.6	15.7	15.3	14.3
Philippines	2.0	4.3	2.4	1.7	2.1	1.9
Thailand	-4.5	1.6	-0.8	-1.3	1.5	0.9
Vietnam	0.4	0.3	0.3	-1.5	-1.2	-1.5
NIEs	5.6	5.6	5.0	4.9	5.3	5.1
ASEAN-5	2.0	4.9	2.9	2.7	3.8	3.2
Asia	3.4	4.3	3.5	3.4	4.3	4.4
Emerging Asia excl. China	3.0	3.8	2.7	2.4	2.8	2.5

Sources: IMF, APDCORE and WEO databases; and staff estimates.

Figure 1.10. China: Twelve-Month Trade Surplus
(In billions of U.S. dollars)



Reserve growth picked up pace in 2006, bringing the regional stock to over \$3 trillion. As in recent years, almost all of the increase took place in emerging Asia, and within that group China accounted for the bulk, although some economies (Korea and Thailand) experienced a late-year jump in reserves.³ With reserves in many economies beyond the level needed for liquidity purposes and cushions against plausible external shocks, there has been some movement in the region toward allocating a portion of reserves to more aggressively managed portfolios broadly along the lines adopted by Singapore. The authorities in China have recently moved in this direction, while the Korean Investment Corporation has already been launched.

³ Including valuation changes, which tended to be positive owing to a weaker U.S. dollar.

Table 1.6. Asia: Official Reserves
(In billions of U.S. dollars, end-period)

	2004	2005	2006
Industrial Asia	888	899	964
Japan	845	847	895
Australia	37	43	55
New Zealand	7	9	14
Emerging Asia	1,601	1,851	2,252
Hong Kong SAR	124	124	133
Korea	199	210	239
Singapore	113	117	137
Taiwan POC	242	253	266
China	619	826	1,073
India	131	137	177
Indonesia	36	35	43
Malaysia	67	70	83
Philippines	15	18	23
Thailand	50	52	67
Vietnam	6	9	11
NIEs	677	705	775
ASEAN-5	174	184	227
Asia	2,490	2,750	3,216

Source: IMF, APDCORE database.

Risks

As in the previous *Regional Economic Outlook: Asia and Pacific* (henceforth, the *Regional Economic Outlook*), the balance of risks is tilted toward the downside:

- The main risk remains uncertainty surrounding U.S. growth prospects (in particular, weakness in residential investment spilling over to consumption), but this has moderated somewhat given the downward revision in the central scenario. The latest *World Economic Outlook* forecasts 2.2 percent growth for the United States this year, while the consensus forecast stands at 2.4 percent.
- As noted in the April 2007 *Global Financial Stability Report*, the turbulence that hit financial markets in late February underscored concerns that periods of expanded risk appetite, compressed spreads, and low volatility can lead to investor complacency and disruptive reversals of capital flows. While in the recent moderate correction emerging Asia has again performed modestly better than its peer group, a reappraisal of risks in combination

with sharply lower U.S. growth expectations could require larger asset price adjustments and spill over to the real sector through financial and household balance sheet channels.

- While world oil prices have declined from their mid-2006 highs in response to slowing global growth and a warmer-than-expected winter, the risks are skewed on the upside owing to the combination of tight capacity, and supply concerns related to unresolved geopolitical tensions.
- Within-region risks are, on balance, on the upside, relating to the potential growth performance of China and India. Both countries have outperformed relative to expectations in recent years, and continued strong growth would have positive spillovers to the rest of the region, particularly through China's linkages in the regional supply chain. However, these effects may be weakening as the local content of China's exports appears to have risen (Box 1.2).
- Beyond the near term and depending in part on the fate of the Doha Round, protectionism remains a risk. To the extent that protectionism contributes to a rise in regional and bilateral, rather than multilateral, trade agreements, it carries potentially distorting "spaghetti bowl" effects on trade. More serious, to the extent that growing public concerns about the negative effects of globalization lead to punitive tariffs or other trade-dampening measures, Asia's more open economies would be adversely affected. That said, progress in trade liberalization continues to be made as evidenced by Vietnam's recent accession to the WTO (Box 1.3).

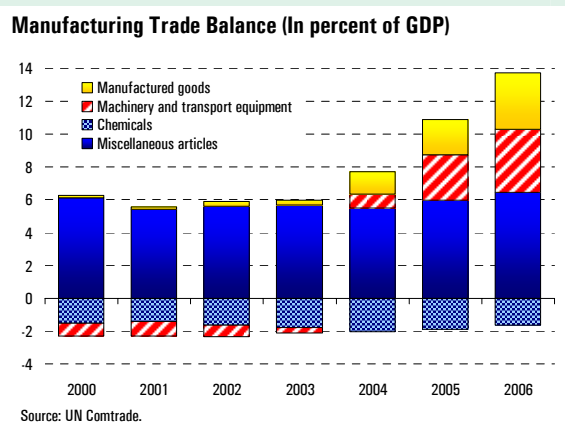
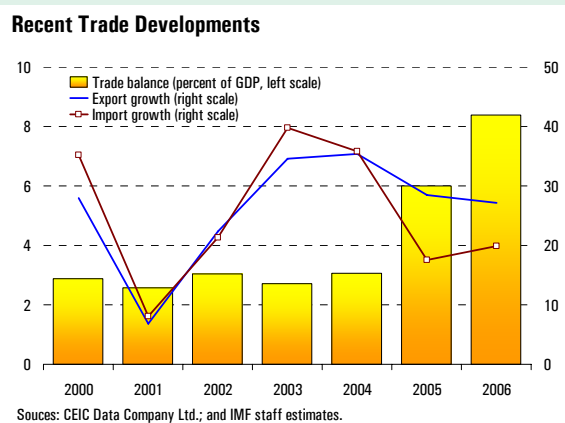
Box 1.2. Assembly Platforms in Asia: Is China's Role Changing?

In recent years, China has often been described as the assembly line of the world, combining expensive high-tech imported inputs with cheap domestic labor to assemble final goods that are exported predominantly to developed markets in Europe and North America, with some portion being retained for the domestic market. The availability of low-cost labor and the potential expansion of the domestic market have in turn attracted vast amounts of foreign direct investment, notably from within the region, supporting this development of intricate production networks. According to this view, as long as China retains its comparative advantage in cheap labor, movements in external demand and the exchange rate would have a limited impact on China's trade balance, as any change on the export side will be offset by a similar change in imports.

However, the situation may already be evolving, as a result of increased production capacity and capability within China and the evolution of vertical specialization of production in the region. According to this alternative view, the domestic content of Chinese exports is rising fast and the link between Chinese exports and imports is therefore becoming weaker. Although exports continue to be an important engine of growth, they are now increasingly reliant on domestically sourced components rather than imported intermediate goods, while imports are increasingly driven by domestic demand. As a result, the trade balance is likely to be more responsive to movements in the exchange rate and fluctuations in external demand.

The dramatic shift in China's trade and production structure observed in recent years lends support to the latter view. Over the last two years, China's current account surplus has risen by nearly 5½ percent of GDP, as import growth has begun to lag export growth by a significant margin. In particular:

- While its deficit in primary products continues to expand gradually, its manufacturing trade surplus has risen sharply, primarily reflecting an acceleration in net exports of machinery and transport equipment and manufactured goods. Indeed, the six most important contributors to the expansion in the trade surplus over the last two years were: electronics (1.8 percent of GDP), machinery (1.0 percent of GDP), iron and steel¹ (0.9 percent of GDP), textiles and clothing (0.8 percent of GDP), organic chemicals (0.3 percent of GDP), and automobiles (0.2 percent of GDP).



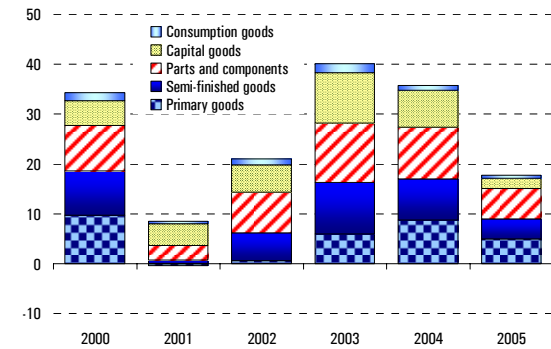
Note: The main author of this box is Murtaza Syed.

¹ The trade balance in steel products, traditionally in deficit, moved into surplus for the first time in 2006.

Box 1.2 (continued)

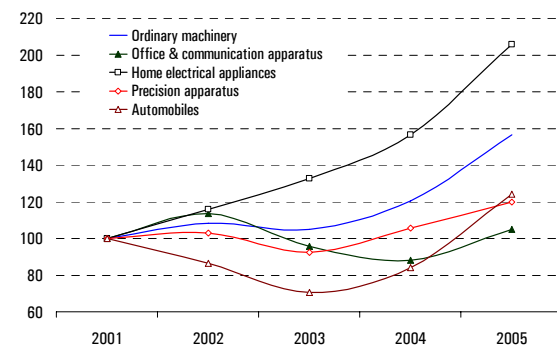
- Imports of intermediate goods have slowed considerably. Parts and components and semi-finished goods accounted for almost half of the slowdown in import growth between 2004 and 2005. In addition, there has been a significant slowdown in capital equipment imports, as domestic fixed asset investment continued to expand sharply in 2005 and 2006.
- Exports of final goods have remained robust. In many sectors—notably aircraft, home electrical appliances, industrial machinery, precision apparatus and automobiles—exports of final products have continued to grow strongly, despite the recent slowdown in imports of associated intermediate inputs. This does not appear to reflect a slowdown in domestic demand; retail sales grew by over 13 percent in 2006, with car sales rising by nearly 25 percent and sales of mobile phones and most household electrical appliances up by 15 to 30 percent.
- Domestic production in a number of intermediate sectors has picked up significantly, spurred by rapid investment during the early 2000s. Domestic production capacity in steel, plastics, electronic components, industrial equipment and chemical fiber has expanded rapidly in recent years. In some industries, foreign direct investment has played a major supportive role in this process. For example, FDI into the chemicals industry from the U.S. increased from around \$37 million in 1999 to \$520 million in 2005. Over the same period, FDI flows from Taiwan Province of China increased from \$538 million to \$2.4 billion in the electronics sector and from \$28 million to \$373 million in the precision instruments sector.

Contribution to Import Growth
(Year-on-year percent change)



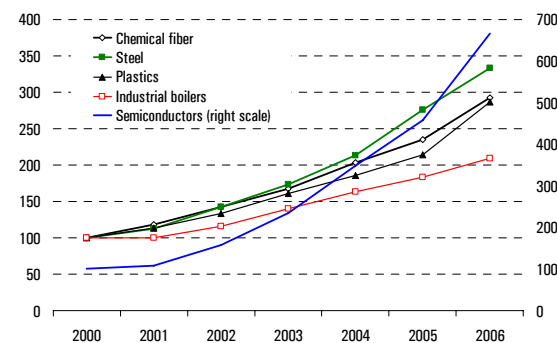
Sources: UN Comtrade; and IMF staff estimates.

Ratio of Final Exports to Imported Components
(2001 = 100)



Sources: UN Comtrade; and IMF staff estimates.

Domestic Production
(2000 = 100)



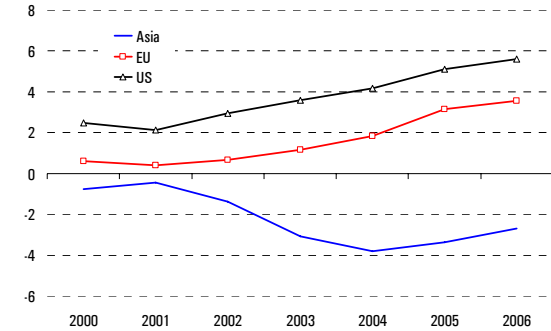
Source: CEIC Data Company Ltd.

Box 1.2 (concluded)

China's trade with the rest of Asia and its role in regional production chains are also changing. As China's role within Asia's production networks appears to be expanding vertically, it is becoming less reliant on other Asian economies for inputs. While China's trade surplus with the United States and the European Union continues to grow, its trade deficit with the rest of Asia, traditionally an offset, has begun to shrink over the last two years.

Trade Balance

(In percent of GDP, Custom basis)



Source: CEIC Data Company Ltd.

China's Trade with Asian Partners

(Year-on-year percent change)

	Japan		Korea		Taiwan POC		Singapore	
	2004	2005	2004	2005	2004	2005	2004	2005
Exports	24	14	38	26	50	22	43	31
Imports	27	6	44	23	31	15	33	18
Organic chemicals	44	13	57	31	61	31	43	13
Plastics	20	10	39	16	27	12	18	22
Iron and steel	30	8	34	9	...	...	...	...
General machinery	40	2	47	11	12	2	39	10
Electronics	23	4	52	21	50	19	26	37
Transportation equipment	20	-11	60	35	6	-23	-51	-20

Source: UN Comtrade.

Box 1.3. Vietnam’s WTO Accession: What Does It Imply for Vietnam and the Rest of the Region?

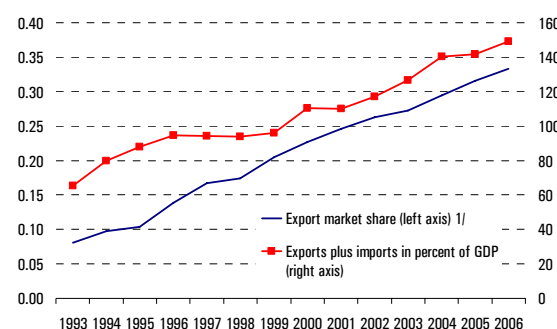
On January 11, 2007, Vietnam became the 150th member of the World Trade Organization (WTO) following more than ten years of negotiations. Vietnam’s integration with the global economy preceded its WTO accession. Since 1993 Vietnam’s trade openness (the sum of exports and imports in relation to GDP) more than doubled, while its export market share more than quadrupled. With exports a leading engine of growth, real GDP has increased on average 7½ percent a year during 1993–2006, and poverty has fallen sharply. Given this impressive record, it is worthwhile to assess how WTO accession will affect Vietnam’s future, and how Vietnam’s development may affect the region.

What Will Change for Vietnam?

WTO accession can be expected to facilitate further global integration over the medium term, improving Vietnamese exporters’ access to foreign markets. This should be particularly beneficial for the key textile and footwear export industries, in which Vietnam can now compete on an equal footing with other WTO member countries, which have enjoyed quota-free treatment since the beginning of 2005. The benefits to export performance, however, could take some time to be fully realized.¹ Vietnam will also face greater competition from foreign producers on its domestic markets for garments and footwear, as import tariffs and subsidies in these sectors are substantially reduced. However, with improving access to cheaper imports of raw materials and semi-processed inputs, and with greater scope for joint ventures with major international producers and distributors, the textile and footwear sectors are expected to reap efficiency gains that should help preserve their comparative advantage.

Import barriers in most other sectors will also decline, albeit in a more gradual fashion. Vietnam has committed to bound tariff rates on most products ranging from zero to 35 percent, although tariffs on cars and motorbikes are to remain somewhat higher, and certain sensitive products (such as eggs, tobacco, sugar, and salt) will be further protected with tariff quotas. Reductions in most bound rates—from 17.4 percent on average in 2007 to 13.6 percent by 2019—are to be phased in over periods of up to 12 years.

Vietnam: Indicators of Trade Openness



Sources: IMF, *Direction of Trade*; and IMF staff calculations.
1/ Vietnam's exports as a percentage of world imports.

Vietnam: WTO Commitments on Trade in Goods

	2005	WTO initial	WTO final	WTO
	MFN rates 1/	bound rates	bound rates 2/	implementation
Simple Average	18.5	17.4	13.6	up to 12 years
Agricultural products	29.4	27.3	21.7	up to 5 years
Nonagricultural products	17.0	16.0	12.5	up to 12 years
Steel	9.7	17.7	13.0	up to 2 years
Petroleum	14.6	27.2	27.1	up to 2 years
Textiles and clothing	36.6	13.6	13.5	upon accession
Footwear	45.0	35.8	27.2	upon accession
Cars	63.6	84.8	58.7	up to 12 years
Motorbikes	100.0	100.0	74.3	up to 12 years
Electronics machineries	13.3	13.9	9.5	5 years
Maximum tariff	150	150	85	
Number of lines	10,689	10,444	10,444	

Sources: WTO, Vietnamese authorities, and IMF Staff calculations.
1/ Most-favored-nation rates applicable to most imports from countries outside ASEAN.
2/ 2019.

Note: The main author of this box is Patrizia Tumbarello.

¹ It will take Vietnam 12 years to gain full “market economy” status, which could make it more difficult for it to guard against the imposition of anti-dumping measures in these sectors.

Box 1.3 (continued)

From a broader perspective, WTO accession should have largely positive macroeconomic effects. While the reduction in import tariffs can be expected initially to lower import duty receipts by some 0.3 to 0.6 percent of GDP, this should be tempered over time as the removal of trade barriers spurs import growth. With exports continuing to grow rapidly as access to foreign markets improves, and with continued dynamism of foreign investment, the overall balance of payments should remain strong. Increasing access to cheaper imports should also help contain inflation, which, at 7.5 percent in 2006, is still higher than in other emerging markets in Asia. IMF staff estimates (Tumbarello, 2007) also point to welfare gains from trade liberalization, rising over time to reach some 0.6–1.2 percent of GDP a year by 2019.

Vietnam is also likely to derive important productivity gains from trade liberalization and other market-friendly reforms to be introduced in the context of WTO accession. A new law providing a common regulatory framework for domestic and foreign enterprises has been introduced, and Vietnam has also moved to harmonize its rules on trading rights for foreign and domestic traders. WTO accession could also serve as a catalyst to promote restructuring of unprofitable state-owned enterprises (SOEs). Increased competition with foreign banks can also be expected to prod the government to speed up the restructuring of state-owned commercial banks (SOCBs) and the implementation of its banking sector reform roadmap. These reforms should help increase the efficiency and profitability of investment. Indeed, the prospect of accession has already bolstered the investment climate, and with FDI approvals reaching a record \$10 billion last year, Vietnam is well-placed to take full advantage of its ongoing global integration to sustain the rapid pace of its economic growth.

WTO accession is, of course, not a panacea and presents challenges as well as opportunities. Heavily-protected industries and SOE sectors, notably auto-assembly and motorbike plants, and the financial sector, will need to undertake significant reforms to remain viable. In this process, there may well be a compression of profit margins and, possibly, labor-shedding or even bankruptcies in loss-making SOEs and declining industries. Although adverse effects should be manageable as long as more efficient sectors offer growing employment opportunities, it will be important to put in place adequate retraining programs and social safety nets to minimize dislocations. The authorities will also need to resist the temptation to support financially those industries with declining profitability. Such support, which could take the form of fiscal incentives or directed lending by state-owned banks, could turn out to be very costly especially if, in the end, these industries are found to be non-viable.

What Will Be the Impact on the Region?

Vietnam's WTO accession and its emergence on the world stage can have significant impact on the region. The NIEs are likely to gain from Vietnam's accession, as they have invested heavily in the country and do not have the same comparative advantage as Vietnam in their exports. However, major exporters of textiles and garments (such as Bangladesh, Cambodia, the Philippines, and Sri Lanka) may face new competitive challenges as the end of the textile quota implies increased market access of Vietnamese products in the United States. In addition, as Vietnamese producers penetrate a broader range of manufacturing sectors, including low-end electronics, the rest of the ASEAN-5 are likely to come under increasing pressure to move towards the production of higher value-added products. With respect to foreign investment, it is difficult to ascertain how WTO membership will affect FDI

Box 1.3 (concluded)

in other Asian countries. Vietnam has already established itself as an appealing destination for foreign investors prior to accession, including in the IT sector, and the reduction of its MFN tariffs, together with improved access to foreign markets, should enhance its integration into regional production networks. Cost reductions from increasing FDI in Vietnam could thus improve the profitability of regional networks.

...and on the Rest of the World?

Industrial countries are likely to accrue considerable net gains from Vietnam's WTO accession. Consumers in the United States, EU, and Japan, which are major net purchasers of textiles, footwear, and other low-cost manufactures from Vietnam, can be expected to reap growing gains in welfare from the continuing integration of Vietnam's productive and low-cost labor force into the global economy. In addition, as Vietnam transitions towards middle-income status, there should be increasing scope for an expansion of industrial countries' exports in technology-intensive manufactures and high-end services (e.g., finance), in which advanced economies still have a comparative advantage. While preliminary data suggest that, in the short run, FDI is set to increase most strongly in the sectors in which import barriers will fall most rapidly (as in textiles), over time, it is likely that there will also be growing foreign investor interest in higher-value-added manufacturing and services sectors.

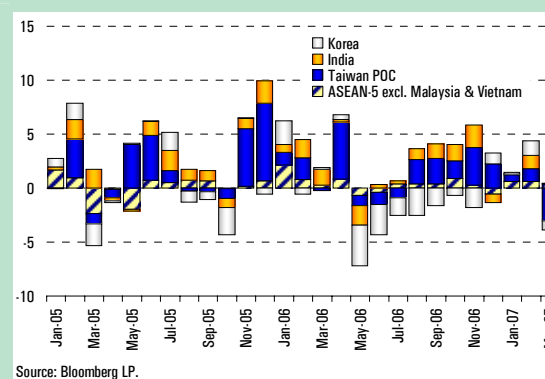
Recent Financial Market Developments

The late February–early March financial market turbulence, while initially virulent, subsided quickly. Despite the sell-off, foreign investor sentiment towards the region remains strong, bolstered by solid growth prospects, mostly sound fundamentals, and still supportive global liquidity conditions. Inflows into the region are projected to stay buoyant, albeit largely offset by increased outflows, and should be generally supportive of all asset classes. Upward pressure on regional currencies is likely to persist, reinforced by renminbi appreciation pressures and widespread balance of payments surpluses.

The February–March Correction

Asian equity markets continued to perform well through early 2007, notwithstanding the correction that began in late February. Solid growth trends, still favorable liquidity conditions, and mostly sound fundamentals have guided the sharp rise since mid-2006 lows in most markets.

Figure 1.11. Emerging Asia: Equity Inflows
(In billions of U.S. dollars)



Despite some slowing in net foreign equity inflows into emerging Asia since the second half of 2006, relatively strong domestic buying propelled many markets to near-record-highs earlier this year. For most economies in emerging Asia, valuations remain somewhat elevated, although not out of line with historical trends or with emerging markets outside Asia. Large initial public offerings—mainly related to China's financial sector—were instrumental in driving Hong Kong SAR and

mainland markets, although this activity is likely to taper off in 2007.⁴

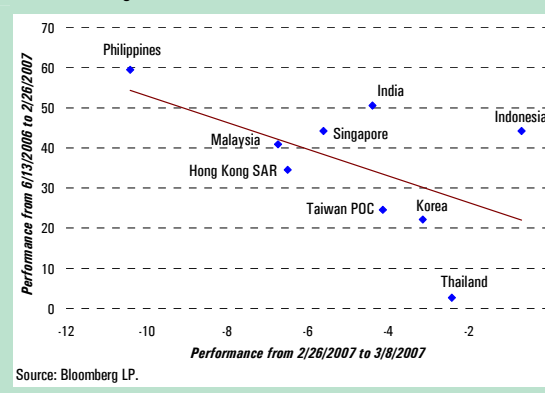
The late February 2007 sell-off, nonetheless, is a reminder that market performance in emerging Asia remains closely linked to external conditions. While no single trigger for the sell-off emerged, renewed concerns about U.S. growth prospects, particularly in relation to developments in the housing sector, appear to have weighed heavily on investor sentiment toward regional markets. The initial sharp fall in Chinese equities prices likely did not influence other Asian markets, given the weak transmission channel owing to limited foreign participation.⁵ However, within a span of several days, most emerging Asian markets fell by 7 to 10 percent (although Indian equities had already declined from record highs beginning in mid-February on inflation concerns). The most affected markets appear to be those where trades—and, importantly, potential exits from those trades—had reportedly become crowded; particularly, the Philippines and Malaysia. The latter experienced a shift in foreign equity flows out of Thailand following the imposition of capital controls there in December 2006.⁶

⁴ Hong Kong SAR surpassed New York as the number two fundraising market in 2006 (behind London). However, its position could be exceeded by the Shanghai A-share market in 2007 since no large state-owned banks are planning to come to the market this year. Also, mainland Chinese regulators have plans to establish China Depository Receipts allowing resident foreign firms to sell shares in the local market.

⁵ Direct foreign participation through the Qualified Foreign Institutional Investors (QFII) schemes is around 1 percent of total market capitalization, although non-qualified investors play China through structured products linked to market indices and through Hong Kong-listed H-shares.

⁶ Rapid baht appreciation and the concerns about managing foreign exchange inflows led the Thai authorities to impose capital controls in December 2006. Market reaction was decidedly negative. Other central banks in Southeast Asian countries responded quickly by publicly stating that they would not follow the Thai example, and currency flows were reportedly diverted from Thailand to these economies. Subsequently, the Thai authorities removed the most restrictive controls, and have gradually begun to remove much of the remainder.

Figure 1.12. Emerging Asia Equity Performance (Percent change)



As in May–June 2006 equities bore the brunt of the sell-off, with hedge fund activity prominent and “real money” investors reportedly playing a stabilizing role. Hedge funds—particularly net-long equity funds—were reportedly active in both the May–June 2006 and the February–March 2007 sell-offs. In both episodes, the resulting pick-up in market volatility also fed into some momentum trading (reportedly mainly by global macro funds based outside the region). In contrast, investors with longer-term horizons such as pension and insurance funds again played a stabilizing role by not exiting Asian markets in great numbers. Japanese retail investors reportedly maintained their foreign exposures as well, and domestic investors were for the most part not seen as liquidating positions once the turbulence set in. As in the 2006 episode, equities sustained the largest losses of any asset class. Bond and currencies were less affected owing to a combination of foreign investors staying on-shore (in various short-term fixed income products) even while equities were sold, central bank intervention (in the Philippines and Malaysia), and some position closing by domestic agents.

Unlike May–June 2006, investor nervousness centered on the prospects for U.S. growth, rather than inflation, and the yen carry trade. While the 2006 sell-off was driven by a reassessment of the path of U.S. interest rates (as the Federal Reserve was seen as raising rates more than previously thought given persistent inflation fears), the early 2007 episode was driven by U.S. growth

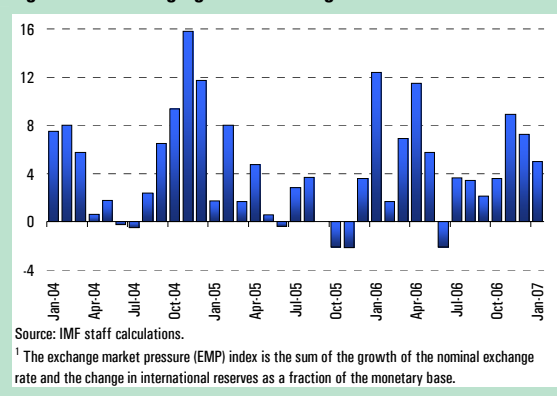
prospects—in particular, unexpectedly persistent weakness in the U.S. housing sector and an unfavorable report on durable goods orders. Also different was the apparent prominence of carry trades, which became increasingly popular in late 2006 and early 2007 (Box 1.4). Though data are partial, the unwinding of equity and currency positions funded by borrowing in Japanese yen appeared to have played some role in increasing market turbulence. Carry trade target countries in the Asia region were seen to be New Zealand, Australia, and, to a lesser extent, Indonesia, Korea and the Philippines.

The Outlook

In a number of countries, upward pressures on currencies are currently priced in given prospects for further renminbi appreciation and continued balance of payments surpluses. The pace of renminbi appreciation against the U.S. dollar picked up in the second half of 2006 and an annual appreciation of over 5 percent is currently priced in the nondeliverable forward market. Given the supply chain linkages as well as competition across production centers in Asia, other regional authorities are likely to (at least partially) allow their currencies to follow the renminbi higher, with some additional appreciation pressures stemming from current account surpluses and net portfolio inflows.⁷

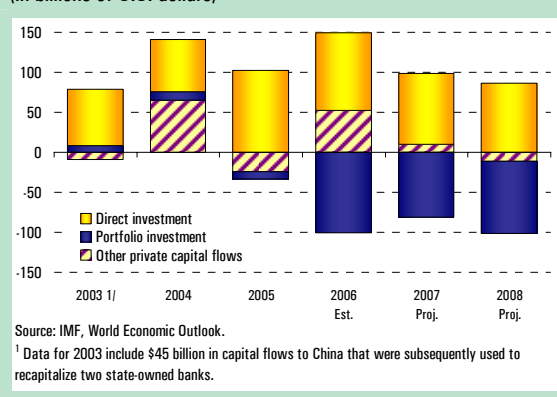
⁷ The March 2007 consensus forecast has most currencies in emerging Asia appreciating at less than one-half the pace of the renminbi over the coming year.

Figure 1.13. Emerging Asia: Exchange Market Pressure Index¹



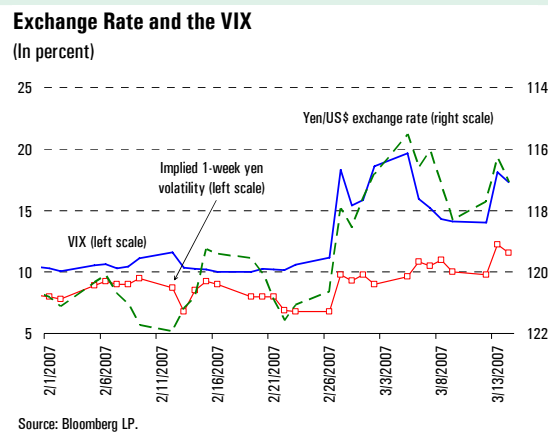
A healthy pace of net private capital inflows to emerging Asia is expected to continue. Foreign investors remain attracted to emerging Asia’s fundamentals, and the region continues to benefit from the search for yield by global investors and is still considered a leveraged play on global, particularly U.S., growth. The structural decline in Japan’s home bias has benefited flows to emerging Asia as well. Moreover, prospects for further currency appreciation in the region, as evidenced by discounts in the forward markets, have reinforced the positive sentiment.

Figure 1.14. Net Private Capital Flows to Emerging Asia (In billions of U.S. dollars)



Box 1.4. Carry Trades: Getting Carried Away?

The recent global market sell-off has focused attention on the role played by the unwinding of the yen carry trade.¹ For much of 2006, the yen depreciated, reflecting large capital outflows from Japan. But more recently, during the period of global market turbulence that began in late February 2007, the currency appreciated abruptly, reportedly on significant unwinding of yen carry trades. At the same time, the increase in the volatility of both currency and equity markets may have contributed to the yen appreciation as well. Observers have drawn parallels with the experience of rapid appreciation of the yen during a period of financial market volatility in 1998 marked by the Russian debt default and the LTCM crisis.



What Is Carry Trade?

In its pure form, a “carry trade” is a currency strategy that exploits opportunities presented by expectations of low borrowing costs in one market combined with expected high returns in another. These types of trades are not new and their popularity with investors waxes and wanes depending on the constellation of global interest rates. Recently, the term has been used more broadly to denote any investment strategy—ranging from unleveraged ones to complex off-balance sheet transactions—involving a low interest rate currency and a high interest rate currency. (This contributes to differences and uncertainties in measuring the size of carry trades, as will be seen below.) The successful use of this strategy by investors is somewhat puzzling as the theory of uncovered interest rate parity implies that investors should enjoy no excess profit as the returns from high-interest country should be offset by the depreciation of its currency. However, the carry trade seems to be profitable, at least at certain times.

Three key factors influence carry trades: (i) size of carry; large spreads tend to attract investors; (ii) exchange rate expectations, market views on the likely direction of exchange rate movements often diverge from what is implied by uncovered interest rate parity. Also, low volatility is conducive to carry trade as this suggests large future changes in exchange rates are not expected; and (iii) risk appetite, related to low volatility; an environment of risk-seeking or high risk appetite tends to be supportive of carry trades. Importantly, carry trades are normally unhedged, leaving the investor exposed to volatility in the form of an appreciation in the funding currency.

A major concern associated with the carry trade is that it could unwind rapidly if investors decide to close out short-term positions in response to a change in expectations. This occurred in October 6–9, 1998, when the U.S. dollar fell by almost 15 percent against the yen because of a large-scale unwinding of the yen carry trade. While the effects on the real sector were minimal, the unwinding of short yen positions by hedge funds and large financial institutions led to a rapid drying up of liquidity in key markets. This resulted in unprecedented price disconnects and market seizures.

Quantifying the risks involved is difficult as there are no definitive statistics on the carry trade. The data on carry trades is fairly limited, and is frequently anecdotal, relying on market intelligence. This is further complicated because,

Note: The main authors of this box are Hali Edison and Chris Walker.

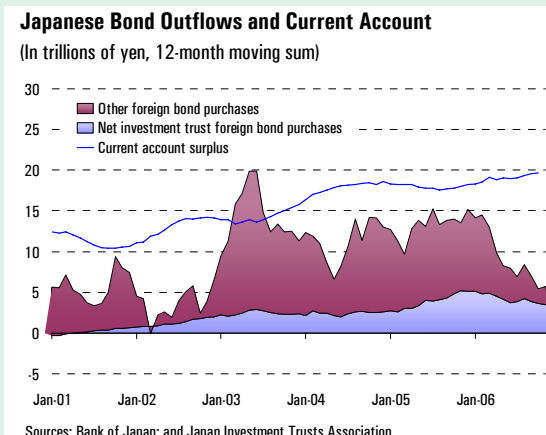
¹ The Swiss franc and, to a lesser extent, the Taiwanese dollar have also been reportedly used as carry trade funding currencies, although they will not be covered in this box.

Box 1.4 (continued)

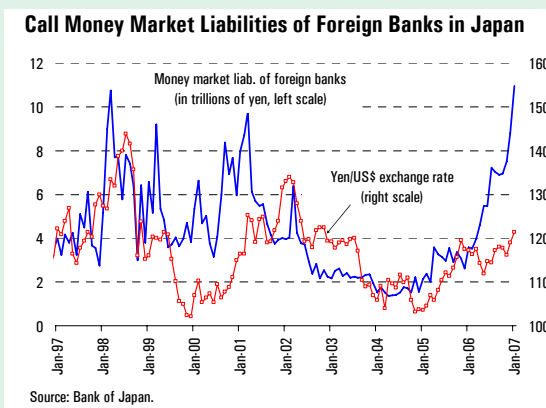
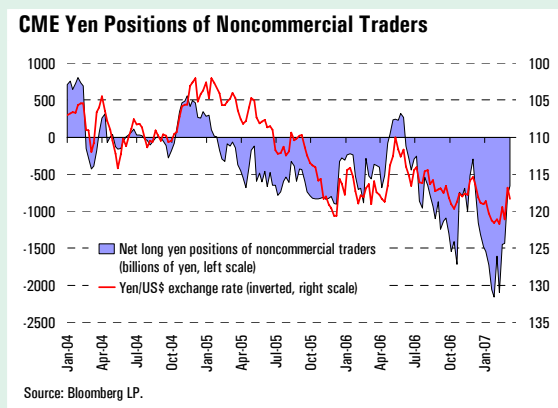
as noted above, there is no standard definition of the carry trade and the underlying transactions can be conducted off-balance sheet. Both stock and flow estimates range widely. As a result, it is necessary to look at a number of different sources in seeking to gauge the size of the carry trade.

What Do We Know about Carry Trade from the Funding Side and the Target Currency Side?

Domestic Japanese investors have dramatically increased their holdings of foreign bonds. Historically, institutional Japanese investments in foreign bonds have tended to be the dominant source of private sector outflows. Recently, individual investors and pensioners have invested more overseas in search of higher returns. For example, the value of overseas investments by Japanese mutual funds in foreign bonds has grown rapidly over the last three years to reach \$230 billion in 2006. This growth reflects in part a secular decline in the home bias of domestic investors, both institutional and retail. Of note, this element of the carry trade (broadly defined) is thought to be relatively stable given the lack of leverage and the longer-term horizon of the investors.



Hedge funds and other leveraged players are also key participants in carry trade. There is no single direct measure of such positions, but one useful indicator is the call money market liabilities of foreign banks in Japan. These liabilities increased by over ¥7 trillion (\$63 billion), between January 2006 and January 2007. This is one possible channel through which foreign hedge funds might obtain yen funding, although the size of the actual carry-trade-related positions is unknown. Another potential indicator of carry trade positions is the net short positions in yen futures of noncommercial traders (financial institutions and speculators) on the Chicago Mercantile Exchange. These data show a buildup of net short yen positions in 2005 and first quarter 2006, followed by a complete unwinding of positions in Q2.²

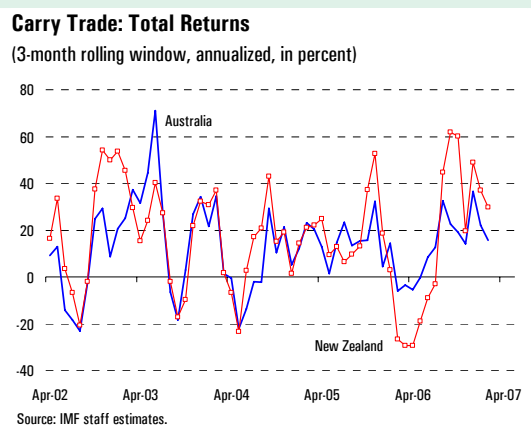


² These futures contracts are nondeliverable and are settled in U.S. dollars. However, the exposure to exchange rate fluctuations is the same as it would be from a “pure” carry trade, making this measure a good proxy.

Box 1.4 (concluded)

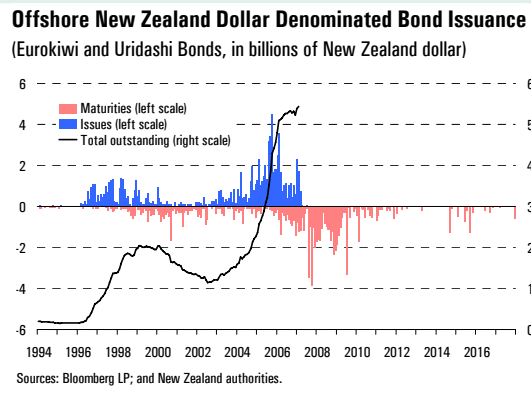
Within Asia, the most important destinations for yen-funded carry trades appear to be Australia and New Zealand, reflecting their high nominal interest rates and developed country status. In emerging Asia, the Indonesian rupiah has been the most commonly mentioned carry trade destination currency (although investor enthusiasm has waned in light of the steady decline in interest rates there), followed by the Korean won, Indian rupee, and Philippine peso. In the case of the won, much of the yen borrowing has been done by Korean residents themselves, largely in the form of loans to small- and medium-sized businesses. According to traders, carry trades into the Philippine peso have fallen off in the past few months, as market interest rates there have dropped sharply.

A look at total returns illustrates why carry trades have been popular (first figure). Total returns are calculated as the sum of the interest rate spread, without any hedging of the investment, and the annualized movement in the exchange rate. Given the persistence of low interest rates in Japan, ex ante interest rate carries have tended to be positive for several years. Moreover, yen depreciation over much of this time has often made ex post total returns substantial. Only on a few occasions has the return been negative.



Case Study: The Impact of the Carry Trade on New Zealand

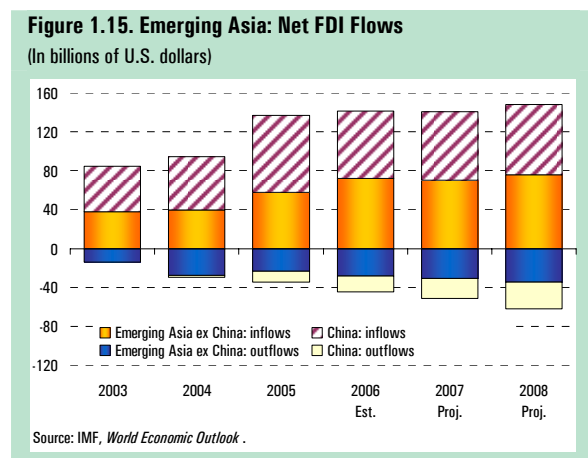
New Zealand has attracted a disproportionate share of global liquidity in recent years, which has put upward pressure on the currency. One source of inflows has been through the issuance of New Zealand dollar denominated bonds in offshore markets: Uridashi and Eurokiwi. As the second figure shows, there has been a huge increase in these issues in the past few years. The transactions associated with these bonds have provided a mechanism for domestic banks to obtain funds at cheaper rates than they would be able to otherwise, putting downward pressure on domestic interest rates.³ The attractiveness of the New Zealand dollar to offshore investors reflects not only the interest rate spread but also investors' views regarding its sustainability.



The New Zealand dollar has tended to strengthen when global risk appetite is high and general market volatility is low. This notion is consistent with the conventional wisdom that a non-G-7 currency like the New Zealand dollar tends to be shunned by international investors during periods of turbulence. Recent research has shown that the kiwi dollar tends to be relatively strong when general market volatility (using VIX) is low, with an average correlation coefficient of -0.70. Consistent with these results, when global volatility picked up in late February, the New Zealand dollar depreciated by 3 percent.

³ For details, see Eckhold (1998).

Foreign direct investment to emerging Asia is also likely to remain buoyant. Net FDI is projected at \$87 billion in 2007, broadly unchanged from the previous year. However, the composition is changing, reflecting a continued rise in outflows from China, which has been evident now for a couple of years, along with a decline in FDI inflows to Thailand following the imposition of capital curbs and changes to the foreign investment regime there in late 2006. By contrast, flows are projected to increase again to India, with investments not only in the IT-related services sector but also in manufacturing—including steel and automotive. Elsewhere, flows are expected to remain strong, reflecting not only greenfield investments, but also an increase in mergers and acquisitions activity, private equity interest, and commercial real estate purchases. Additionally, intra-regional flows have picked up, with net outward direct investments now positive in Korea and Taiwan Province of China. Outbound investment from other economies—notably, Singapore and Hong Kong SAR—has also increased, although these economies are still net recipients of FDI. So far, intraregional flows have been mostly targeted towards China and India, although Singapore has benefited as well.



Reflecting a pick-up in outflows particularly from China, net portfolio and other investment flows are projected to weaken in 2007. Sizable gross outflows are in prospect from China as state-owned commercial banks have begun to build up assets abroad and corporations have acquired foreign

assets through portfolio investments rather than just FDI.⁸ Elsewhere in emerging Asia, measures to liberalize various aspects of capital outflow regimes has led to a pick-up in the volume and volatility of outbound portfolio and other investment flows. Chapter II of this *Regional Economic Outlook* covers the issue of the evolving nature of capital flows in Asia.

Bond issuance has remained strong in the current low interest rate environment. Foreign buying interest has risen in treasury markets, most notably in Malaysia, the Philippines, and Indonesia—in the latter two, aided by rating-agency upgrades.⁹ Local currency issues have been limited, but activity is expected to pick up modestly in 2007 with further improvements to the bond trading infrastructure and with capital costs staying low. Recently, China announced plans to allow mainland financial institutions to issue renminbi-denominated bonds in Hong Kong SAR, but decisions remain on whether foreign investors will gain access to this market. Private placements have picked up in Asia, as elsewhere, although Taiwan Province of China is expected to tighten controls over its local market following some recent irregularities. The Samurai bond market, where non-yen-denominated instruments are issued to Japanese investors, and which is quite popular for industrial Asian currencies, is experiencing nascent activity in emerging Asia.¹⁰

Hedge funds continue to gain prominence in Asia's markets, and new forms of funding continue to blossom. Both the size and number of Asia-

⁸ A significantly smaller contribution comes from the Qualified Domestic Institutional Investors schemes that were launched in April 2006, which allow banks and insurance companies to invest domestic funds overseas, mostly in fixed-income products; the total quota granted was near \$20 billion in 2006, but a number of the funds were undersubscribed, partly reflecting expectations of renminbi appreciation.

⁹ In early 2007, both Indonesia and the Philippines successfully placed long-term bonds (respectively, 30 and 25 years in duration), with comparatively narrow spreads and well oversubscribed.

¹⁰ Most recently, a deal equivalent to ¥15 billion was struck with the Indian Railway Finance Corporation in mid-February.

focused hedge funds are expected to continue their recent rapid growth. By industry estimates, emerging Asia funds numbered approximately 1,150 at end-2006, with total assets under management of around \$132 billion (up from \$100 billion or so a year earlier). Other forms of local and cross-border funding have picked up as well, with investors entering new markets in their search for higher yield and greater diversification. More private equity funds, real estate investment trusts, and lately infrastructure funds have been taking aim at the region, with some reportedly attracting considerable interest from the Middle East. Islamic financing has become a new funding vehicle, particularly in Malaysia, including for non-Islamic companies (Box 1.5).

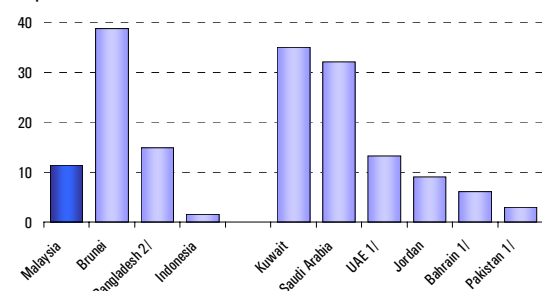
Box 1.5. Islamic Finance in Malaysia

Islamic finance is growing rapidly, and Malaysia is positioning itself to be a leading international hub for this budding asset class. Islamic products comply with Shariah, Islamic law, which bans interest and certain activities (such as consuming tobacco or alcohol, and gambling), requires that financial transactions refer to a tangible underlying transaction, and stipulates the sharing of profit/loss among the parties to a financial transaction. The industry globally is now viewed as an alternative form of funding and investment, no longer used exclusively by Muslims. Malaysia has taken the lead in several aspects of its development, including establishing the financial infrastructure and regulatory/supervisory framework, product innovation, and cultivating talent.

The Malaysian Islamic financial system is quite developed and is growing rapidly. Its main components are the Islamic banking system and the Islamic capital markets. Islamic banking is offered by Islamic banks, as well as via Islamic windows/subsidiaries of conventional banks, with the latter increasingly offering a Shariah-compliant version of each conventional product. As of June 2006, about 11 percent of the banking system assets were Shariah-compliant (\$32 billion).¹ In recent years, Shariah-compliant assets have grown at about 17 percent annually,² more than double conventional assets. Three-fourths of banks' Shariah-compliant funds come from deposits (compared with about half in the total banking system), and financing accounts for 60 percent of the uses (compared to about 40 percent in the total system) with a dominance of household financing, while financing of businesses concentrates in small and medium-sized enterprises.

Share of Shariah-Compliant Assets in Total Banking System Assets

(In percent)



Sources: Country authorities; and IMF staff calculations.

¹ Share of Islamic banks assets only.

² Share of total loans.

Malaysia's Islamic Banking System: Sources and Uses of Funds

(End-2005, in percent)

	Share in Total
Sources	
Capital	9.0
Deposits	75.0
From other financial institutions	4.0
Other	12.0
Uses	
Cash	0.3
Reserves with central bank	1.7
With other financial institutions	18.2
Financing	60.2
Securities	18.6
Other	0.9

Source: Bank Negara Malaysia, 2005 Annual Report.

Note: The main author of this box is Laura Papi.

¹ Estimates of the size of the global Islamic finance industry vary widely. The Islamic Development Bank 2005 Annual Report puts it at \$800 billion, including banking, insurance, other non-bank financial institutions and capital markets. The *Financial Times*, January 18, 2007, reported a \$250–750 billion range. Malaysia International Islamic Financial Centre (November 2006) estimated \$560 billion global Islamic banking assets (Malaysia would represent about a 6 percent share).

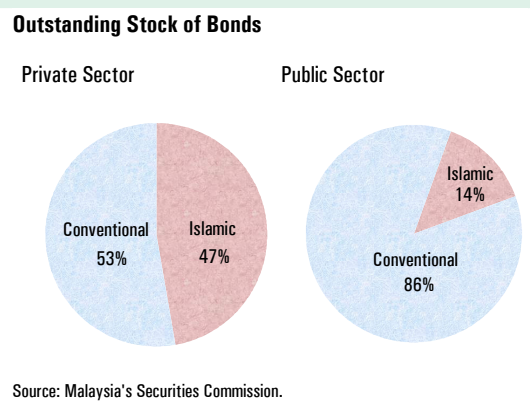
² This compares with estimates of 10–15 percent annual growth rates of Islamic finance globally.

Box 1.5 (continued)

Sharia-compliant products represent a sizable component of Malaysian capital markets. Malaysia's outstanding stock of Islamic bonds (sukuks) is about \$38 billion (representing 31 percent of outstanding total bonds in the country) and is the largest Islamic bond market in the world, with about half of the estimated global stock. It has expanded rapidly in recent years—Islamic bond issues grew at 28 percent a year compared with 14 percent for total bond issues in 1995–2005. The Malaysian Islamic bond market has also seen issuance by multilateral financial institutions. Malaysian issuers have led in international sukuks, with Malaysian bonds heavily represented in global sukuk indices. Of the companies listed on the Malaysian equity market, 60 percent of market capitalization is represented by Shariah-compliant firms, and the exchange maintains benchmarks for Islamic equities.

The authorities' efforts to promote Malaysia as a leading international centre for Islamic finance culminated in the launch of the Malaysia International Islamic Finance Center in 2006—an initiative that covers financial institutional development, market infrastructure, the regulatory/supervisory framework, human capital development, and tax incentives.

Malaysia is addressing challenges to cement its international position as a center for Islamic finance, although some of these efforts are common to the industry. It is participating in international initiatives aimed at standardizing products, accounting, and supervisory and regulatory frameworks. In recent years, liberalization and international integration have intensified with new Islamic licenses issued and the entry of foreign players. The industry as a whole needs to expand the set of instruments, including derivatives, that can help manage risks, and deepen and develop markets. Private market participants highlight the importance of a few Malaysian banks becoming global leaders. They also emphasize further liberalizing the overall financial system, as Malaysia faces competition from Islamic finance centers in the Middle East, as well as from established conventional global financial centers such as Singapore and London, where the share of Islamic assets is small but product innovation is proceeding at a rapid pace. For example, London just started the first secondary market for Islamic bonds.



Macroeconomic Policy Issues

The monetary policy picture across Asia is mixed. Inflation pressures remain largely under control in most NIE and ASEAN-5 economies with a gradual increase in real policy rates over the past two years, and there is some flexibility should the downside risks to growth materialize. However, in much of the rest of Asia (outside Japan) overheating and credit-fueled asset price rises remain a concern and the scope for easing the monetary policy stance if growth falters is much more limited. On fiscal policy, favorable conditions over the past few years have allowed for a strengthening of positions across much of Asia and there is scope for a countercyclical policy response, if needed, in those countries that have made progress in improving their public finances.

Monetary Policy

The interest rate cycle appears to have peaked in the NIEs and most of the ASEAN-5, and the outlook is for some potential policy easing. While the cumulative policy interest rate rises have been less than—and lagged—those by the U.S. Federal Reserve, real interest rates are now comparable to their U.S. counterparts. Inflation remains broadly under control, and, as a consequence Indonesia (beginning in early 2006) and Thailand (more recently) have been able to cut policy rates in response to falling inflation pressures and weak domestic demand. With inflation expectations well anchored and domestic demand relatively weak, the expected softening in the external outlook could provide scope for lower policy rates. It may also help to limit capital inflows owing to less favorable interest rate differentials.

In contrast, China and India have only begun to tighten monetary conditions, and more is likely required; given its exchange rate arrangement, Vietnam is more constrained. The Chinese

Figure 1.16. Cumulative Increases in Policy Rates

(Since rate tightening cycle began in each country, in percentage points)

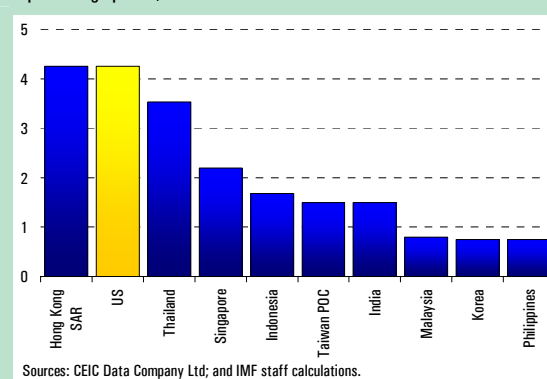


Figure 1.17. Emerging Asia: Real Policy Rates

(Policy rates minus contemporaneous core inflation, in percent)

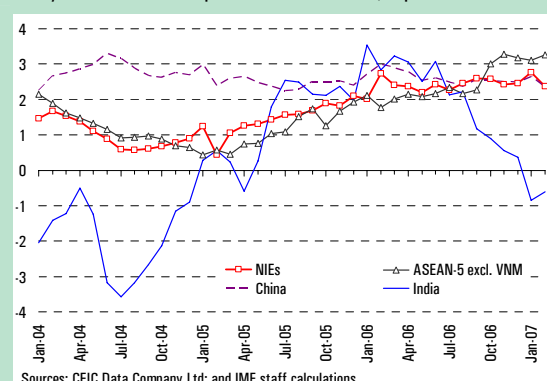
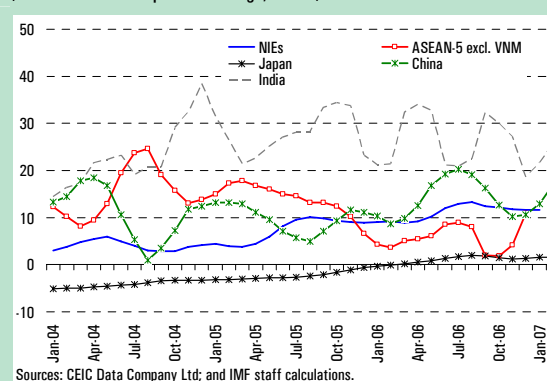


Figure 1.18. Asia: Private Sector Credit Growth

(3-mma of 3-month percent change, SAAR)



authorities have raised reserve requirements and interest rates in an effort to try to slow investment to more sustainable levels, rebalance growth, and head off a possible wave of future nonperforming loans. While the pace of renminbi appreciation continues to pick up speed (it has averaged ½ percent month since the second half of 2006), excessive liquidity remains in the system as evidenced by low interbank interest rates. While the authorities have relied on administrative controls to restrain credit and investment growth, over time the effectiveness of these controls will diminish as the sophistication of the economy increases. A shift in the reliance toward market-based measures will be necessary, and will help in the development of financial markets and in creating a banking sector operating on a sound commercial basis. In India, the RBI has raised the repo rate (at which it lends) by 125 basis points since April 2006, and has raised the Cash Reserve Ratio by 150 basis points since December. That said, real interest rates remain close to zero, inflation pressures appear to be mounting, and further tightening will likely be required to forestall the risk of an inflation overshoot. In Vietnam, credit growth remains high and has led to a booming stock market; in response, the authorities have used prudential measures and doubled the width of the trading band of the dong (to +/- 0.5 percent) against the U.S. dollar. Going forward, credit growth will need to be monitored closely and the authorities should be prepared to tighten credit conditions and introduce more exchange rate flexibility.

New Zealand and Australia both face monetary policy challenges. Strong capital inflows—including those related to interest rate differentials vis-à-vis the Japanese yen—have helped finance high mortgage credit growth and support strong domestic demand. Policymakers in both economies have raised interest rates—in New Zealand most recently in March 2007—and maintained a tightening bias in an effort to stem inflation pressures emanating from tight factor and product markets and continued buoyancy in housing markets. Policy rates in both countries remain well

above U.S. levels, and the current tightening bias is warranted given continued price pressures.

The Japanese authorities raised policy rates by 25 basis points in February 2007 and should continue to move gradually. With private consumption still sluggish and in the absence of inflation pressures, the Bank of Japan has proceeded cautiously on its path to normalizing interest rates. The continued expectation for low interest rates and interest rate volatility, coupled with higher rates elsewhere, has been a key driving factor behind the rise in yen-funded carry trades. Nevertheless, the Japanese authorities should withdraw monetary accommodation only gradually, being mindful of inflation expectations and domestic demand conditions.

Fiscal Policy

Fiscal policy continues to be run conservatively throughout much of the region, and debt levels have for the most part been managed prudently. Policymakers have taken advantage of the benign environment in recent years to further strengthen public finances. Led by the NIEs, the regional fiscal balance is projected to have improved by 0.3 percentage point in 2006 in line with the projections of the previous *Regional Economic Outlook*. Public debt levels have continued their trend decline, falling to their lowest level since 2000 and, as noted above, Indonesia and the Philippines have taken advantage of favorable market conditions to undertake further liability management.¹¹ That said, public debt ratios remain high in Japan, India, and the Philippines, although in the latter the improvement has been much more pronounced owing an increase in the VAT rate in December 2005.

¹¹ Indonesia and the Philippines also repaid their obligations to the IMF in full in 2006 (in October and December, respectively).

Table 1.7. Asia: Selected Fiscal Indicators
(In percent of GDP)

	General Government Gross Debt			Central Government Fiscal Balance		
	2005	2006	2007	2005	2006	2007
		Est.	Proj.		Est.	Proj.
Industrial Asia	154.7	157.3	154.3	-4.5	-4.7	-4.7
Japan	181.6	184.8	181.7	-5.8	-5.9	-5.8
Australia ¹	9.9	9.0	8.6	1.6	1.1	0.9
New Zealand ¹	23.0	23.6	23.7	5.6	5.2	3.7
Emerging Asia	38.9	36.0	34.1	-1.6	-1.1	-1.3
Hong Kong SAR	1.9	1.7	1.4	1.0	3.9	1.7
Korea ^{3,4}	36.2	36.5	37.2	1.9	1.8	1.9
Singapore	...	...	...	7.8	6.4	5.3
Taiwan POC	36.7	35.8	35.3	-1.9	-0.5	-0.9
China ⁵	17.7	16.8	15.9	-1.3	-0.7	-1.0
India ⁶	83.1	80.1	76.1	-4.2	-3.8	-3.6
Indonesia ³	45.6	38.6	35.8	-0.3	-1.2	-0.9
Malaysia ³	46.2	45.4	46.1	-3.8	-3.5	-3.4
Philippines ⁷	86.3	77.6	72.8	-3.0	-1.9	-1.3
Thailand ^{7,8}	47.4	41.1	39.4	0.4	1.2	0.8
Vietnam ⁷	43.9	44.7	46.7	-1.2	-0.7	-2.6
NIEs	32.1	31.9	32.1	1.0	1.7	1.2
ASEAN-5	53.1	47.5	45.6	-1.1	-1.0	-1.1
Asia	64.3	61.5	58.3	-2.2	-1.9	-2.0

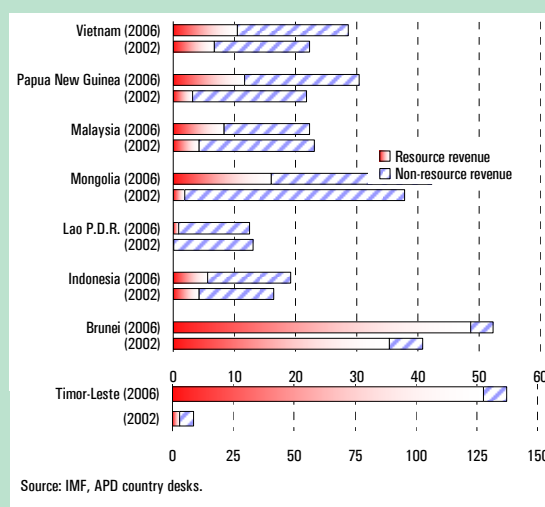
Sources: IMF, APDWEQ database; and staff estimates.

¹ Fiscal year ending June. Fiscal balance for Australia includes net surplus from state-owned enterprises.² Fiscal year ending June. Fiscal balance is defined as operating balance net of revaluations and changes in accounting rules, and excluding net NZS Fund asset returns.³ Central government only.⁴ Consolidated central government debt including government guaranteed debt for financial sector restructuring.⁵ Net debt.⁶ Fiscal year ending March; privatization receipts excluded from revenues.⁷ Public sector debt.⁸ Fiscal year ending September.

The fiscal stance across the region remains broadly neutral, and policymakers should permit automatic stabilizers to operate if required. The neutral stance is not only appropriate from a demand management perspective given that growth remains reasonably solid, it also provides a degree of fiscal space for an accommodative policy response should the downside risks materialize. This can be achieved by allowing fiscal balances to weaken as a result of (i) lower revenue and (ii) any automatic increases in expenditure triggered by slower growth. Where necessary and feasible, governments could also bring forward necessary infrastructure spending to underpin domestic demand. Less scope for fiscal stimulus exists for those economies still running sizable deficits (India, and to a lesser extent,

Malaysia) or experiencing political gridlock (Taiwan Province of China and Thailand). Relatedly, but in a more structural vein, in much of emerging Asia social safety nets can be strengthened to reduce uncertainty and raise consumption, particularly in China, support more flexible labor markets (Korea), or further bolster the effectiveness of automatic stabilizers.

For those (mostly lower income) countries with publicly owned natural resources, the recent commodity price boom presents fiscal policy challenges relating to asset and wealth management. These issues are explored in Chapter IV. At issue is how to manage the rise in the revenue and public sector wealth, which for several low-income countries have increased substantially so far this decade. While the public infrastructure and human capital needs in this group are generally quite large, the prospective revenue flows could be volatile, arguing for a smoothing of expenditures over the longer term.

Figure 1.19. Change in Fiscal Revenue, 2002 and 2006
(In percent of GDP)

II. The Evolving Nature of Capital Flows in Emerging Asia

Gross cross-border capital flows in emerging Asia¹² have grown significantly over the past decade, rising from about US\$270 billion to US\$830 billion.¹³ Such flows—into and out of Asia as well as within the region—bring many benefits and help facilitate economic growth and development. They reflect greater real and financial integration in the region, as well as the strengthening and development of financial institutions and markets. At the same time, sudden shifts in flows have, in the past, caused economic problems in many parts of Asia and in other emerging markets. These include macroeconomic imbalances such as the rapid appreciation of the real exchange rate; unproductive or imprudent investment, including in some cases asset price bubbles; destabilizing effects from sudden stops or outflows in capital; and risks associated with high levels of leverage. Recently, policymakers and economists in the region have expressed concerns that strong capital inflows might be leading to some of these problems, especially with regard to the rapid appreciation of exchange rates.

This chapter presents preliminary work analyzing capital flows in the region, highlighting changes over the past couple of years in the nature of these flows, and pointing out policy dilemmas and new risks. It explores the following issues: (i) the evolving nature

of capital flows in emerging Asia; (ii) the possible macroeconomic risks associated with such flows; and (iii) policy challenges. Future work is needed to confirm some of the observed trends as well as to better understand factors behind these changes.

The chapter's main findings are that:

- *Net* capital inflows to emerging Asia remain close to their long-run average (in terms of GDP), while *gross* capital inflows and outflows are close to or at historical highs. Capital outflows from emerging Asian economies, particularly portfolio and other investments, have grown significantly from about US\$80 billion to over US\$380 billion over the past decade. This phenomenon very likely reflects reforms undertaken in the region to strengthen, develop, and liberalize financial systems. Consistent with greater financial integration, we observe that portfolio and other financial flows (both inflows and outflows) have also grown rapidly in recent years.

Note: The main authors of this chapter are Shekhar Aiyar, Masahiro Hori, and Leslie Teo.

¹² In this chapter, emerging Asia includes China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan Province of China, and Thailand. Other economies are included where relevant (Australia, New Zealand, and Vietnam).

¹³ Gross capital inflows are defined as nonresident investment (direct, portfolio, other) in the economy. Gross capital outflows correspond to resident investment abroad. Net capital inflows are defined as the sum of gross inflows and outflows. For details see Box 2.1.

Box 2.1. Measuring Capital Flows

Data used in this analysis were constructed from the IMF's *International Financial Statistics* (IFS) and supplemented with data from the CEIC Asia database, national authorities, and IMF staff estimates. We follow BPM5 in dividing capital flows into direct investment, portfolio investment, financial derivative transactions, and other investments. As many countries do not report detailed data on financial derivative transactions or nonfinancial capital account transactions, we include those that are available in other investments. Gross capital inflows in this paper are defined as nonresident investment (direct, portfolio, and other investment) into the domestic economy. Similarly, gross capital outflows are defined as resident investment abroad. Note that gross inflows (or outflows) as defined here are not fully gross and may be negative, reflecting nonresident accumulation of domestic assets or reduction in domestic liabilities (increase in residents' foreign assets or decline in foreign liabilities). Unfortunately, the underlying data, i.e., true "gross" flows are not usually available. Net capital inflows correspond to the IFS's Financial Account plus Capital Account, and are the sum of gross capital inflows and outflows.

In-depth analysis of capital flows is made more challenging owing to shortcomings in data on international capital flows and positions. These include:

- Differences in the methodology used to compile data. Not all countries are, for instance, using BPM5 and this complicates cross-country comparisons.
- Long lags in data compilation, or irregular reporting. For instance, in some countries, only semiannual balance of payments data are available. These may also only be available after a long lag, complicating analysis of very short-term or recent developments with capital flows.
- Incomplete coverage. The lack of detailed information on the components of capital flows is a major drawback. This is compounded by greater use of more sophisticated financial instruments that may not be covered by existing reporting requirements.

- For the region as a whole, net capital inflows have not been the major source of foreign exchange inflows or a significant factor leading to macroeconomic imbalances. Robust current account surpluses continue to be the major factor supporting exchange rates. Moreover, inflation and credit growth remain well under control in most emerging Asian economies. Asset prices have shown sharper increases in some countries, but in general do not appear obviously out of line with economic fundamentals. Housing prices have generally increased but in many cases this reflects a catch-up after extended periods of decline or can be explained by rising incomes and financial sector development (see Chapter III). Equity valuations are beginning to look high, but the link between recent increases and inflows is not clear except for a few countries. Still there are exceptions: for example, inflation is higher in India and Vietnam, and equity markets in these countries have also experienced rapid run-ups supported by strong foreign investment.
- The volatilities of gross capital flows have increased. The increase in volatilities for gross capital flows can be explained by their growing size and the increasing proportion of portfolio and other investments in overall capital flows. We also find some evidence of short-term surges in capital inflows. On the other hand, we find that the volatility of net capital inflows generally decreased after the mid-1990s, irrespective of the observed volatility increases in gross flows, indicating that outflows and inflows are now better synchronized, although the reason for this is not clear.

In this environment, the challenge for policymakers is to implement and maintain policies

that assist their economies to maximize the benefits and minimize the risks associated with larger and potentially more volatile cross-border capital flows. These challenges fall broadly into two categories.

- First, while emerging Asian economies do not generally appear to be facing macroeconomic imbalances resulting from large net capital inflows, large gross inflows could complicate macroeconomic management in the short-term. Small open economies are likely to face difficult policy choices in dealing with such surges.
- Second, increasingly large gross inflows *and outflows* highlight the importance of policies that strengthen risk management and increase the economies' resilience to shifts in such flows (i.e., volatility). In many emerging Asian economies, reforms are in train and include efforts to promote better risk management in financial institutions, improve transparency and data, facilitate productive use of inflows, and reduce risks associated with high leverage.

How Has The Nature of Capital Flows Changed?

We find that gross capital flows—both inflows and outflows—are close to or at historical highs; outward investment from emerging Asia has increased dramatically, so net inflows are off their recent highs and close to historical levels; and financial flows have recently grown rapidly, but these are often poorly identified. There are country-specific variations to these broad patterns.

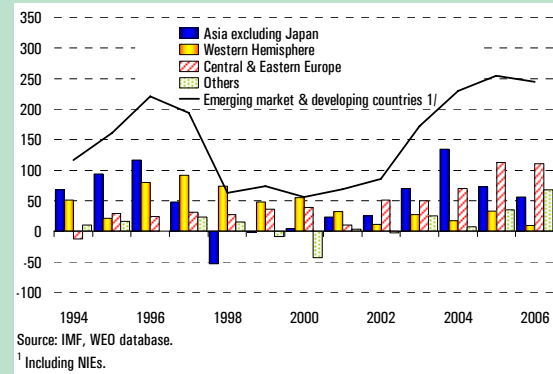
Asia Remains an Important Destination of Capital

Net private capital inflows to emerging market economies are estimated to have amounted to around US\$250 billion in 2006, surpassing levels in the mid-1990s. Emerging Asia is no longer the largest recipient, receiving roughly 25 percent of these flows, down from 50 percent in the mid-1990s. More than half of recent flows went to the

transition economies of eastern and central Europe, while flows to Latin America remained weak.

Figure 2.1. Net Private Capital Flows into Emerging Market and Developing Countries

(In billions of U.S. dollars)

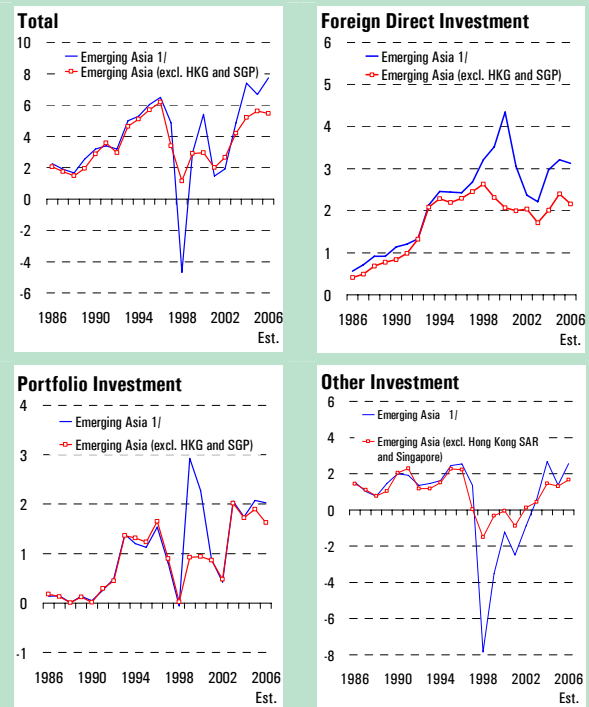


Gross Inflows Are Close to Historic Highs

Capital inflows to emerging Asia have exceeded slightly the highs reached during the mid-1990s. These flows are estimated to have been close to 8 percent of GDP in 2006 (US\$455 billion). Omitting flows to Singapore and Hong Kong SAR, which are financial centers, gross inflows remain close to the highs of the mid-1990s, at 5–6 percent of GDP.¹⁴

¹⁴ This chapter’s findings hold true even if China were excluded. See Tables 2.3 and 2.4 for detailed data.

Figure 2.2. Emerging Asia : Gross Capital Inflows (In percent of GDP)



Sources: CEIC Data Company, Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.

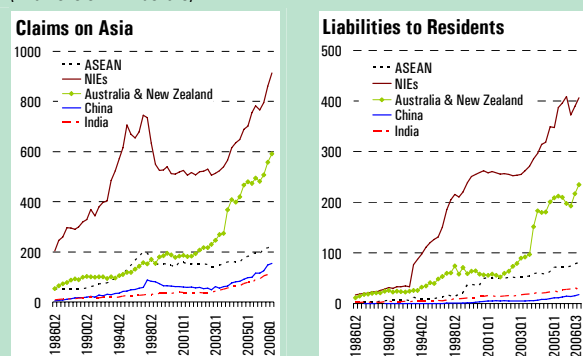
1/ Excludes Hong Kong SAR until 1997.

As in the past, foreign direct investment (FDI) constitutes a major component—around 40 percent—of capital inflows. These inflows have grown steadily as a percentage of GDP in recent years, and are now greater than 3 percent of GDP (or above 2 percent of GDP excluding Singapore and Hong Kong SAR), and are approaching the levels seen in the last years of the 1990s. Portfolio inflows have also registered some growth: excluding Singapore and Hong Kong SAR, portfolio inflows have averaged between 1 and 2 percent of GDP over the last four years, a higher level than the previous peaks achieved in the mid-1990s. While equity inflows continue to be strong, investments into debt securities underpin the more recent increase.

The most dramatic movements, however, have been in “other investments,” a residual category accounting for capital flows not identified as FDI or as portfolio flows. This is the most volatile category of capital flows, as evinced by the large negative

inflows from the late 1990s to the early years of the new millennium, followed by the recent upward surge. Since 2003, other investments have been positive and increasing, and are now at or above the historical highs of the previous decade. Some of these increases can be explained by bank-related inflows which retrenched in the mid-1990s. These flows have grown again, particularly to the newly industrialized economies (NIEs), China, and India.

Figure 2.3. International Banks' Claims on and Liabilities to Asia
(In billions of U.S. dollars)

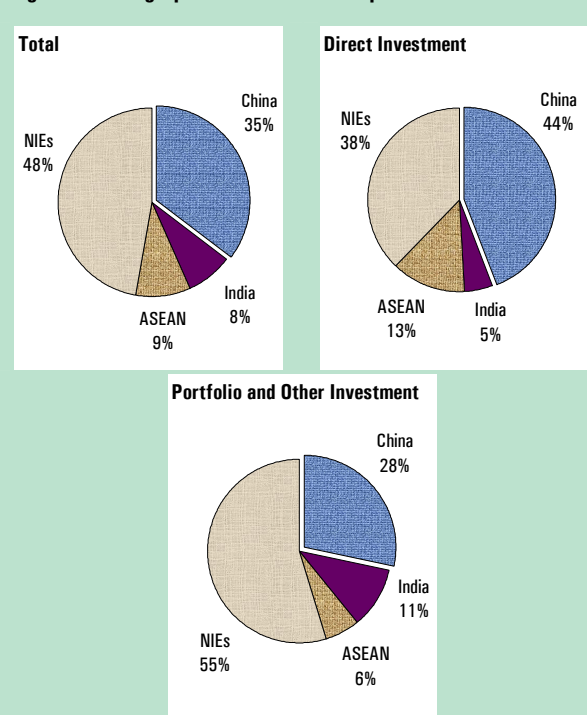


Sources: Bank for International Settlements, *Locational and Consolidated Banking Statistics*.

The increases in this category are also driven by nonbank flows, which may include complex financial transactions, that are harder to classify and whose motivation is not easily apparent (Box 2.2).

China remains an important destination for capital, especially FDI inflows, but other countries have grown in significance. Inflows to NIEs and ASEAN (in this chapter, this refers to Indonesia, Malaysia, the Philippines, and Thailand) economies account for most of the recent increase. The NIEs are the major destinations for portfolio and other inflows, which is not surprising given the roles of Hong Kong SAR and Singapore as financial centers.

Figure 2.4. Geographic Breakdown of Capital Inflows 2005-2006



Sources: CEIC Data Company, Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.

The recent pickup in capital inflows to emerging Asia partly reflects improved fundamentals in much of the region. However, there are several broader factors that have supported the increase in capital inflows.

- Supportive global financial conditions:* Global financial conditions in recent years have been highly accommodative, with ample global liquidity and demand for higher yielding assets. For instance, the EMBIG spread index hit an all-time low of 168 basis points at end-December 2006 and has remained at around that level. The MSCI Emerging Market Index also reached a record high at the end of last year.

Box 2.2. Banking and Derivatives Flows: Hedging, Carry Trades, and Other Investments

To a considerable degree, banking and derivatives flows into Asian economies in 2006 represented responses to cross-border interest rate differentials or to anticipated currency appreciation. In contrast with 2005, when much of the increase in capital inflows to Asia arose from portfolio equity inflows, in 2006 the major areas of growth were portfolio bond, and banking and derivatives flows. Banking and derivatives flows into Korea and India, in particular, rose sharply from 2005 to 2006. The conjunction of positive interest rate differentials and expected exchange rate appreciation tended to support both carry trades into some Asian currencies (see Box 1.4) and hedging flows aimed at securing future expected export receipts against further domestic currency appreciation.¹ This box provides a selective survey of recent developments, emphasizing financial linkages not covered elsewhere in this REO.

Hedging-related Flows

In Korea, demand for hedging future export receipts was an important factor driving capital inflows in 2006. Gross inflows under the “other” category rose from less than \$10 billion in 2005 to about \$50 billion in 2006, providing substantial support for the balance of payments, and underlying reserve accumulation of \$22 billion for the year.² This occurred even as nonresidents took advantage of strong domestic interest in equities to take profits and exit the market. These inflows appear to have been motivated to some extent by the experience of recent appreciation of the domestic currency. In this case, large exporters (notably, shipbuilders) expecting a flow of dollar receipts in coming years, but concerned that the dollar might continue to weaken against the domestic currency, sold dollars forward to domestic banks. To balance out their currency exposure,³ those banks in turn established short dollar positions vis-à-vis foreign banks, creating a capital inflow by borrowing dollars from the foreign banks. In addition, a proportion of “other” inflows (about \$5–7 billion according to some market sources) represented short yen positions undertaken

Note: The main author of this box is Chris Walker.

¹ As used here, the term “carry trade” refers to an investment in which an investor borrows in a currency with a lower interest rate to invest in a currency with a higher interest rate, thereby collecting the interest rate differential but taking on exposure to exchange rate fluctuations.

² “Other” flows in the capital/financial account include banking and derivatives flows—these are often the main components of capital flows.

³ In Korea and several other Asian countries, prudential regulations require banks to limit their net foreign currency exposure.

Emerging Asia¹: Breakdown of Recent Capital Flows

	2004	2005	2006 Est.
Total Inflows	220	272	303
Direct Investments	85	116	120
Portfolio Investments	73	92	90
of which Equity	52	76	60
of which Debt	21	15	30
Other Investments	62	64	92
of which Banks	29	16	48
of which Others	33	48	44
Total Outflows	64	177	190
Direct Investments	22	31	40
Portfolio Investments	26	78	168
of which Equity	20	27	54
of which Debt	5	50	113
Other Investments ²	16	68	-18

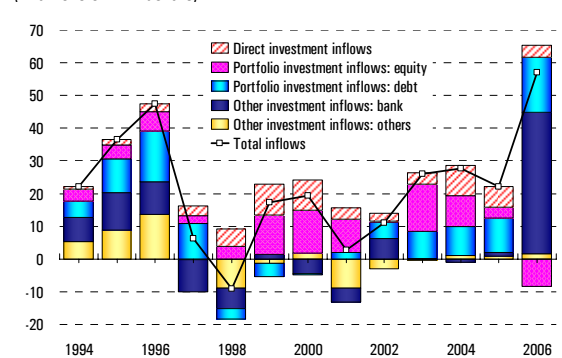
Sources: CEIC Data Company Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.

¹ Excludes Hong Kong SAR and Singapore.

² Breakdowns of other investment outflows are not available.

Korea: Capital Inflows by Type of Investments

(In billions of U.S. dollars)



Sources: CEIC Data Company, Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.

Box 2.2 (concluded)

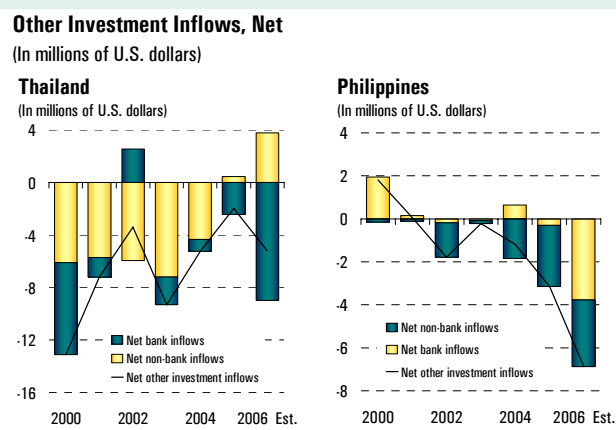
by Korean residents in response to the low yen interest rate. Some of these positions were in the form of yen-denominated mortgages or loans to small businesses. A similar dynamic appears to have taken place in Thailand, although the magnitudes involved were not as great as those in Korea. There, an increase in “other” investment inflows to Thai corporations—from a negative amount in 2005 to \$2.4 billion in inflows in 2006—pointed to some hedging by domestic exporters against the possibility of continued baht appreciation.

Alternative Channels for Investment

In India, “other” investment inflows spiked upward as investors sought alternative access channels to the nation’s equity and fixed income markets. “Other” inflows rose from a then-record \$9 billion in 2005 to about \$24 billion in 2006, as part of an overall wave of capital inflows that saw reserves increase by \$40 billion even in the face of a current account deficit of about \$13 billion. Abetted by continuing strong retail interest in India-focused mutual funds, inflows to the Indian equity market were about \$8 billion in 2006, down from about \$11 billion in 2005 in part to a spell of global market turbulence in May/June that struck Indian markets with some force. However, both equity and FDI inflows taken together account for no more than half of the capital account surplus. Although Indian capital controls generally prohibit the direct participation of investors other than registered foreign institutional investors (FIIs) in domestic markets, market participants indicate that offshore investors who lack direct access to the Indian market have been able to get exposure to the market by engaging in offshore transactions with counterparties who do have access. Accordingly, some investments in offshore structured products linked to Indian domestic markets have likely appeared in the balance of payments as “other” inflows, with offshore entities purchasing domestic-market-linked derivatives from registered FIIs.

Hedging, Exports, and Capital Outflows

In some cases, hedging and export activities may result not in inflows but capital outflows under the “other” category. Most directly, when domestic firms realize a larger-than-expected flow of income from exports, they may “recycle” that income either by leaving it deposited abroad, or by making a dollar-denominated deposit in a domestic bank, prompting the bank to acquire overseas dollar deposits. A portion of the capital outflows from Thai banks in 2006 appears to reflect the latter phenomenon. Alternatively, in certain cases, domestic exporters or banks may decide to let a hedge expire rather than rolling it over, resulting in a recorded capital outflow. Finally, central bank swaps or forward transactions with local banks may also lead to outflows, as may have occurred in Thailand and the Philippines. In these cases, central bank purchases of dollars forward with commercial banks led the commercial banks to increase their foreign assets in order to limit their foreign currency exposure.



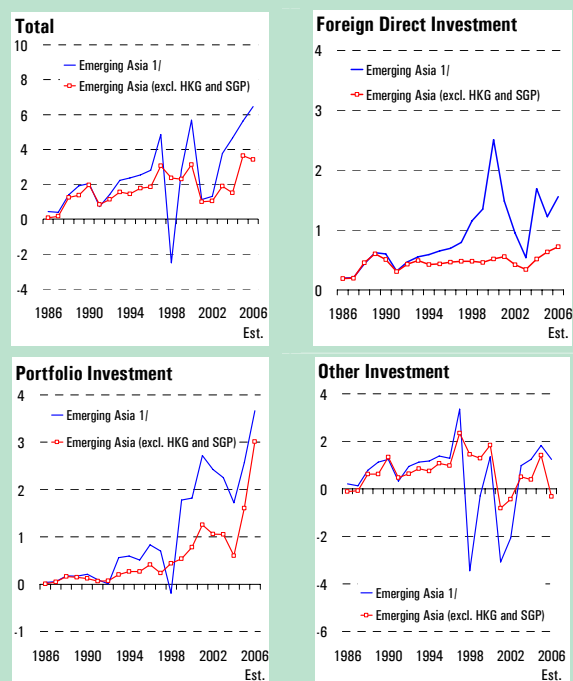
- *Growth in the investor base.* An increasing number of institutional investors, including insurance companies, pension funds, and hedge funds are investing in emerging markets, as investors diversify and search for higher returns.¹⁵
- *Capital market development and increasing liberalization.* Recent reforms have deepened domestic capital markets in Asia, introduced new types of financial instruments, and liberalized participation by nonresidents. Australia, Hong Kong SAR, New Zealand, and Singapore have the most open markets, with limited restrictions on cross-border investment. Meanwhile the broadening and deepening of markets in the ASEAN countries have encouraged inflows, particularly portfolio investments.
- *Attractive portfolio investment opportunities.* Positive interest rate differentials on domestic holdings (especially against the yen) as well as expectations of currency appreciation in the region were another important factor driving capital inflows. In countries with higher interest rates, such as Australia and New Zealand and perhaps India and some ASEAN economies, this may contributed to the recent pick-up in capital inflows.

Gross Capital Outflows Are at Historic Highs

In tandem with inflows, capital outflows have increased rapidly in recent years and have reached unprecedented levels. Gross capital outflows reached nearly 7 percent of GDP for Asia (US\$380 billion) in 2006, nearly doubling from levels a decade ago. Both Hong Kong SAR and Singapore are major sources of capital outflows but, even excluding them, capital outflows from

emerging Asia have doubled to US\$190 billion over the last 10 years.

Figure 2.5. Emerging Asia : Gross Capital Outflows
(In percent of GDP)



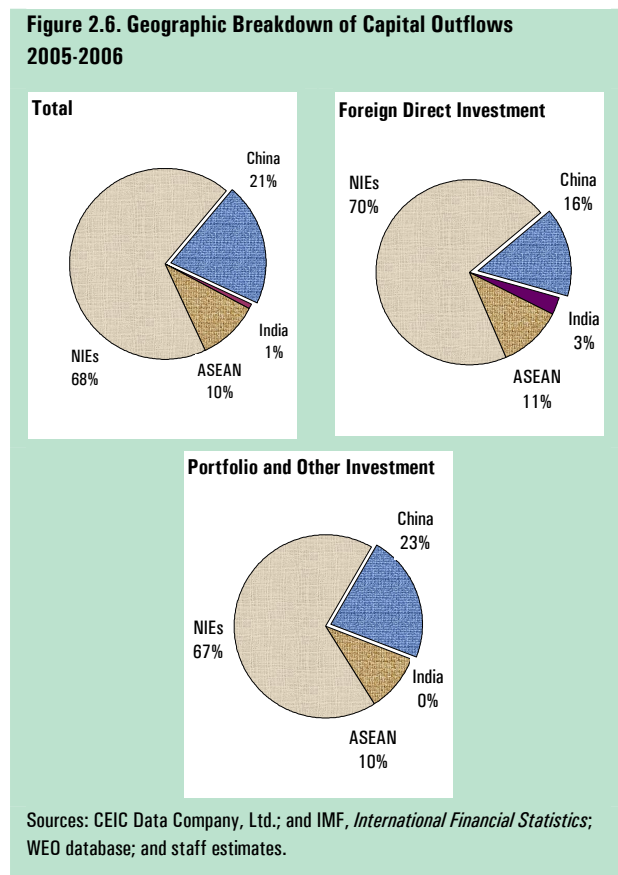
Sources: CEIC Data Company, Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.

1/ Excludes Hong Kong SAR until 1997.

Portfolio investments comprise the major component of outflows and have grown rapidly, especially over the last two years. Portfolio outflows are estimated to have reached nearly 4 percent of GDP for emerging Asia, or about US\$215 billion. Other investment outflows are also high and volatile but, as with inflows, data shortcomings make it difficult to fully analyze the behavior of this component of capital outflows. Nevertheless, at least some of the more recent increase seems closely related to the recycling of current account surpluses through the banking system (e.g., Thailand and the Philippines). Finally, reflecting a more developed corporate sector and increasing economic integration, emerging Asia's direct investment abroad has increased at a steady pace, reaching close to 2 percent of GDP, from about 1 percent a decade ago.

¹⁵ For instance, the number of hedge funds in Asia that are regionally focused has grown to about 800.

China and the NIEs, particularly Korea more recently, are the major sources of capital outflows, closely followed by the ASEAN economies. A large proportion of this reflects Chinese banks' purchases of nonresident debt securities while the NIEs continue to be significant portfolio investors.



and attain higher rates of return. To an extent, the increase in gross outflows is also a consequence of rising inflows, with some outward portfolio flows (such as from financial centers) representing the onward distribution of investment flows into the region, and other outflows representing hedging associated with portfolio or FDI inflows.

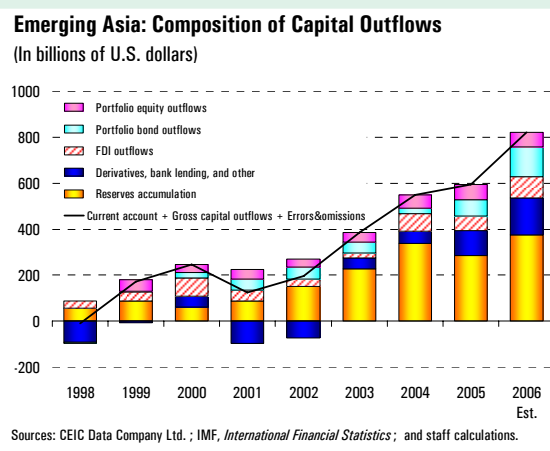
- Capital account liberalization.* At the same time, restrictions on private sector outflows are being relaxed, reflecting both a desire to reduce the burden of sterilizing net inflows and a recognition of the value of portfolio diversification by the private sector. China and Korea have both liberalized restrictions on resident investments abroad, and have seen an increase in outward portfolio investments. Liberalization in some ASEAN economies has led to a pick-up in outward flows, such as equity portfolio investment in the case of Malaysia.
- More global and developed corporate sectors.* FDI outflows have increased as Asian firms have moved to establish global supply and sales networks.

A confluence of factors has led to the upward trend in Asian capital outflows (Box 2.3).

- Increasing integration and market development.* Better integration of markets and economies, especially within the region, an increasingly sophisticated and wealthier investor base, and financial market development, are likely to have supported this trend.
- Recycling of current account surpluses.* Presented with large and growing stocks of foreign reserves, some governments have moved to establish agencies to manage these reserves

Box 2.3. Emerging Asia's Experiences in Liberalizing Outflows

Measures to promote capital outflows have constituted an important policy response by Asian authorities to an increasingly wealthy and sophisticated investor base as well as to pressures from growing official reserves. In some cases governments may be able to increase capital outflows directly, through official or quasi-official entities such as national pension funds. Many of these have, in fact, moved to increase the share of foreign assets in their portfolios. Within the private sector, regulatory reform has made it easier for institutional investors to acquire and hold foreign assets. Regulatory changes, along with market development, have also provided individual investors with better access to foreign assets. The measures have borne some fruit, yielding increases in bond outflows in 2005 and 2006. Equity outflows also increased in 2005, falling back only slightly in 2006.¹



Public Outflows

Governments seeking to redirect capital outflows from the accumulation of official reserves to other channels have, in some cases, the option of shifting reserves from the central bank or finance ministry to another agency.² Singapore's Government Investment Corporation (GIC), which manages a substantial portion of the nation's official external assets, has served in some cases as a model for such agencies. China, the holder of more than \$1 trillion in official reserves, recently announced that it may transfer up to \$250 billion of those reserves into a State Foreign Exchange Investment Corporation (SFEIC). The announced purpose of the SFEIC will be to promote outward investment and increase returns on a relatively substantial proportion of the nation's wealth. In a similar vein, Korea established the Korea Investment Corporation (KIC) in 2005, with the aim of having it manage up to \$20 billion of the nation's \$239 billion (December 2006) in foreign reserves. In contrast with the arrangement in Singapore, however, the assets entrusted by the Bank of Korea to KIC (thus far only about \$1 billion) will continue to be treated as official reserves.

Governments have also moved to encourage capital outflows through institutions under their control, notably national pension funds. The example of Japan's Government Pension Investment Fund, although outside of emerging Asia, is instructive. The GPIF has increased the share of foreign stocks and bonds in its ¥70 trillion (\$600 billion)

Note: The main author of this box is Chris Walker.

¹ The apparent decline reflects a \$19 billion reduction in equity outflows from Hong Kong SAR. A large proportion of those flows in 2005, however, likely remained in the region, as they were generated by the public offerings of mainland Chinese firms, particularly state-owned banks. Accordingly, equity portfolio outflows from the region taken as a whole may in fact have increased in 2006.

² There is, in general, no impact on domestic liquidity from such a transfer, which, from the central bank's perspective, merely substitutes a domestic for a foreign asset on its balance sheet. However, if the agency proceeds to raise funds by issuing local currency bonds or raising deposits from the public and investing them overseas, the pressure on the monetary authority to sterilize inflows may diminish.

Box 2.3 (concluded)

portfolio to about 25 percent in 2005, from an initial level near zero in 2001. Korea's Pension Fund Association raised its allocation to foreign assets to about 8 percent of its 156 trillion won (\$170 billion) in 2005. More than nine-tenths of the allocation is in foreign fixed income, almost all of which is currency hedged. National pension funds elsewhere, including Thailand, have also raised targets for holdings of foreign assets.

Private Portfolio Flows

Investment vehicles now being made available to individual households could constitute an important channel for expansion of capital outflows. In April 2006, China announced a set of measures to give individual savers greater access to foreign assets. Among these, depositors in domestic banks were permitted to purchase foreign exchange and foreign-exchange-linked products with renminbi funds; previously depositors had been required to furnish foreign exchange in order to have access to such products. In addition, individual investors are now permitted to acquire up to \$20,000 a year in foreign-asset-based mutual funds under the qualified domestic institutional investor program (QDII), although the availability of such funds is currently quite limited. Although the measures represent a potentially important alternative for Chinese domestic investors, early results from the program have been somewhat disappointing. A major difficulty with the channels made available so far is that they have been restricted to fixed income, and retail investors have come to expect that any interest rate gains from higher yields outside of China will be absorbed by future renminbi appreciation. Accordingly, some recent statements from officials suggest that QDII may soon be expanded to accommodate equity outflows.

The Malaysian authorities increased the limit on holdings of foreign assets by some institutional investors and investment trusts from 10 to 30 percent in 2005, and raised the limit again to 50 percent in early 2007. Investors are reported to have responded to these measures as portfolio outflows have increased from \$715 million in 2005 to \$2.2 billion in 2006. (Other factors, including de-pegging of the currency may also have contributed to this increase.)

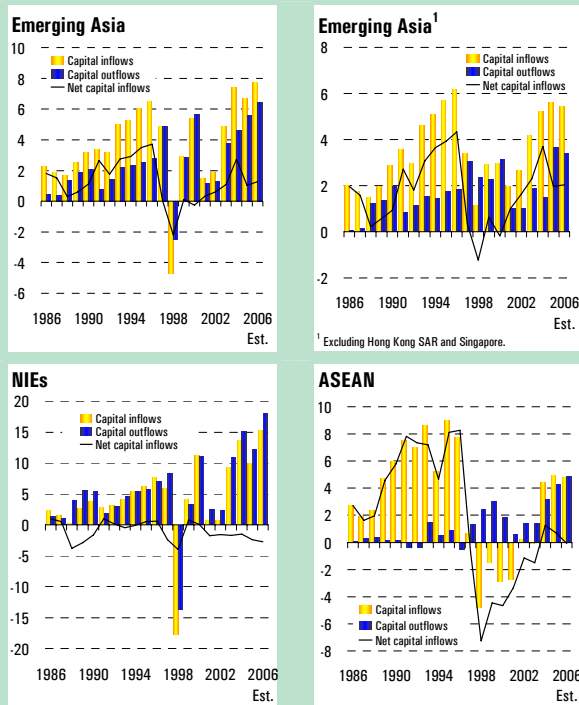
Likewise, measures taken to liberalize and encourage private sector outflows have been successful in Korea. These outflows have accelerated in the past two years, with equity outflows rising from less \$4 billion a year in 2004 and 2005 to more than \$15 billion, due in part to the successful marketing efforts of mutual funds investing in foreign equities, often in emerging markets. Bond outflows have also accelerated, but this has been primarily due to purchases by institutional investors including life insurers, since the spreads between domestic and foreign interest rates are not large. Thus far, such purchases of foreign fixed income instruments have generally been hedged, limiting exposure to currency fluctuations.

Foreign direct investment outflows have also increased, as public or large private firms in emerging economies have sought to benefit from access to overseas natural resources, labor, or distribution networks. Outward FDI from China has grown particularly rapidly, although even at more than \$12 billion in 2006 it was only one-sixth the total of inward FDI in the same year. Recent streamlining of licensing requirements has apparently contributed to the rapid expansion of outward FDI. In Korea, FDI outflows have also increased, though not as steeply, as the country's leading automobile and electronics manufacturers have expanded some production overseas. Some Indian firms in the information technology industry have pursued overseas expansion through FDI, raising direct investment outflows to \$2.5 billion in 2006, over 25 times the annual average rate in the late 1990s.

Net Capital Inflows Are Lower

One major consequence of the growth in capital outflows from the region is that after reaching a peak in 2004, net inflows to the region have actually decreased over the last two years.

Figure 2.7. Net Capital Inflows
(In percent of GDP)

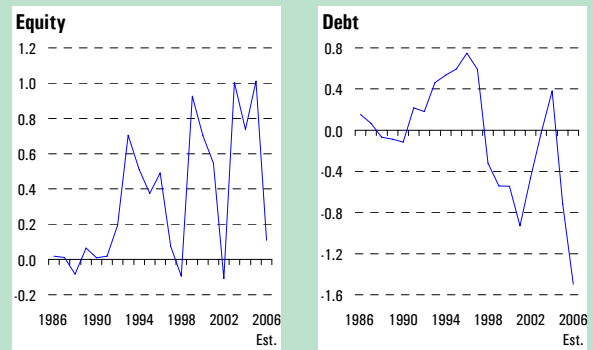


Sources: CEIC Data Company, Ltd.; IMF, International Financial Statistics; WEO database; and staff estimates.

Consistent with the rapid increase of outward portfolio flows, a fall in net portfolio inflows is the main driver behind the fall in net capital inflows to the region.¹⁶ The fall in net portfolio flows is being driven, more recently, by large increases in emerging Asia's outward investment in debt securities.

¹⁶ By construction, net capital inflows to the region exclude intraregional flows, despite the fact that our measures of gross inflows and gross outflows include intraregional flows.

Figure 2.8. Emerging Asia:¹ Net Portfolio Investments
(In percent of GDP)



Sources: CEIC Data Company, Ltd.; IMF, International Financial Statistics; WEO database; and staff estimates.

¹ Excludes Hong Kong SAR and Singapore.

These broad features mask differences in the region. China is a large net capital importer, despite its large current account surplus, and more recently, an increase in gross capital outflows. India is also a large capital importer. Among the NIEs, Korea saw a large rebound in net inflows, especially in 2006, reflecting large increases in bank related flows. Hong Kong SAR and Singapore continued to experience net capital outflows. By contrast, net capital flows to the ASEAN countries are about zero.

What Risks and Challenges Do Recent Capital Flows Bring?

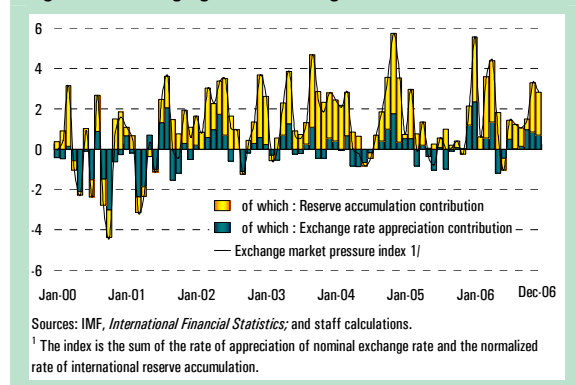
Net capital inflows are off their recent highs but gross flows have become more volatile.

Exchange Rates Have Appreciated Reflecting Strong Current Account Positions

Emerging Asian exchange rates have been under pressure to appreciate. Indeed, despite significant intervention, there has been a region-wide trend toward nominal appreciation for several years. Since end-2004, a simple average of exchange rate indices for emerging Asia indicates local currency appreciation of over 5 percent. Excluding Hong Kong SAR (currency board), and India and Vietnam (which are outliers whose currencies have depreciated slightly), the appreciation over the past two years has been closer to 7 percent. There has

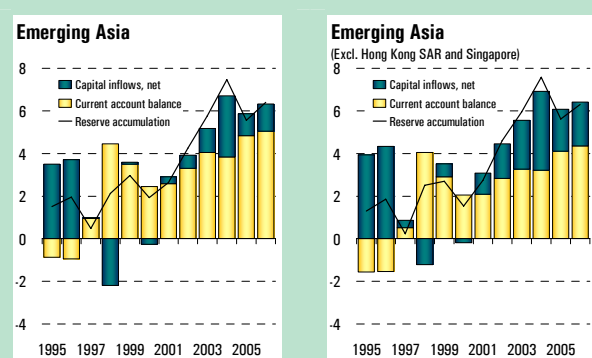
been considerable variation between countries, with some countries experiencing more rapid appreciation, notably the Philippines, Korea, and Thailand.

Figure 2.9. Emerging Asia: Exchange Market Pressure Index



Net capital inflows are contributing to foreign exchange inflows but in contrast to 2004, strong current account surpluses are more significant. As a whole, emerging Asia continues to run significant current account surpluses, equivalent to about US\$296 billion or about 80 percent of emerging Asia’s reserve accumulation of US\$376 billion in 2006. Excluding China, Hong Kong SAR, and Singapore, which run large current account surpluses, lowers the ratio of the current account

Figure 2.10. Balance of Payments and Reserve Accumulation (In percent of GDP)



Sources: CEIC Data Company, Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.

surplus to reserve accumulation to about 60 percent.¹⁷

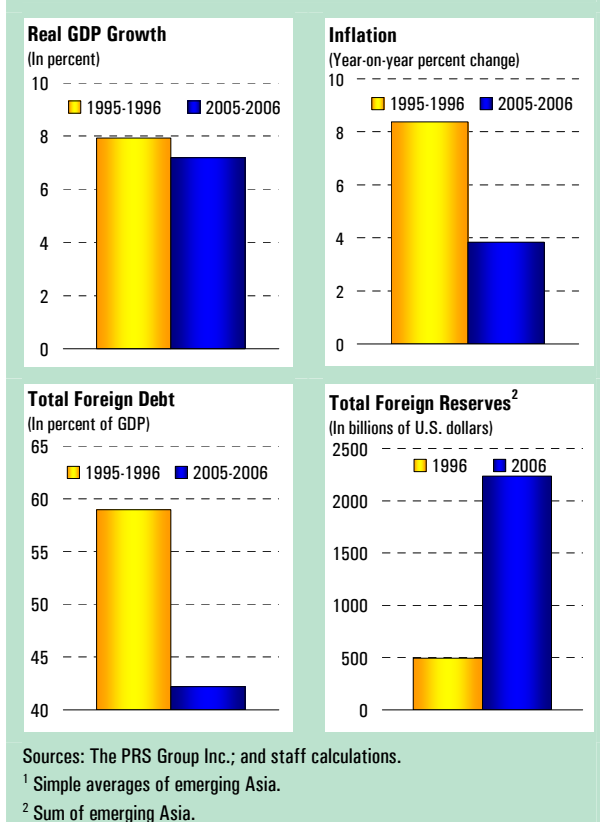
Even if net capital inflows are not the main contributor to foreign exchange inflows, capital flows may still bring macroeconomic challenges. For one, gross flows may sometimes be more relevant when examining the possible impact of capital flows since inflows and outflows affect different sectors (e.g., nonresident investment in domestic securities markets and resident investment in global financial markets). The impact of any flows on financial markets is likely to be greater in smaller and more undeveloped markets. Second, our analysis—which is based on available capital account data—may not pick up short-term surges in capital flows. These surges are discussed in the following section. What follows is a brief discussion of possible areas of concern. We conclude that, with some important exceptions, emerging Asia is not facing overheating economies or historically high housing prices resulting from capital inflows. The evidence for high equity prices is more mixed.

Across Emerging Asia, Inflation and Credit Growth Remain Moderate, While Asset Prices Are Rising to Varying Degrees

Most emerging Asian economies are not on the verge of overheating as they were in the mid-1990s. Economic growth and credit growth is more modest, and inflation remains low in much of the region, albeit somewhat less so in India and Vietnam. External vulnerabilities look much lower, as evidenced by the current account surplus throughout much of the region, lower external debt-to-GDP ratios, and high reserve levels.

¹⁷ See Table 2.5 for details.

Figure 2.11. Emerging Asia : Pre-Crisis Vs. Post-Crisis¹



While housing prices have been rising more than inflation, most economies in Asia are not experiencing unusually rapid housing price hikes (see Chapter III). True, mortgage lending has grown faster than lending to other sectors. However, these increases can be explained in part by increased financial innovation and rising income, which have led to increased access to financial products and demand for housing. Gaps in data make it difficult to track (gross) foreign investment in this sector but the lack of generalized price pressures make it hard to point to inflows as creating major pressures on housing prices. Nevertheless, in New Zealand, and to a lesser extent Australia, net capital inflows in the context of current account deficits may be supporting demand for real estate by making financing easier.

The situation regarding equity prices is more mixed, with the very latest increases pushing up valuations. Up until 2006, the usual indicators of equity valuation did not appear to be inordinately

high.¹⁸ In addition, both gross and net inflows into equity investments have been, in aggregate, modest compared to previous highs. However since late 2006, equity markets in the region have risen rapidly and valuations are now higher than recent averages and most other emerging markets. This holds true even after the correction in late February. The extent that capital inflows have supported the recent increase is hard to tell given data limitations, but concerns have been expressed in India and Vietnam¹⁹ over equity investments by nonresidents. The Thai equity market (among the lowest-valued in the region) has also been supported by strong foreign interest.

Table 2.1. Price- Earning Ratio¹

(Period Average)

	2007 End-Feb	2006	2001-06	Pre-1997 high ²
Japan	20.4	22.4	17.8	106.9
Hong Kong SAR	19.0	16.1	17.1	17.1
Korea	12.2	11.7	11.9	31.4
Singapore	19.3	16.6	17.9	21.4
China	19.7	15.7	15.1	20.2
India	21.3	21.9	16.1	31.9
Indonesia	17.6	15.5	12.8	24.7
Malaysia	20.3	16.0	17.8	30.9
Philippines	17.7	16.0	19.6	28.0
Thailand	9.1	10.1	24.1	21.9
World	16.7	16.8	20.9	31.7 ³
EM Latin America	14.2	13.5	13.1	17.9 ³
EM Europe & Middle East	13.6	15.8	14.7	25.7 ³

Sources: Datastream; and IMF staff calculations.

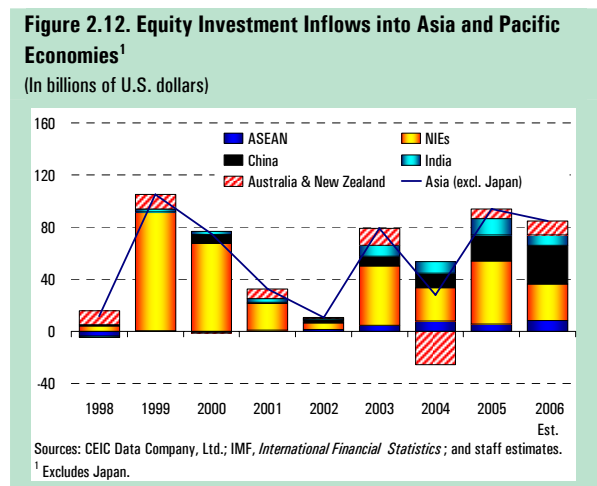
¹ Based on MSCI country index.

² Highest annual average between 1990-97. Each economy can have different data starting point.

³ Historical high since 1995.

¹⁸ The September 2006 *Asia and Pacific Regional Outlook* discusses this further.

¹⁹ Rather tellingly, data on valuations are difficult to obtain for the Vietnamese stock exchange, which has increased by over 100 percent in the past year.



GDP) and because of a significant rise in the volatility of portfolio investments.

As might be expected, portfolio and other investments tend to exhibit greater volatility than FDI. The volatility of direct investment is both lower than that of other flows, and tends to change the least between the precrisis and postcrisis period. The significant exceptions to this rule are Australia and New Zealand, which saw large increases in FDI volatility during the postcrisis period. The volatility of portfolio investment inflows and outflows increased significantly after the crisis. Other investment flows do not show systematic increases in volatility, but tend to be the most volatile component of flows.

Gross Capital Flows Are More Volatile

Given higher gross flows, a natural concern is whether these flows are more volatile.²⁰ The answer depends partly on how exactly volatility is measured. The measure that we hold most useful—in that it provides the best indicator of how vulnerabilities are affected—is the standard deviation of the change in capital inflow or outflow relative to GDP. By this indicator, volatilities of both gross inflows and outflows have increased in recent years,²¹ mainly because of increased flow volumes (relative to

²⁰ Papi and Unterberdoerster (2007) reports that growth performance appears to be negatively associated with capital flows volatility.

²¹ An appealing feature of the measure we use—the standard deviation of the change in capital inflow or outflow relative to GDP—is that it tends to increase with an increase in capital flows as a percentage of GDP. This is desirable because, for instance, the greater the level of these inflows, the more vulnerable a recipient of capital inflows is to sudden stops or reversals. A dimensionless measure of volatility, such as the coefficient of variation, shows the same broad pattern but is less useful precisely because it is insensitive to the level of capital flows. Finally, another popular measure of variability is the standard deviation of capital flows scaled not by GDP but by international reserves. While it is true that this measure captures even more precisely a country's vulnerability to capital reversals, it conflates capital movements with the policy response to capital movements, which may well take the form of reserves accumulation. Other measures could be explored in future work.

Table 2.2. Volatilities of Capital Flows in Asia-Pacific Countries¹

	Inflows		Outflows		Balance (net inflows)	
	1987-1996	2001-2006	1987-1996	2001-2006	1987-1996	2001-2006
Emerging Asia (excluding Hong Kong SAR and Singapore) ²						
Total Capital Flows	2.76	3.48 * ³	1.29	2.62 **	2.95	2.65
Direct Investment Flows	0.55	1.03 **	0.28	0.47 *	0.68	0.82
Portfolio Investment Flows	0.79	2.01 **	0.19	1.01 **	0.87	2.04 **
Other Investment Flows	2.45	1.88	1.08	2.26 **	2.52	2.15
ASEAN						
Total Capital Flows	3.31	4.54 *	1.17	2.79 **	3.20	3.35
Direct Investment Flows	0.78	1.53 **	0.12	0.68 **	0.78	1.24 *
Portfolio Investment Flows	1.12	2.23 **	0.23	0.66 *	1.23	2.30 **
Other Investment Flows	2.91	2.33	1.11	2.64 **	2.77	2.10
Korea and Taiwan Province of China						
Total Capital Flows	3.16	3.70	2.36	3.23	4.06	2.46
Direct Investment Flows	0.16	0.71 **	0.75	0.34	0.70	0.53
Portfolio Investment Flows	0.48	3.11 **	0.27	2.10 **	0.59	2.59 **
Other Investment Flows	3.14	1.87	1.74	1.97	3.67	2.67
Singapore						
Total Capital Flows	10.80	14.57	12.14	15.74	5.95	4.08
Direct Investment Flows	4.29	5.74	2.06	12.10 **	4.19	9.94 *
Portfolio Investment Flows	2.26	4.15	5.52	4.09	5.43	5.49
Other Investment Flows	12.14	10.84	11.27	13.99	5.46	6.21
China						
Total Capital Flows	1.29	1.24	0.49	2.53 **	1.51	1.87
Direct Investment Flows	0.84	0.46	0.26	0.30	0.84	0.37
Portfolio Investment Flows	0.26	0.33	0.04	1.29 **	0.24	1.30 **
Other Investment Flows	0.81	0.90	0.25	2.85 **	0.98	2.29 *
Australia and New Zealand						
Total Capital Flows	3.18	5.29	2.52	6.34 **	2.92	1.84
Direct Investment Flows	1.09	5.33 **	1.78	3.17 *	2.22	2.86
Portfolio Investment Flows	1.88	3.93 **	0.61	1.59 **	1.73	4.34 **
Other Investment Flows	2.54	2.98	0.99	3.73 **	2.36	2.80

Sources: CEIC Data Company, Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.

¹ Volatility is defined as the standard deviation of changes in capital flows relative to nominal GDP.

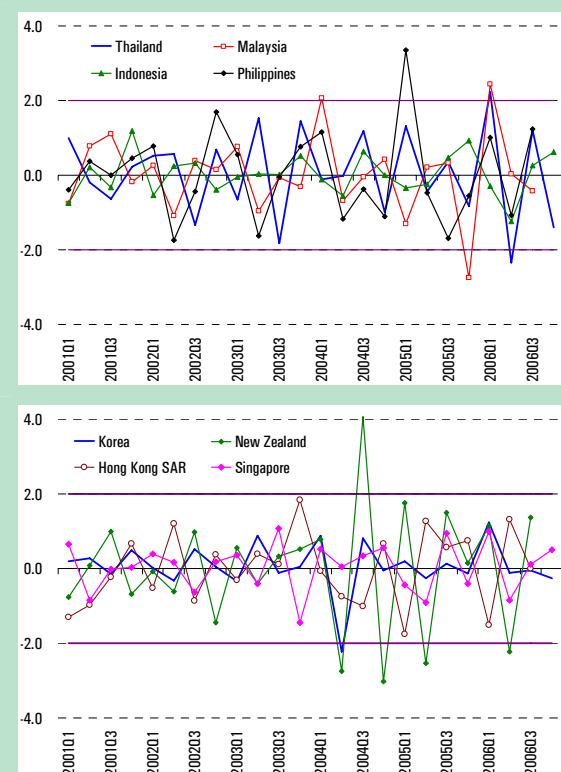
² Numbers for groups of countries are simple averages of the standard deviations calculated for individual countries.

³ ** and * indicate the standard deviation increased with statistical significance of 1 and 5 percent (based on F-statistics), respectively.

Some Evidence for Surges

One manifestation of the increase in volatility of gross inflows is that “surges”—sharp increases or decreases in capital inflows—have become more frequent recently. This is true especially for the ASEAN countries, even when compared to Hong Kong SAR and Singapore, which are financial centers and experience large variations in capital flows. We measure the “surge” by looking at one-quarter changes in capital inflows.²² These surges may explain why policymakers have expressed concern about the macroeconomic consequences of capital inflows in seeming contradiction to this

Figure 2.13. Selected Asia: Standard Deviation of Quarterly Changes in Portfolio and Other Investment Inflows



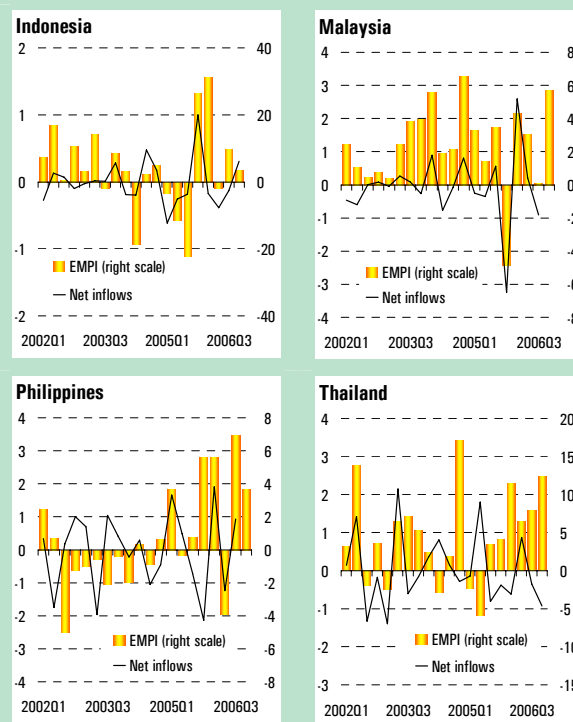
Sources: CEIC Data Company, Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.

²² A surge is defined as a one-quarter change in portfolio and other investments greater than two standard deviations with the standard deviations calculated over the historical period. This filter is designed to identify large and episodic changes in capital flows.

chapter’s general finding that net inflows are a less important factor compared to the recent past.

Indeed, there is evidence that exchange rate pressures coincided with these surges. Certainly, other factors are likely to influence exchange rates (e.g., the current account, market expectations, global financial conditions, etc.) and the macroeconomic consequences of surges go beyond exchange rate pressures. But this simple exercise illustrates, albeit in a crude manner, the impact of volatility on a few emerging Asian economies.

Figure 2.14. “Surges” and Exchange Market Pressure Index (EMPI)

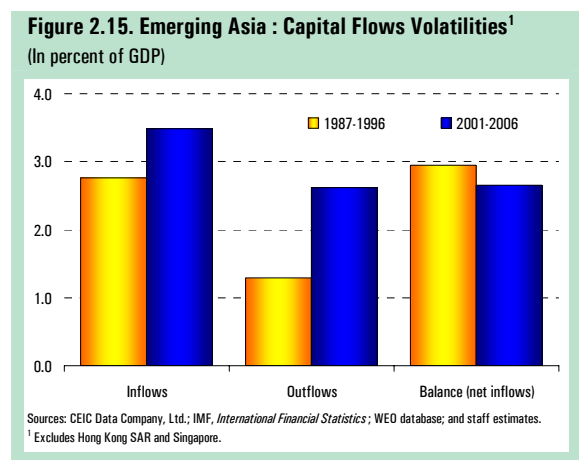


Sources: CEIC Data Company, Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.

¹ Net inflows refer to portfolio and other investment.

Volatility of Net Inflows Has Not Changed

Consistent with the September 2006 edition of the *Regional Economic Outlook*, we find that the volatility of net capital flows generally decreased after the mid-1990s, irrespective of the observed volatility increases in both gross inflows and outflows, indicating that inflows and outflows are better synchronized in the postcrisis period. For financial centers, the strong correlation can be explained by their role as intermediaries. But for other cases such close synchronization seems counterintuitive if, for example, interest rate differentials were to be a major driving force behind capital flows. Hedging by nonresident investors might account for the close correlation. Similarly, some resident investors might acquire foreign assets if they perceive the currency to be over-appreciated. Nevertheless, the reason for the recent close correlation is not clear and should be explored further. While closer correlation between outflows and inflows reduced concerns associated with volatile flows, there is no reason to believe that the strong correlation would continue during periods of stress or structural changes.



Policy Challenges

Large capital inflows—whether temporary or more permanent, or in response to real or financial incentives—have posed difficult choices for policymakers. These include:

- *Trade-offs between domestic and external objectives.* In some countries, strong capital inflows do complicate macroeconomic management. A few countries are experiencing capital inflows in the context of higher inflation and current account deficits where tighter monetary policy could encourage stronger inflows. Exchange rate flexibility, in the context of strong financial institutions, has helped the adjustment process, as for example in New Zealand. At the same time, monetary policy has been complicated by the impact of monetary tightening on capital inflows: increases in short-term rates have not necessarily led to increases in long-term rates as capital inflows depress longer-term yields.
- *Dealing with sudden surges in capital inflows.* Such surges may complicate exchange rate management and monetary policy, as policymakers have an imperfect set of instruments with which to facilitate markets-led adjustments or limit the impact of such temporary surges. These instruments have traditionally included allowing greater exchange rate flexibility, engaging in foreign exchange market intervention, cutting interest rates, or putting in administrative controls.²³ Yet all these measures have advantages and costs: abrupt movements in the exchange rate can affect competitiveness or financial stability, and interventions may be costly, monetary policy may be oriented toward domestic objectives, while administrative controls can have adverse effects on investor confidence and market development.

²³ Other policies to deal with capital inflows include fiscal policy, steps to liberalize capital outflows; and structural reforms to strengthen the financial sector, deepen financial markets, and more generally improve the efficiency of the economy. These are not likely to be effective in dealing with short-term surges although they may affect expectations.

- *Living with larger flows and dealing with volatility.* Given that the key finding of this chapter is that gross capital flows are increasing—especially financial flows and outflows from emerging Asia—a key challenge will be to put in place policies that will help countries maximize benefits while minimizing risks such as those associated with sudden stops or increased volatility. For example, insofar as some recent flows might be associated with “carry trades,” they might unwind quickly and be disruptive, despite largely smooth recent corrections. There is no “silver bullet” that will reduce risks and maximize benefits from cross-border capital flows. Instead, a set of mutually reinforcing and consistent policies is needed. Obviously, the nature of the policies and priorities needed will depend on each economy’s circumstances and the structure of its financial system. The overall objective of such policies should be to promote investor confidence and sound risk management; provide high quality, timely, and relevant information; facilitate productive use of inflows; and reduce risks associated with high levels of leverage or mismatches.

THE EVOLVING NATURE OF CAPITAL FLOWS IN EMERGING ASIA

Table 2.3. Balance of Payments and Reserve Accumulation in Emerging Asia

(In billions of U.S. dollars)

	1999	2000	2001	2002	2003	2004	2005	2006 Est.
Emerging Asia¹								
Current account balance	103	78	84	117	159	173	248	296
Capital account balance	3	-8	10	21	45	129	53	76
Direct investment, net	64	59	51	50	66	58	102	93
Direct investment outflows	-40	-81	-48	-34	-21	-76	-63	-92
Direct investment inflows	104	139	100	84	87	134	165	184
Portfolio investment, net	34	14	-60	-71	-8	1	-26	-96
Portfolio investment outflows	-52	-58	-89	-86	-89	-77	-132	-215
Portfolio investment inflows	86	73	29	15	81	78	107	119
Other investment, net	-95	-82	19	42	-14	70	-23	79
Other investment outflows	9	-43	100	73	-38	-55	-94	-73
Other investment inflows	-103	-39	-81	-31	23	120	71	151
Reserve asset accumulation	87	62	86	150	227	336	285	376
Emerging Asia (excl. Hong Kong SAR and Singapore)								
Current account balance	78	61	63	93	120	135	199	242
Capital account balance	17	-5	30	53	84	157	95	114
Direct investment, net	50	46	43	53	51	63	86	80
Direct investment outflows	-12	-15	-17	-14	-13	-22	-31	-40
Direct investment inflows	63	61	60	67	63	85	116	120
Portfolio investment, net	10	5	-12	-19	36	47	14	-77
Portfolio investment outflows	-15	-23	-38	-35	-39	-26	-78	-168
Portfolio investment inflows	25	28	26	16	75	73	92	90
Other investment, net	-44	-56	-2	19	-2	46	-5	111
Other investment outflows	-35	-54	25	15	-19	-16	-68	18
Other investment inflows	-9	-1	-26	5	17	62	64	92
Reserve asset accumulation	73	45	82	151	219	320	272	351
Emerging Asia (excl. Hong Kong SAR, Singapore, and China)								
Current account balance	57	40	45	58	75	67	39	59
Capital account balance	12	-7	-5	21	32	46	32	36
Direct investment, net	13	8	6	6	3	10	18	18
Direct investment outflows	-11	-14	-10	-11	-13	-20	-19	-27
Direct investment inflows	24	23	16	18	16	30	37	46
Portfolio investment, net	22	9	8	-9	25	28	19	-19
Portfolio investment outflows	-4	-12	-17	-23	-42	-32	-52	-78
Portfolio investment inflows	26	20	25	14	66	60	71	59
Other investment, net	-23	-24	-19	23	4	8	-5	37
Other investment outflows	-10	-10	4	18	-1	-18	-24	-26
Other investment inflows	-13	-14	-22	6	5	26	19	62
Reserve asset accumulation	64	35	35	76	103	114	64	104
ASEAN²								
Current account balance	28	24	18	19	27	21	14	41
Capital account balance	-19	-21	-15	-6	-8	8	5	1
Direct investment, net	7	3	2	6	5	7	16	13
Direct investment outflows	-2	-2	-1	-2	-2	-6	-7	-11
Direct investment inflows	9	5	3	8	8	13	23	24
Portfolio investment, net	1	-6	-1	-1	4	16	10	14
Portfolio investment outflows	-1	-1	0	-2	-2	0	-3	-7
Portfolio investment inflows	1	-4	-1	1	6	15	13	21
Other investment, net	-27	-18	-15	-11	-17	-15	-21	-27
Other investment outflows	-10	-5	-2	-3	-4	-14	-19	-23
Other investment inflows	-17	-13	-13	-8	-14	0	-2	-5
Reserve asset accumulation	16	2	1	12	14	25	10	37
NIEs³								
Current account balance	57	39	48	55	80	84	80	85
Capital account balance	8	1	-18	-17	-18	-14	-35	-43
Direct investment, net	17	16	8	-7	10	-6	14	9
Direct investment outflows	-36	-77	-39	-27	-18	-66	-43	-66
Direct investment inflows	53	93	47	21	28	60	57	75
Portfolio investment, net	42	22	-42	-60	-31	-43	-43	-60
Portfolio investment outflows	-41	-46	-68	-72	-90	-84	-103	-119
Portfolio investment inflows	83	68	26	11	59	41	60	59
Other investment, net	-52	-37	16	50	3	36	-6	8
Other investment outflows	44	1	82	73	-19	-43	-30	-95
Other investment inflows	-96	-38	-65	-24	20	73	24	102
Reserve asset accumulation	56	43	29	44	71	81	54	53
China								
Current account balance	21	21	17	35	46	69	161	183
Capital account balance	5	2	35	32	53	111	63	78
Direct investment, net	37	37	37	47	47	53	68	62
Direct investment outflows	-2	-1	-7	-3	0	-2	-11	-13
Direct investment inflows	39	38	44	49	47	55	79	75
Portfolio investment, net	-11	-4	-19	-10	11	20	-5	-58
Portfolio investment outflows	-11	-11	-21	-12	3	6	-26	-90
Portfolio investment inflows	-1	7	1	2	8	13	21	31
Other investment, net	-21	-32	17	-4	-6	38	0	74
Other investment outflows	-24	-44	21	-3	-18	2	-45	44
Other investment inflows	4	12	-4	-1	12	36	45	30
Reserve asset accumulation	9	11	47	75	117	206	207	247

 Sources: CEIC Data Company, Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.

¹ Emerging Asia in this table includes China, India, Thailand, Malaysia, Indonesia, Philippines, Korea, Taiwan Province of China, Singapore, and Hong Kong SAR.

² ASEAN in this table includes Thailand, Malaysia, Indonesia, and Philippines.

³ NIEs include Korea, Taiwan Province of China, Singapore, and Hong Kong SAR.

Table 2.4. Balance of Payments and Reserve Accumulation in Emerging Asia

(In percent of GDP)

	1999	2000	2001	2002	2003	2004	2005	2006 Est.
Emerging Asia¹								
Current account balance	3.5	2.4	2.6	3.3	4.0	3.8	4.8	5.0
Capital account balance	0.1	-0.3	0.3	0.6	1.1	2.9	1.0	1.3
Direct investment, net	2.2	1.8	1.6	1.4	1.7	1.3	2.0	1.6
Direct investment outflows	-1.3	-2.5	-1.5	-0.9	-0.5	-1.7	-1.2	-1.6
Direct investment inflows	3.5	4.3	3.1	2.4	2.2	3.0	3.2	3.1
Portfolio investment, net	1.1	0.5	-1.8	-2.0	-0.2	0.0	-0.5	-1.6
Portfolio investment outflows	-1.8	-1.8	-2.7	-2.4	-2.3	-1.7	-2.6	-3.7
Portfolio investment inflows	2.9	2.3	0.9	0.4	2.1	1.7	2.1	2.0
Other investment, net	-3.2	-2.6	0.6	1.2	-0.3	1.6	-0.4	1.3
Other investment outflows	0.3	-1.3	3.1	2.1	-1.0	-1.2	-1.8	-1.2
Other investment inflows	-3.5	-1.2	-2.5	-0.9	0.6	2.7	1.4	2.6
Reserve asset accumulation	3.0	1.9	2.6	4.2	5.8	7.5	5.6	6.4
Emerging Asia (excl. Hong Kong SAR and Singapore)								
Current account balance	2.9	2.1	2.1	2.8	3.3	3.2	4.1	4.4
Capital account balance	0.6	-0.2	1.0	1.6	2.3	3.7	2.0	2.1
Direct investment, net	1.9	1.6	1.4	1.6	1.4	1.5	1.8	1.4
Direct investment outflows	-0.5	-0.5	-0.6	-0.4	-0.3	-0.5	-0.6	-0.7
Direct investment inflows	2.3	2.1	2.0	2.0	1.7	2.0	2.4	2.2
Portfolio investment, net	0.4	0.2	-0.4	-0.6	1.0	1.1	0.3	-1.4
Portfolio investment outflows	-0.5	-0.8	-1.3	-1.1	-1.0	-0.6	-1.6	-3.0
Portfolio investment inflows	0.9	0.9	0.9	0.5	2.0	1.7	1.9	1.6
Other investment, net	-1.6	-1.9	-0.1	0.6	-0.1	1.1	-0.1	2.0
Other investment outflows	-1.3	-1.8	0.8	0.4	-0.5	-0.4	-1.4	0.3
Other investment inflows	-0.3	0.0	-0.9	0.1	0.4	1.5	1.3	1.7
Reserve asset accumulation	2.7	1.5	2.7	4.6	5.9	7.6	5.6	6.3
Emerging Asia (excl. Hong Kong SAR, Singapore, and China)								
Current account balance	3.5	2.3	2.7	3.1	3.6	2.9	1.5	2.0
Capital account balance	0.7	-0.4	-0.3	1.2	1.6	2.0	1.2	1.2
Direct investment, net	0.8	0.5	0.4	0.3	0.2	0.4	0.7	0.6
Direct investment outflows	-0.7	-0.8	-0.6	-0.6	-0.6	-0.9	-0.7	-0.9
Direct investment inflows	1.5	1.3	0.9	1.0	0.8	1.3	1.4	1.6
Portfolio investment, net	1.3	0.5	0.5	-0.5	1.2	1.2	0.7	-0.6
Portfolio investment outflows	-0.2	-0.7	-1.0	-1.2	-2.0	-1.4	-2.0	-2.7
Portfolio investment inflows	1.6	1.2	1.5	0.8	3.2	2.6	2.7	2.0
Other investment, net	-1.4	-1.4	-1.1	1.3	0.2	0.4	-0.2	1.3
Other investment outflows	-0.6	-0.6	0.2	1.0	0.0	-0.8	-0.9	-0.9
Other investment inflows	-0.8	-0.8	-1.3	0.3	0.2	1.2	0.7	2.1
Reserve asset accumulation	4.0	2.0	2.1	4.1	5.0	5.0	2.5	3.5
ASEAN²								
Current account balance	6.5	5.2	4.0	3.9	4.7	3.4	2.1	4.9
Capital account balance	-4.5	-4.7	-3.3	-1.1	-1.5	1.3	0.7	0.1
Direct investment, net	1.7	0.6	0.5	1.2	0.9	1.1	2.3	1.6
Direct investment outflows	-0.4	-0.5	-0.1	-0.4	-0.4	-1.0	-1.0	-1.3
Direct investment inflows	2.2	1.1	0.7	1.7	1.4	2.1	3.3	2.9
Portfolio investment, net	0.2	-1.3	-0.3	-0.2	0.7	2.5	1.5	1.7
Portfolio investment outflows	-0.2	-0.3	0.0	-0.4	-0.3	0.1	-0.5	-0.8
Portfolio investment inflows	0.3	-1.0	-0.3	0.2	1.0	2.4	2.0	2.5
Other investment, net	-6.4	-4.0	-3.5	-2.2	-3.1	-2.4	-3.1	-3.2
Other investment outflows	-2.4	-1.1	-0.4	-0.5	-0.7	-2.3	-2.8	-2.7
Other investment inflows	-4.0	-2.9	-3.1	-1.6	-2.4	-0.1	-0.3	-0.6
Reserve asset accumulation	3.8	0.5	0.3	2.4	2.5	4.1	1.5	4.4
NIEs³								
Current account balance	5.8	3.6	4.7	5.1	6.9	6.6	5.6	5.5
Capital account balance	0.8	0.0	-1.7	-1.6	-1.6	-1.1	-2.4	-2.8
Direct investment, net	1.8	1.4	0.7	-0.6	0.9	-0.5	1.0	0.6
Direct investment outflows	-3.6	-7.0	-3.8	-2.5	-1.5	-5.2	-3.0	-4.3
Direct investment inflows	5.4	8.5	4.6	1.9	2.4	4.7	4.0	4.8
Portfolio investment, net	4.2	2.0	-4.1	-5.5	-2.7	-3.4	-3.0	-3.9
Portfolio investment outflows	-4.2	-4.2	-6.6	-6.5	-7.8	-6.6	-7.2	-7.7
Portfolio investment inflows	8.4	6.2	2.5	1.0	5.1	3.2	4.2	3.8
Other investment, net	-5.2	-3.4	1.6	4.5	0.2	2.8	-0.4	0.5
Other investment outflows	4.4	0.1	8.0	6.7	-1.6	-3.4	-2.1	-6.1
Other investment inflows	-9.7	-3.5	-6.4	-2.2	1.7	5.8	1.7	6.6
Reserve asset accumulation	5.6	3.9	2.8	4.1	6.1	6.3	3.7	3.5
China								
Current account balance	1.9	1.7	1.3	2.4	2.8	3.6	7.2	7.0
Capital account balance	0.5	0.2	2.6	2.2	3.2	5.7	2.8	3.0
Direct investment, net	3.4	3.1	2.8	3.2	2.9	2.8	3.0	2.4
Direct investment outflows	-0.2	-0.1	-0.5	-0.2	0.0	-0.1	-0.5	-0.5
Direct investment inflows	3.6	3.2	3.3	3.4	2.9	2.8	3.5	2.8
Portfolio investment, net	-1.0	-0.3	-1.5	-0.7	0.7	1.0	-0.2	-2.2
Portfolio investment outflows	-1.0	-0.9	-1.6	-0.8	0.2	0.3	-1.2	-3.4
Portfolio investment inflows	-0.1	0.6	0.1	0.1	0.5	0.7	0.9	1.2
Other investment, net	-1.9	-2.6	1.3	-0.3	-0.4	2.0	0.0	2.8
Other investment outflows	-2.3	-3.7	1.6	-0.2	-1.1	0.1	-2.0	1.7
Other investment inflows	0.4	1.0	-0.3	-0.1	0.7	1.9	2.0	1.1
Reserve asset accumulation	0.8	0.9	3.6	5.2	7.1	10.7	9.2	9.4

Sources: CEIC Data Company, Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.¹ Emerging Asia in this table includes China, India, Thailand, Malaysia, Indonesia, Philippines, Korea, Taiwan Province of China, Singapore, and Hong Kong SAR.² ASEAN in this table includes Thailand, Malaysia, Indonesia, and Philippines.³ NIEs include Korea, Taiwan Province of China, Singapore, and Hong Kong SAR.

Table 2.5. Balance of Payments and Reserve Accumulation in Emerging Asia¹
(In percent of GDP)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006 Est.
Emerging Asia												
Current account balance	-0.9	-0.9	1.0	4.5	3.5	2.4	2.6	3.3	4.0	3.8	4.8	5.0
Capital inflows, net	3.5	3.7	0.0	-2.2	0.1	-0.3	0.3	0.6	1.1	2.9	1.0	1.3
Direct investment, net	1.8	1.7	1.9	2.1	2.2	1.8	1.6	1.4	1.7	1.3	2.0	1.6
Portfolio investment, net	0.6	0.7	0.1	0.1	1.1	0.5	-1.8	-2.0	-0.2	0.0	-0.5	-1.6
Other investment, net	1.1	1.3	-2.0	-4.4	-3.2	-2.6	0.6	1.2	-0.3	1.6	-0.4	1.3
Reserve accumulation	1.5	2.0	0.5	2.1	3.0	1.9	2.6	4.2	5.8	7.5	5.6	6.4
Emerging Asia (excl. Hong Kong SAR and Singapore)												
Current account balance	-1.6	-1.5	0.5	4.1	2.9	2.1	2.1	2.8	3.3	3.2	4.1	4.4
Capital inflows, net	3.9	4.3	0.3	-1.2	0.6	-0.2	1.0	1.6	2.3	3.7	2.0	2.1
Direct investment, net	1.8	1.8	2.0	2.2	1.9	1.6	1.4	1.6	1.4	1.5	1.8	1.4
Portfolio investment, net	1.0	1.2	0.7	-0.4	0.4	0.2	-0.4	-0.6	1.0	1.1	0.3	-1.4
Other investment, net	1.2	1.3	-2.3	-3.0	-1.6	-1.9	-0.1	0.6	-0.1	1.1	-0.1	2.0
Reserve accumulation	1.3	1.9	0.2	2.5	2.7	1.5	2.7	4.6	5.9	7.6	5.6	6.3

Sources: CEIC Data Company, Ltd.; IMF, *International Financial Statistics*; WEO database; and staff estimates.

¹ Errors and omissions are not shown in this table.

III. Housing Prices in Asia: Cause for Concern?

In the past several years, authorities in a number of Asian countries have implemented, or are considering implementing, policies to deal with rising housing prices and attendant risks. In India and Korea, the focus has been on tightening prudential regulations on real-estate-related finance. In Australia and New Zealand, monetary policy is shaped in part by concerns that rising housing prices could lead to domestic demand overheating and overall inflationary pressures. And in several countries, there is growing emphasis on increasing the public supply of housing or attempting to influence housing markets via tax and other structural measures.

Despite the widespread interest in the housing sector in Asia, there seems to have been little systematic analysis for the region as a whole of price trends or potential policy responses. This chapter seeks to fill part of that void. First, we examine housing price data in the region and find that while housing prices have risen somewhat faster than inflation in recent years, and while there are pockets of rapidly rising housing prices, there is no evidence that prices are grossly out of line with fundamentals for the region as a whole.²⁴ Second, we focus on those countries where housing does in fact look to be a potential problem and try to understand the sources of price dynamics. Third, we look at the role that financial sector development is playing in stimulating housing demand, and the financial and macroeconomic risks that may arise as a

consequence. Finally, we examine a range of policies that countries in the region have followed to influence housing prices and manage associated risks.

The Facts: Are Prices Rising “Too Fast”?

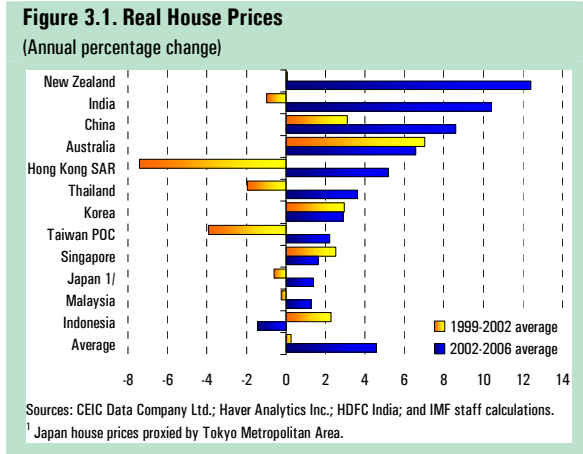
A key issue for policy—but a difficult one to address—is whether housing prices in a given country are rising faster than fundamentals would predict. Unfortunately, such judgments are fraught with difficulties, and are made more problematic by data inadequacies. In such a situation, the most prudent approach is to examine a range of indicators—all imperfect—to reach a judgment as to whether the level of housing prices should be of concern.

While housing prices have been rising more rapidly than inflation, most countries in Asia are not experiencing unusually rapid housing price hikes. For the 12 economies for which data are available, real housing price increases averaged 4.5 percent during 2002–06, but the median was substantially lower, at just over 3 percent. Only three countries—China, India, and New Zealand—experienced real annual price rises of more than 8 percent over the same period.²⁵ In several cases—Hong Kong SAR, Taiwan Province of China, and Thailand—recent increases follow on the heels of extended declines in the real price of housing. In such cases, it is plausible that any rise in housing prices may be a welcome signal for increased investment in the sector.

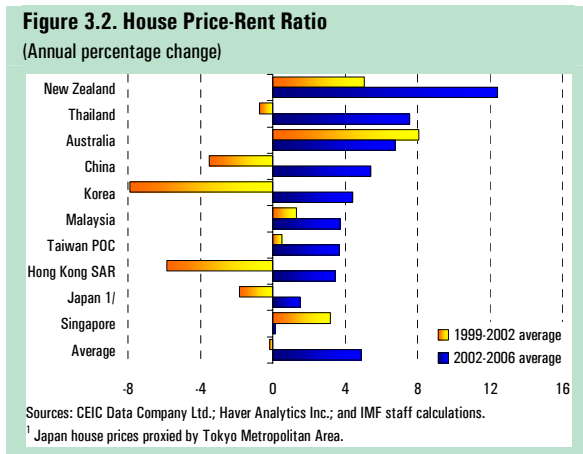
Note: The main authors of this chapter are Jacques Miniane and Mehmet Ziya Gorpe.

²⁴ The economies covered in this chapter include Australia, China, Indonesia, Hong Kong SAR, Japan, Korea, India, Malaysia, New Zealand, Singapore, Taiwan Province of China, and Thailand. As the database incorporates information from a wide range of sources, a number of assumptions have been made in aggregating the data. As such, more than the usual caution should be utilized in interpreting them. Data sources and calculations are available from the authors upon request.

²⁵ Price data for housing may overstate inflation to the extent that there have been significant quality improvements in the housing stock over time.



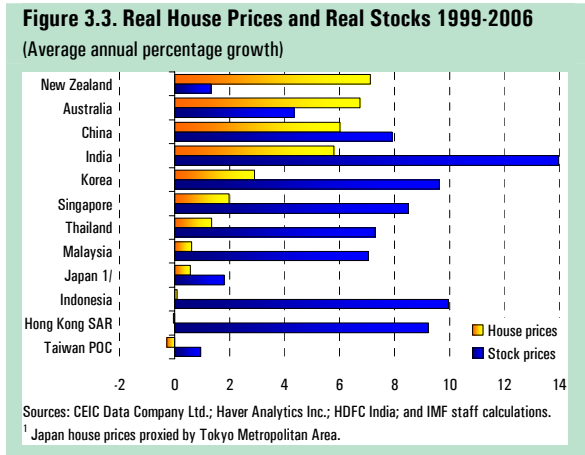
Another way to gauge whether housing prices may be “too high” is to look at housing prices relative to rents.²⁶ If housing asset prices are rising significantly faster than the price of housing *services*, there may be potential concerns that housing *assets* are overvalued. In fact, housing prices have risen somewhat more rapidly than rents, most notably in Australia and New Zealand. However, in a number of cases—such as Korea, China, and Hong Kong SAR—the price increases again represent a recovery following an extended period of decline.



Housing prices have been relatively tame when compared with other asset prices. In particular, with the exceptions of Australia and New Zealand,

²⁶ Note that price-to-rent ratios may be distorted by rent controls or subsidized rents, which are prevalent in some countries in the region.

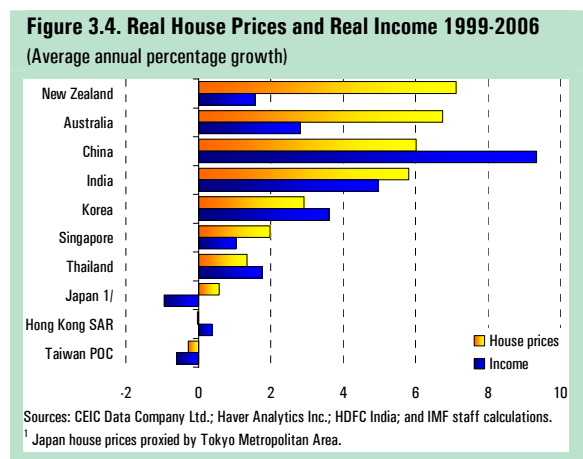
annual housing price hikes have been dwarfed by domestic stock market gains during the period 1999–2006. Of course, this alone does not prove that housing price gains are not problematic, since many equity markets have been quite buoyant.



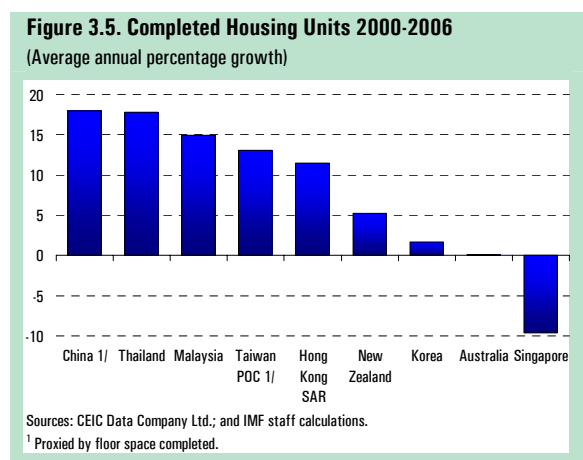
The data do not point to a general deterioration in housing affordability. In general, a rapid rise in the ratio of housing prices to household income may suggest that housing is becoming less affordable and that, therefore, the gains in housing prices may not prove sustainable.²⁷ Housing prices have outstripped income gains in about half the cases, but have done so to a significant degree only in Australia and New Zealand. This being said, these data only compare *average* nationwide prices and incomes, potentially masking affordability problems for specific segments of the population.²⁸

²⁷ Other factors need to be taken into consideration, however. For example, lower interest rates or longer mortgage maturities increase affordability for a given level of income.

²⁸ More precisely, housing affordability could be declining for poorer households even if it is not for the average or median household. While this is an important issue, it is hard to evaluate quantitatively given the highly aggregate measure of housing price data in most countries. It should also be noted that several countries in the region have instituted price or rent caps, targeted credit policies, and other forms of financial support to make housing more affordable for poorer households. In Hong Kong SAR, public housing accounts for a substantial share of available units, and there are plans in cities like Seoul and Shanghai to increase public housing on concerns that poorer households are being priced out of these cities.

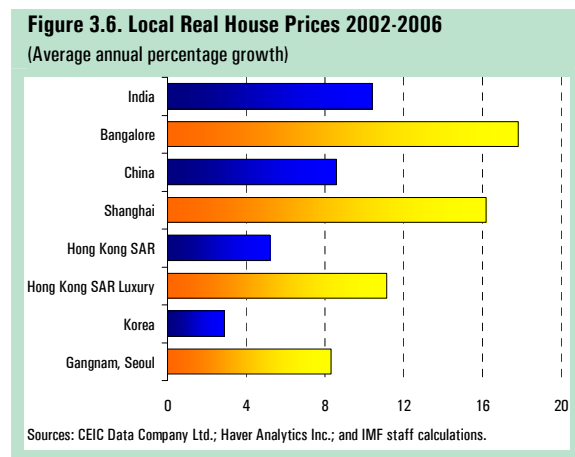


Responsive housing supply may have limited price hikes in a number of countries. Residential development has picked up speed in recent years, even though overall construction investment in the region remains muted. Completed dwellings in Hong Kong SAR, Malaysia, and Taiwan Province of China have grown by more than 10 percent a year every year since 2000, while growth in China and Thailand has been above 15 percent. In contrast, the housing supply in Australia and New Zealand has not grown as much as might be expected, which may have in turn exacerbated pressures on prices.



These aggregate data mask several localized price surges. While prices in China and India may not be growing particularly rapidly on a nationwide basis, a number of large cities in these countries have experienced annual real price increases well in excess of 10 percent over the past five years. Similarly, the high-end Gangnam area of Seoul and the high-end

market in Hong Kong SAR have also seen rapid house price inflation, well above the overall market. As we argue below, these localized booms—which have attracted considerable attention in the press and among policymakers—can be in part explained by structural factors.



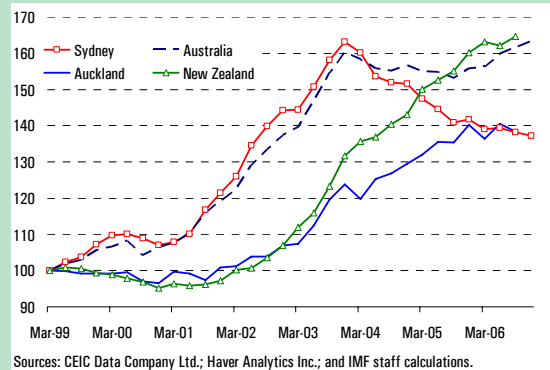
To summarize, housing price data point to potential concerns in some countries, although in other countries price rises are broadly in line with fundamentals such as income gains. Australia and New Zealand are the clearest cases where housing price increases appear large, not just in real terms but also relative to rents or household incomes. In several economies—notably China, Hong Kong SAR, India, and Korea—more localized indicators point to significant price increases. We now examine these cases in more detail.

The Booms

Australia and New Zealand

Australia and New Zealand have unquestionably experienced the strongest and deepest price booms in the region. Price increases by and large started in Melbourne, Sydney, and Auckland, and then spread to other areas. Subsequently, price growth in many areas has outrun that in the main cities.

Figure 3.7. Real House Prices
(March 1999 = 100)



What explains the price run-up? Several factors appear to have been at play: (i) the decline in long-term interest rates, which has not only been a global phenomenon but has also had a local component, as both countries transitioned to lower levels of inflation and of inflation volatility; (ii) competition in financial markets and ready access to external finance, with mortgage rates rising by less than policy interest rates; (iii) large net immigration, which boosted demand for housing; (iv) unresponsive housing supply; and (v) tax changes that lowered the cost of buying and selling property, at least in Australia. Yet as valid as these explanations are, it bears repeating how strong price appreciations in these two countries have been: not only have price-to-rent and price-to-income ratios risen more than in other countries in the region, they have also risen more than in many other OECD countries with housing booms of their own.²⁹ Similarly, mortgage payments as a share of household incomes are higher than in most OECD countries and rising faster, particularly in New Zealand.³⁰

²⁹ See OECD (2005). Note that, measured in level terms, price-to-income ratios in Australia and New Zealand are high by international standards, comparable to values found in the least affordable counties in the United States (see Demographia, 2007).

³⁰ See OECD (2005) and IMF (2006a).

Localized Booms

Some countries that have not experienced generalized housing price booms have, nonetheless, seen prices rise significantly in specific areas or segments of the market. Housing price increases in the Gangnam area of Seoul, Beijing, Shanghai, Bangalore, and Delhi have outstripped nation-wide housing price hikes.³¹ In Hong Kong SAR, prices of high-end housing have been booming while overall prices have not, and recent reports point to increased demand and rising prices for yet-to-be-completed high-end units in Singapore. In some cases, these market segments account for a significant proportion of the nation's housing: Gangnam, for example, accounts for more than 10 percent of the overall housing index in Korea.

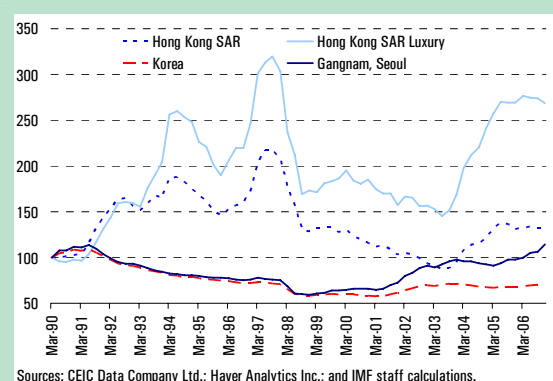
Concerns regarding localized booms vary across cases. Some recent booms are less impressive when put in historical perspective. In Hong Kong SAR, high-end prices have indeed grown fast in real terms over the last 15 years, albeit with much volatility. But that is not the case of Seoul-Gangnam, where despite recent rapid increases, real prices are still barely above early-1990s levels. Concerns regarding affordability also vary across localized booms. For example, housing prices in Shanghai have barely outrun household incomes in the city since 1999. At the same time, prices in Bangalore, high-end Hong Kong SAR, and Seoul-Gangnam have grown faster over this period than the relevant income deflator—state-wide GDP/capita for Bangalore, and tenth-decile household income in Hong Kong SAR and Korea.³²

³¹ Note that the differentiation between nationwide prices and localized prices is harder for India since the nationwide index is computed as the average of seven key city-wide indices.

³² For Korea, higher incomes are thought to be underreported in the household income survey because of tax considerations. Also, note that prices relative to incomes have fallen substantially in Gangnam since 1990, despite recent increases. In the case of Bangalore, there is no city-level income data for India, but incomes are likely to have grown faster in Bangalore than in the whole state of Karnataka. Note that India's price-to-income ratio is likely to have risen further in 2006 given rapid

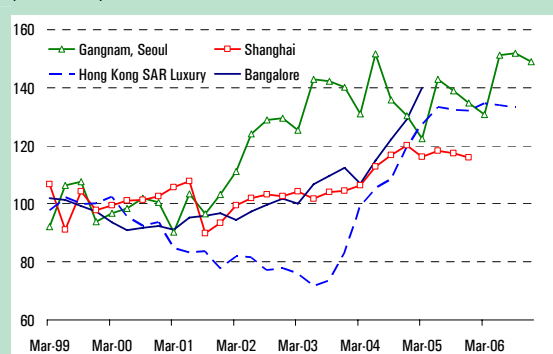
(continued)

Figure 3.8. Real House Prices
(March 1990 = 100)



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

Figure 3.9. Localized Price-to-Income Ratio
(1999 = 100)



Sources: CEIC Data Company Ltd.; Haver Analytics Inc.; HDFC India, and IMF staff calculations.

Besides income growth, other factors have pushed up nonspeculative demand for housing in these cities. In China and India, financial sector development has increased housing affordability, while rapid urbanization is likely to have contributed to housing price increases as supply struggles to keep up with demand. Moreover, given these two countries' rapidly expanding economies, foreign demand for housing—and commercial space—is likely to have ballooned in recent years, as firms establish a presence in these markets. While there are no a priori reasons for foreign demand to have increased in Gangnam, there are good reasons why domestic demand has: returns to education have risen substantially in Korea over the past ten years, yet restrictive education policies have kept most of

house price appreciation, but this cannot yet be confirmed owing to lack of 2006 data on state-level GDP/capita.

the top schools in Gangnam and other pockets of Seoul.

Finally, speculative dynamics cannot be ruled out. In particular, episodes of rapidly accelerating house price inflation as we have seen for example very recently in Korea are hard to explain on the basis on fundamentals alone. Similarly, speculative capital inflows may have played a part in house price inflation in some Chinese and Indian cities, with these inflows either seeking straight capital gains or, in some cases, using housing as a way to capitalize on expected currency gains. But the fact remains that longer-term price trends remain not far out of line with income growth and broadly consistent with rising nonspeculative demand, particularly in China and Korea.

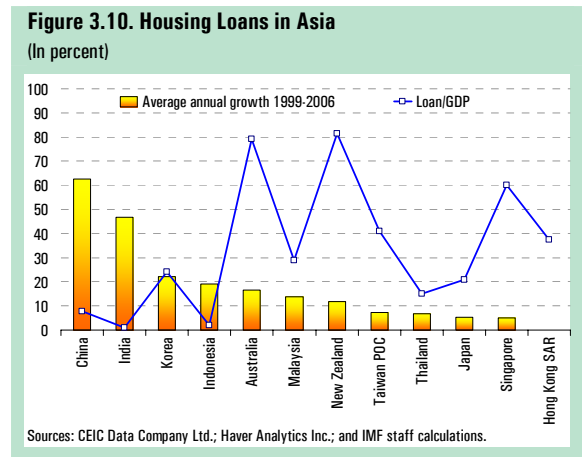
Housing prices in the region have been shaped in part by important developments in housing finance. Financial deepening has increased the availability and range of mortgages, helping to raise housing demand. At the same time, the robust increase in housing lending, while welcome, raises potential concerns that housing price volatility could prove problematic if accompanied by weaknesses in the balance sheets of financial institutions or households. We turn to these issues next.

Housing Finance and Macro-Financial Risks

Mortgage lending has been rising rapidly in the region. The rate of growth in housing credits has generally exceeded those in other lending categories.³³ China, in particular, has seen a spectacular take-off from very low levels in the late 1990s, while most other Asian countries have seen the stock of real housing credit double over the same period. Housing credit, while growing rapidly, remains relatively low as a percent of GDP compared with mature markets, where the average is around 50 percent. Yet it should be noted that total financial sector exposure to real estate is higher than

³³ Depending on data availability, the definition of housing credit may or may not include credit by publicly owned financial institutions.

suggested by mortgage-lending data alone, as loans to developers or other players—for which data are scarce—could be large.

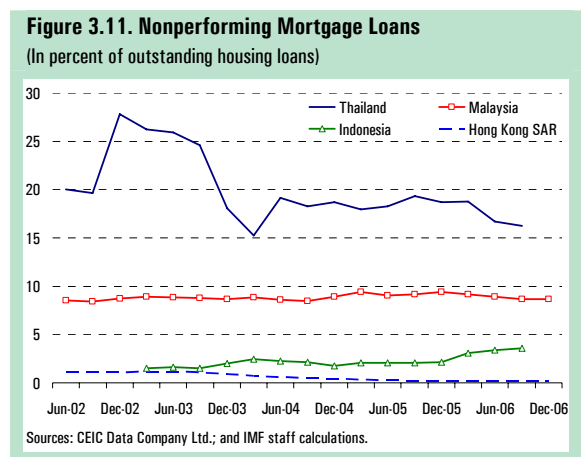


What explains this growth? Besides rising incomes which have pushed up demand for housing services and increased repayment capacity, the region has seen substantial financial innovation in housing lending, with the outright introduction of mortgage products as in China, the creation of longer-dated mortgages, for example in Thailand and Korea, or the introduction of private mortgage insurance in Hong Kong SAR (see Table 3.1). Last but not least, the experience of the 1997–98 financial crisis pushed many corporations in the region to deleverage and seek alternatives to bank finance, forcing banks to find alternative sources of revenue, notably via lending to households, including mortgages.

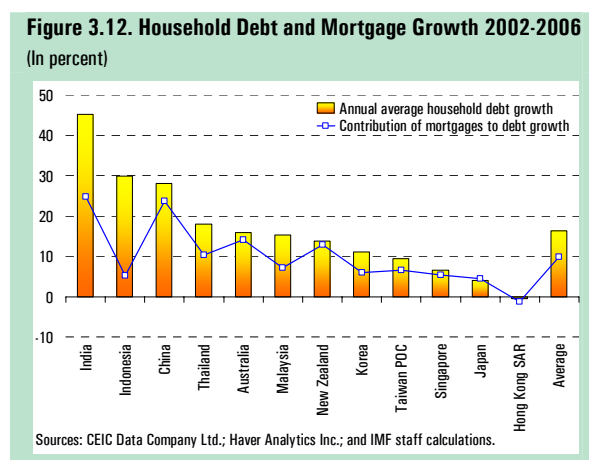
Despite progress, limits on the range of mortgage products offered may affect the size and distribution of risks in some countries. Adjustable-rate mortgages dominate in the region, sheltering financial institutions from interest rate risk, but raising the potential exposure of households (see Table 3.1). In some countries, incomplete capital market development has stymied the development of fixed-rate mortgages, as banks lack financial tools to hedge interest rate risk over long periods of time. The prevalence of variable rate mortgages may also be due to the low-level of interest rates in recent years, and perhaps the perception that, going

forward, this state of the world is going to last. Regarding the maturity structure of mortgages, countries in the region are increasingly offering mortgages with 20–30 year maturities, but 10–15 year mortgages are much more common. In Korea, 3-year bullet loans remain prevalent. As secondary markets for mortgages remain largely undeveloped, banks face large liquidity risks for loans with long maturities.

Thus far, growing exposure to mortgage lending does not appear to pose a threat to financial sector stability, but challenges may grow. Aggregate data so far do not point to major problems. While housing-related nonperforming loans (NPLs) remain relatively high in the ASEAN-5 countries, particularly Thailand, they have been steadily falling in most cases. An exception is Indonesia, where past hikes in interest rates may have caused problems for borrowers given the prevalence of variable-rate mortgages. In other countries where only aggregate or total consumer loan NPL data are available, problems appear manageable. Yet rapid growth in lending as seen in some countries can present challenges to financial institutions and supervisors, and is often accompanied by a relaxation of lending standards. It is important for financial regulators to ensure that housing lenders have an adequate financial buffer against a reasonable worst case scenario of falling housing prices. Countries in the region with potentially larger price corrections such as New Zealand and, to a lesser degree, Australia, have sound financial systems—in New Zealand, the ratio of impaired assets to total assets is 0.2 percent—as well as advanced internal risk models and financial sector supervision. However, ongoing events in the United States show that financial sector woes triggered by housing can spread faster than expected.



Growing household indebtedness also suggests potential macroeconomic vulnerabilities in some countries. Household debt has been growing by 15 percent a year on average in recent years, substantially faster than household incomes, and mortgage debt has accounted for some two-thirds of this growth. Household debt ratios remain low in many countries in the region, but in others such as Australia, Korea, and New Zealand they are high by international standards, and rising.³⁴ Households in these countries are thus vulnerable to price, interest rate, or income shocks. In Korea, the prevalence of short-maturity bullet loans is another source of vulnerability.



³⁴ In New Zealand, household debt accounts for 160 percent of household income, compared with 140 percent in the United States.

Even in countries where household debt ratios are low, housing price declines could lead to lower consumption. In many countries in the region housing has been the traditional vehicle for saving, thereby accounting for a large share of household nonfinancial and total assets.³⁵ A decline in housing prices could therefore affect consumption through wealth effects, even though limited house equity withdrawal in many countries due to the type of mortgages on offer would limit the impact. This could rapidly change with financial innovation in the region.

Housing finance is likely to develop further in Asia. Capital market development will help foster a wider array of mortgages, many more sophisticated and longer-term than currently available, making housing more affordable and contributing to housing market efficiency. The areas for improvement lie not only in the markets per se but also in the supporting infrastructure, such as better credit information on borrowers or better foreclosure systems to facilitate collateral sales. In some cases, financial development will help spread risk more efficiently, but the introduction of sophisticated products can also lead to new risks, which will need to be monitored closely.

Do governments have a potential role to play with regard to housing and housing prices? The answer in general is yes: sharply rising housing prices can compromise overall price stability, as well as macro-financial stability. Housing-related policies are the topic of the last section.

Policy Options

Governments use a wide range of policy instruments to address perceived imbalances in housing markets. These include monetary policy, prudential regulations, tax incentives or disincentives, regulatory measures that expand or

³⁵ For example, housing accounts for 44 percent, 62 percent, and 77 percent of household wealth in Singapore, Japan, and Korea, respectively, compared with 36 percent in the United States (DSG Asia, 2007, and Korea National Statistical Office, 2007).

restrict the supply of land and housing, and idiosyncratic measures such as price caps or gardening periods before resale is allowed.

Monetary Policy

There is wide debate over whether monetary policy should target asset prices. Many central banks track housing prices as part of their information set, and react to rising housing prices if and when they believe they could jeopardize overall price stability. But perhaps more controversial is whether central banks should react to asset price appreciations when these are thought to exceed what can be explained by fundamentals, *regardless of whether this is feeding or is expected to feed into overall price stability*.

Consensus among central banks is that monetary policy should not target asset prices directly.³⁶ This belief rests on three key arguments:

- It is very hard to determine whether rising prices are fully justified by fundamentals, or whether “irrational exuberance” might be at play.³⁷ In this context, a central bank targeting asset prices runs the risk of tightening more often than it should, and distorting price signals. Moreover, including asset prices can make the central bank’s mandate fuzzier, leaving the institution more vulnerable to outside interference and compromising its independence.
- Interest rates are a fairly blunt instrument to deal with bubbles, particularly if they are local. Moreover, large hikes in interest rates may be required to cool asset prices, implying a substantial cost to the overall economy.

³⁶ See Mishkin (2007) for a summary of this view.

³⁷ This is particularly true given that asset prices have a forward-looking component to them. Since one is looking at the infinite future path of these variables, small deviations from a given path can aggregate to large changes in present-time valuations. Put differently, it is sometimes easy to justify expensive valuations on the basis of not-so-implausible future paths of relevant variables.

- If a speculative bubble bursts, central banks can respond quickly by injecting liquidity and helping to cushion the economy from the shock.

That said, perceptions that the world economy is increasingly susceptible to speculative activities and asset bubbles have led a growing body of academics and policy-makers to advocate a more pro-active approach to asset price targeting.³⁸ Proponents of this approach see various advantages. First, reacting to bubbles only after they have burst does nothing to avoid the excesses and misallocation of resources generated during the run-up. Second, a hands-off approach during asset price run-ups followed by monetary reflation after a bubble bursts may give market participants an implicit put option on asset prices, making bubbles more likely *ex ante*. Third, monetary reflation may delay the needed corrections to the excesses generated by the bubble, and can *ex post* replace the old bubble by a new bubble of perhaps even greater magnitude. Fourth, and perhaps most important, the bursting of asset price bubbles can have very serious economic ramifications that monetary policy may not always be able to offset, as demonstrated by the experience of Japan in the 1990s.

Several central banks in Asia have expressed concerns about housing prices in recent periods. In particular, the Reserve Banks of Australia and New Zealand are monitoring housing prices closely, not surprisingly given that housing booms in these two countries have been widespread and very strong by historical standards. This being said, both central banks have explicitly stated that they are not targeting asset prices directly, but are responding to concerns that wealth effects from housing could stoke domestic demand and generate inflationary pressures. Korea—a country where the housing boom is perhaps less obvious—also tightened monetary policy in 2005/06, and monetary policy

³⁸ See Cecchetti and others (2000) for a detailed exposition of the arguments.

statements have consistently pointed to housing prices as a key input in the decision-making process of the Bank of Korea. As for other countries with localized housing price booms, there is no indication that the People's Bank of China has changed interest rates in response to them, and the same has been true in India.³⁹

Prudential Regulations

Authorities have at their disposal a range of prudential measures. These include overall reserve requirements, loan-to-value ratios (LVRs) issued as guidance or as stipulations, risk weights that feed into calculations of capital adequacy ratios, and provisioning requirements to cover nonperforming loans. As a general rule, prudential regulations on housing financing should be tightened in response to a housing boom if the authorities have reason to believe that financial risks on the loans have increased, but they should not be used to target housing prices per se, even if the authorities are concerned about misallocation costs. At the same time, there is wide debate about how early in the price and credit cycles authorities should tighten prudential regulations. In some countries, moral suasion has been used as a first line of defense, while waiting for clear evidence that financial stability is at risk before tightening. In others, a more proactive approach has been taken, in part to avoid procyclicality in financial conditions.

Loan-to-value ratios vary substantially across the region. To start, regulators in some countries impose maximum LVRs, while others such as Japan simply offer them as guidance. There is no single correct value for the ratio, which should depend on, among other factors, the health of the financial sector, its ability to value creditworthiness and collateral, or the ease with which collateral can be collected in case of foreclosure. Average LVRs in the region are in the 70–80 percent range with variation across countries

(see Table 3.1), but in some countries 100 percent LVR mortgages have been reported.

Countries with price run-ups have tightened or are considering tightening prudential regulations. For instance, China tightened LVRs in 2005 on concerns that housing credit was growing too fast and that the housing boom in the key cities could spill over to smaller cities. Korea also recently tightened LVRs but did so in a potentially distortive way, with differential LVRs depending on apartment type and location. Financial regulators in Australia, faced with growing financial sector vulnerability to price corrections, plan to adopt a tiering of risk weights for housing loans based on the LVR, to make capital requirements more consistent with the underlying risk of the loan portfolio. New Zealand is considering similar measures in the context of the standardized approach to Basel II, while India has been progressively rising risk weights on housing loans since 2005.

Tax Policy

Tax policy plays an important part in housing dynamics. Stamp duties, property taxes, capital gains taxes, mortgage deductibility provisions, taxes on developers, and even inheritance taxes can all influence housing supply and demand. There is no generalized model for optimal housing tax policy, but such taxes should be as non-distortive as possible, both in themselves and in relation to the rest of the tax code.

Housing tax policies vary greatly across the region. For example, while most economies in the region impose capital gains taxes—with wide regional variation on tax rates—others such as Hong Kong SAR and Singapore do not. In many countries including Australia, Japan, Korea, and Malaysia, tax rates on capital gains fall if the property is sold after a holding period of one to five years, a move designed to discourage rapid turnover and speculation. Korea has taken this route one step further, and now imposes differential rates depending on whether the house is the primary or secondary residence, with rates as high as 60 percent

³⁹ There is, strictly speaking, no monetary policy in Hong Kong SAR, on account of the currency board.

for the latter. Property tax rates also exhibit a wide variation, with many countries choosing not to impose them at all and others such as Singapore levying them only on rental properties. On the supply side, recent measures include China's decision to impose progressively higher taxes on "excess" profits among real-estate developers, defined as any margin above 20 percent of cost.

Conclusions

Housing markets have come under increased scrutiny in Asia in recent years, and will likely remain on policymakers' radar screens for some time to come. Housing prices have been rising more rapidly than inflation, and this may continue for some time as regional incomes grow and financial markets deepen. Moreover, as global liquidity remains abundant, the potential for large run-ups in credit and asset prices to affect overall inflation or financial or macroeconomic stability cannot be ignored. At the same time, it is important to distinguish between potentially problematic housing price rises and those that are more localized or can be explained by real supply and demand factors.

Table 3.1. Summary Table on Housing Finance

	Typical Interest Rate on Mortgages	Typical Maturity (in years)	Maximum Maturity (in years)	Recent Innovations	Typical loan-to-value ratio (in percent)	NPL for Housing Loans (in percent)
Australia	Variable ¹	25	30	Low-documentation, interest-only loans, variable repayments	70 on average 80+ common ²	0.2
China	Variable ¹	10-15	30	Fixed-rate mortgages	80	1.5 (four large banks) ³
Hong Kong SAR	Variable ¹	20		Mortgage insurance HIBOR as price reference	70 ²	0.18 (delinquency)
India	Variable ¹	10-15		Development of credit bureau	85	Below 1 ⁴
Indonesia	Variable ¹	5-10	10	Nascent market	70-80 ²	3.6
Japan	Variable ¹	20-25	40 or over	Fixed-rate mortgages growing	80-100 ²	0.3-0.6 (delinquency)
Korea	Variable ¹	3-year bullet	30	Long-term mortgages, with possibility of fixed rates in the early years	60 (50 for non-bank financial institutions)	0.7
Malaysia	Variable ¹	20-30	35	Credit Counseling and Debt Management Agency (2006)	95 ²	8.7
New Zealand	Variable ¹	25-30	30	Fixed-rate mortgages growing	80-85 average ²	0.2
Singapore	Variable ¹	20-30	35		90	Below 2
Taiwan Province of China	Variable ¹	25			70 ²	
Thailand	Variable ¹	10-20	30	National Credit Bureau (2005)	70	16.3

Sources: IMF staff; CEIC; Monetary Authority of Singapore; India's Housing Development Finance Corporation (the main housing finance company in India).

¹ Variable interest rate mortgages (including adjustables) typically account for 60–80 percent of all mortgages, but most of these mortgages allow for fixed interest rates during the first 2-5 years.

² Loan-to-value ratios only issued as guidance.

³ ICBC, ABC, BOC, CCB.

⁴ For total real-estate related loans, including personal housing loans.

IV. How Should Low-Income Resource-Rich Countries in Asia Respond to Recent Commodity Price Booms?

Like oil-exporting countries in other regions, the boom in commodity prices over the past few years has resulted in substantial windfall gains for many resource-rich countries in Asia. Balance of payments and fiscal balances have strengthened in many cases. Particularly for low-income countries, the windfall provides an opportunity to address pressing developmental needs as well as to improve living standards and reduce poverty.

However, the volatile and unpredictable nature of commodity prices presents policymakers with several challenges. Boom and bust cycles in commodity prices subject countries to large macroeconomic fluctuations. Resources will also eventually be exhausted, implying that governments may need to formulate a forward-looking strategy to manage resource revenues in a way that ensures long-term development and intergenerational equity. In formulating macroeconomic policy, policymakers need to consider how much they should spend (or save for the future) and how best to spend.

This chapter discusses the macroeconomic policy response of low-income resource-rich countries in Asia that have faced a commodity price boom. It reviews recent terms of trade movements and macroeconomic policy responses to higher commodity-related inflows of foreign exchange and discusses the typical policy challenges. The focus is on nonrenewable resources, including oil and gas, gold, and copper, which are the most important commodities for the resource-rich countries analyzed in this chapter.⁴⁰

Note: The main authors of this chapter are Kotaro Ishi, Masahiko Takeda, and Theo Thomas.

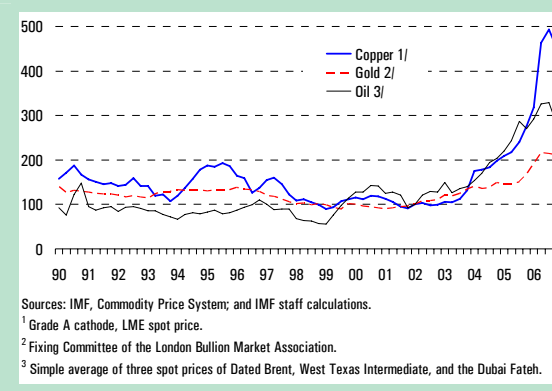
⁴⁰ The countries are Lao PDR, Mongolia, Papua New Guinea, Timor-Leste, and Vietnam. Resource-rich countries are defined
(continued)

Terms-of-Trade Developments and Their Macroeconomic Impact

Developments

Commodity prices have risen sharply since 2002. Between 2002 and 2006, oil prices (annual average) increased by more than 150 percent, mainly reflecting buoyant demand, little spare capacity, and geopolitical uncertainties. During the same period, copper prices increased by more than 330 percent, while gold prices nearly doubled.

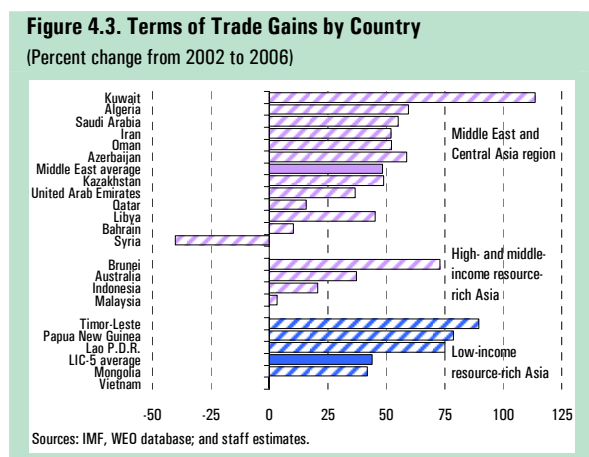
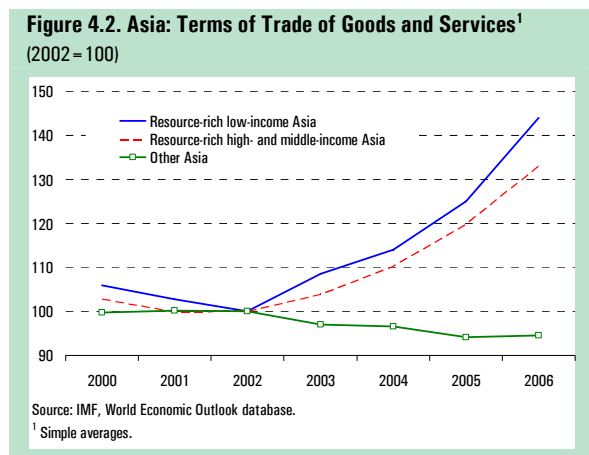
Figure 4.1. Commodity Prices
(2002 Q1 = 100)



Largely reflecting high commodity prices, the terms of trade of Asian low-income resource-rich countries improved significantly. The improvement in the terms of trade amounted to 45 percent between 2002 and 2006, in sharp contrast to the other non-resource Asian countries, which faced a

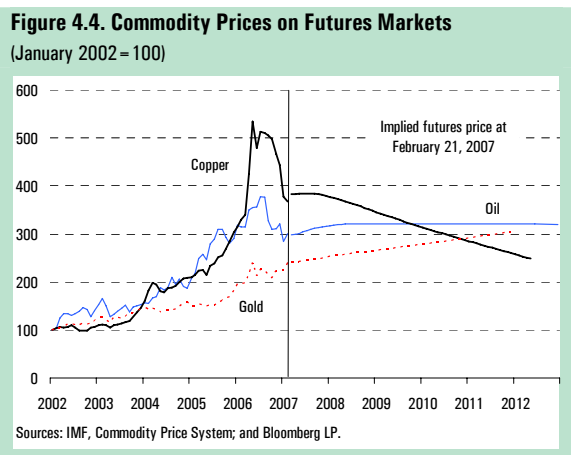
as those with at least 25 percent of total fiscal revenue or exports receipts from nonrenewable commodities, IMF (2005b). Low-income countries are those with a GNI per capita below \$875 in 2005, according to the World Bank classification. The main nonrenewable exports by country are shown in Table 4.2.

5 percent loss. The overall gains in the terms of trade in the resource-rich countries was comparable to those for oil exporting countries in the Middle East and Central Asia, with Timor-Leste, Papua New Guinea and Lao P.D.R. recording improvements in excess of 75 percent.



Although uncertainties remain, markets expect that some portion of the increase in commodity prices is long-lasting. Oil prices fell sharply in the second half of 2006 on account of the mild weather in the United States. However, global demand for oil is projected to remain robust and, with supply constraints expected to continue, futures markets suggest that oil prices will remain in the range of \$55–\$60, still substantially above the historical average. Gold prices are also projected to remain strong. Copper prices have fallen sharply since the beginning of this year, but are not expected to fall

back to earlier levels, in part because higher energy prices have increased production costs.⁴¹

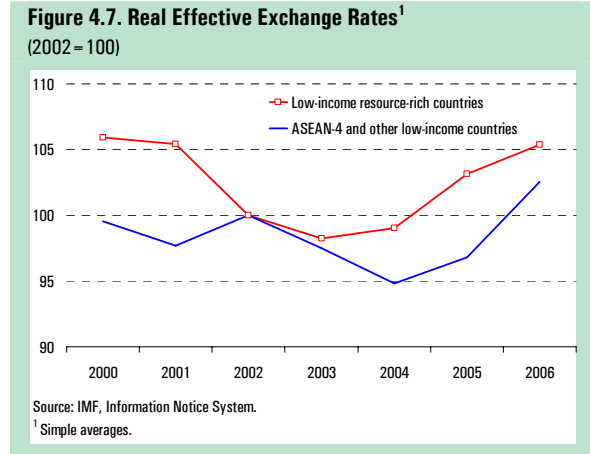
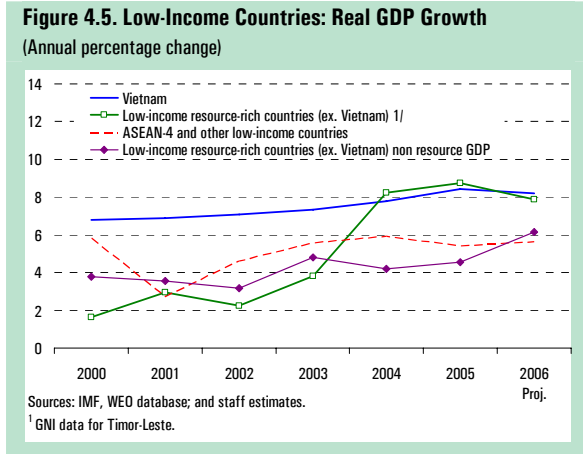


Macroeconomic Impact

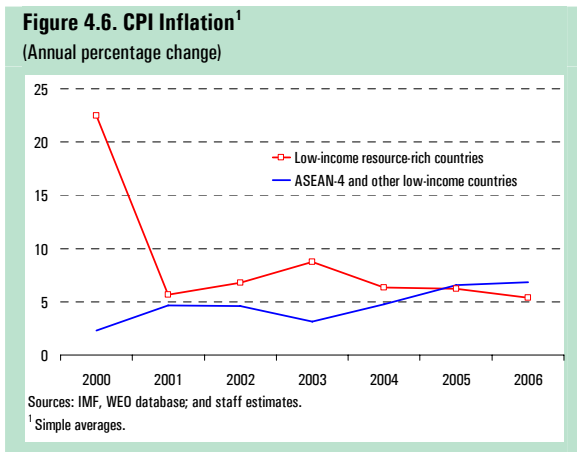
Growth in the low-income resource-rich countries in Asia has risen since 2002. Overall GDP growth rates in Lao PDR, Mongolia, Papua New Guinea, Timor-Leste, and Vietnam outpaced ASEAN and other developing countries in Asia, supported by an increase in production and investment in the resource sector.⁴²

⁴¹ In the long run, copper prices are expected to fall back to production costs (IMF, 2006b).

⁴² ASEAN includes Indonesia, Malaysia, Philippines, and Thailand. Other developing countries in Asia include Bangladesh, Bhutan, Nepal, Sri Lanka, and Cambodia.



Inflation rates have been moderate in the resource-rich countries, with real effective exchange rates appreciating only modestly. The strong pick-up in overall growth rates has had limited spillover effects to domestic demand with nonresource GDP generally below the average in ASEAN and other developing countries in Asia. Accordingly, with governments broadly maintaining prudent macroeconomic policy, average inflation in these countries was around 6 percent in 2006, below the average inflation rate in ASEAN and other low-income countries.⁴³



Nominal exchange rates are fixed or managed to smooth volatility. Timor-Leste adopted the U.S. dollar as legal tender, and Vietnam has maintained a de facto currency peg during a good part of the period under review. Lao P.D.R., Mongolia, and Papua New Guinea have managed floating exchange rate regimes with interventions aimed at reducing volatility. The recent increase in resource exports has not resulted in significant upward pressures on nominal exchange rates or inflation, partly owing to the enclave nature of the resource sector—i.e., a large portion of exports receipts are repatriated by foreign operators while governments (the recipients of taxes and royalties) generally have not fully spent the resource windfall (see next section).⁴⁴ Nonetheless, to varying degrees a portion of the foreign direct investment in the booming resource sector may spill over into the domestic economy.

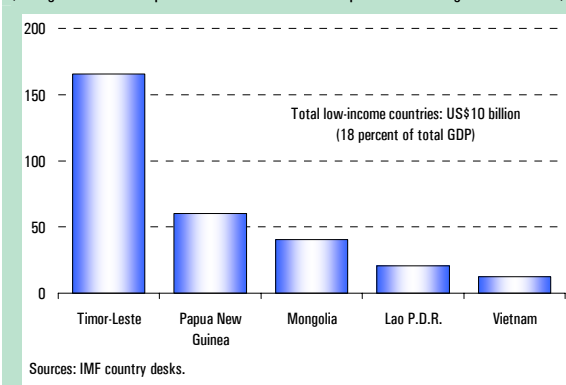
With higher commodity prices, the increase in total receipts from resource exports from 2002 to 2006 amounted to 18 percent of these countries' GDP. There are wide variations among countries, from just over 10 percent of GDP in Vietnam to 60 percent of GDP in Papua New Guinea and over 160 percent of GDP in Timor-Leste.⁴⁵

⁴³ However, inflation rates vary widely across the countries, from 3.5 percent (y/y) in Papua New Guinea to 7.5 percent (y/y) in Vietnam in 2006.

⁴⁴ Papua New Guinea is an exception with a 25 percent appreciation in the real effective exchange rate in 2002–06.

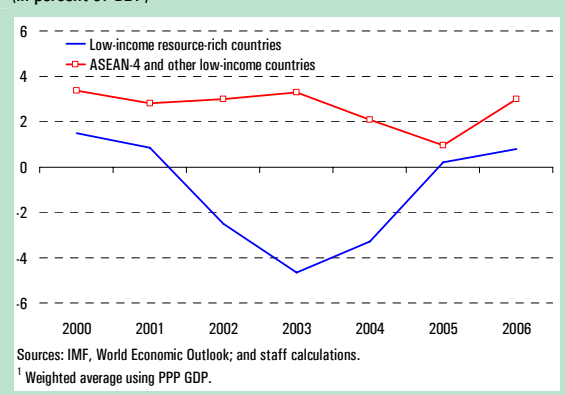
⁴⁵ Vietnam is also an oil product importer. Hence, some of resource exports windfall have been offset by an increase in oil product imports.

Figure 4.8. Resource Exports Windfall
(Change in resource exports from 2002 to 2006 as a percent of average 2002-06 GDP)



However, the improvement in the overall current account balance has been much less than the size of windfall receipts. The current account balance of low-income resource-rich countries has turned into surplus since 2005, but remains below the level of ASEAN and other low-income countries in Asia. In many countries, foreign direct investment in the mining sector has soared, owing to the expansion of existing mines or new exploration, resulting in a surge in imports, offsetting the resource exports windfall.

Figure 4.9. Current Account Balance¹
(In percent of GDP)



development. The challenge arises mainly from the high volatility and unpredictability of commodity prices, the exhaustibility of resource revenues, and (in some countries) the relatively high concentration of resource flows (which could invite rent-seeking behavior). Discussion below focuses on the policy issues faced by resource-rich governments, based on recent bilateral IMF surveillance (Article IV Consultations).

The Importance of Fiscal Policy

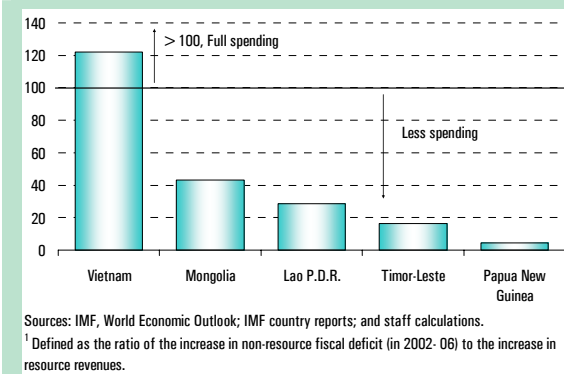
Fiscal policy plays an important role in the transmission of resource revenue volatility to the rest of the economy. Two important characteristics of macroeconomic management in these countries can be underscored. First, while local employment and purchases of goods and services by the resource sector may be significant, the government is the main domestic recipient of resource income, directly through equity participation in the resource sector and/or through taxation and royalties. The resource sector often acts like an enclave, with private profits of foreign operators immediately repatriated. Second, financial markets are rather thin, further limiting options for monetary policy, which highlights the important role of fiscal and structural policies.

Policy Issues⁴⁶

The key challenge for resource-rich countries is how best to use the windfall revenue for sustainable

⁴⁶ Main policy recommendations in this section are based on IMF (2005a and 2007).

Figure 4.10. Resource Revenue Spending From 2002 to 2006¹
(In percent)

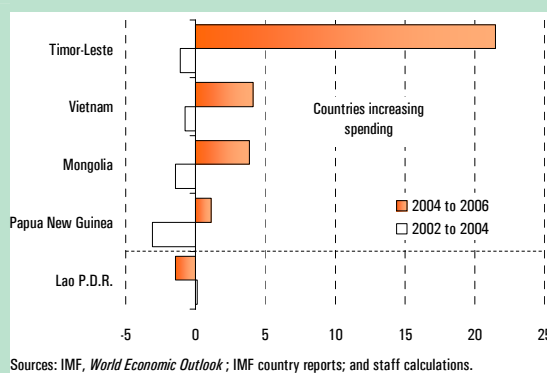


For the 2002–06 period as a whole, most countries have not fully spent the resource revenue windfall. Mongolia, Lao P.D.R., and Papua New Guinea spent (as measured by the cumulative increase in nonresource fiscal deficits⁴⁷) less than half the fiscal windfall. All these countries used part of the windfall for continued fiscal consolidation, including debt retirement, arrears clearance, or building up government deposits. Timor-Leste also saved a large portion of the windfall, owing to a long-term sustainable income policy and limited implementation capacity. In contrast, Vietnam fully spent the windfall revenue, mainly reflecting the increased cost of petroleum price subsidies, public sector wage rises, and an expansion in public investment.

However, many governments have recently begun to spend more of the windfall (with the exception of Lao P.D.R.). For example, Mongolia and Vietnam have increased public sector wages and subsidies, as well as spending for investment. Mongolia has also reduced nonresource revenue collection efforts. Timor-Leste has increased wage and nonwage recurrent spending, as it tries to improve service delivery and address the impact of civil unrest in 2006.

⁴⁷ The nonresource fiscal deficit is defined as overall balance net of resource revenues. By defining “spending” as an increase in the nonresource fiscal deficit, this captures the extent to which the government uses resource revenues to finance an increase in expenditures or a reduction in non-resource revenues.

Figure 4.11. Change in Nonresource Fiscal Deficit
(In percent of GDP)



To Spend or Save?

The proportion of the windfall that can be prudently spent should take account of the country-specific circumstances and reflect the following objectives:

- Maintain macroeconomic stability. Unless there is sufficient spare capacity and flexibility in product markets, the demand stimulus resulting from a fiscal expansion (as measured by an increase in the non-resource fiscal deficit) could put upward pressure on inflation and the real exchange rate. Thus, if there is concern about inflation risks, governments should carefully consider the inflationary impact from fiscal expansion, and central banks should also be ready for monetary tightening. Besides, the appropriate fiscal stance, and monetary and exchange rate policy response, must consider the long-term competitiveness of the whole economy, while in the long run, factor and product markets should be made more open and flexible to increase supply response.⁴⁸

⁴⁸ See Barnett and Ossowski (2003) for a full discussion of these effects, often termed “Dutch disease.”

Figure 4.12. Low-Income Asia: Consumer Price Inflation (In percent)

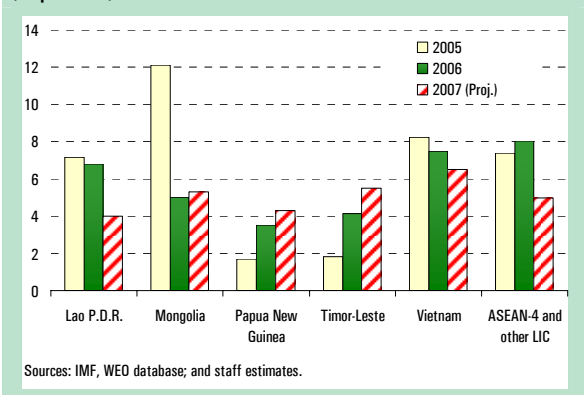


Figure 4.14. External Public Debt (In percent of GDP)

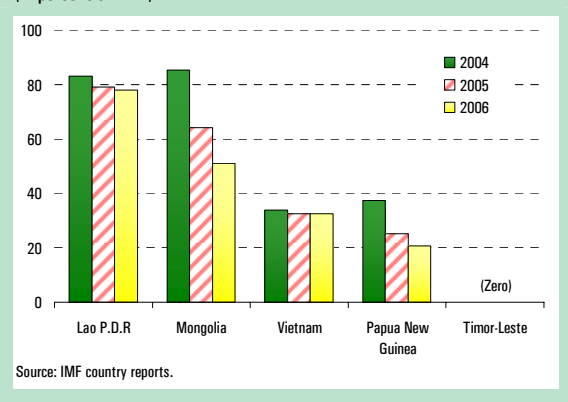
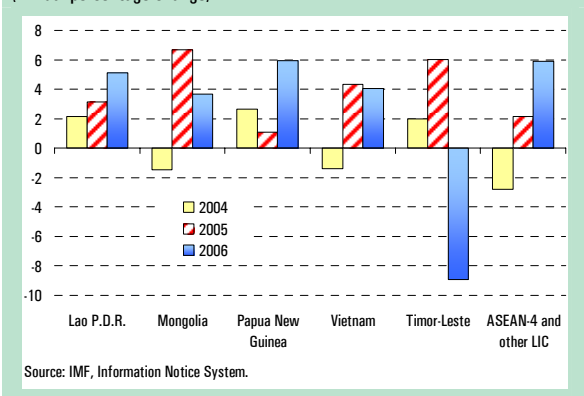


Figure 4.13. Real Effective Exchange Rates (Annual percentage change)



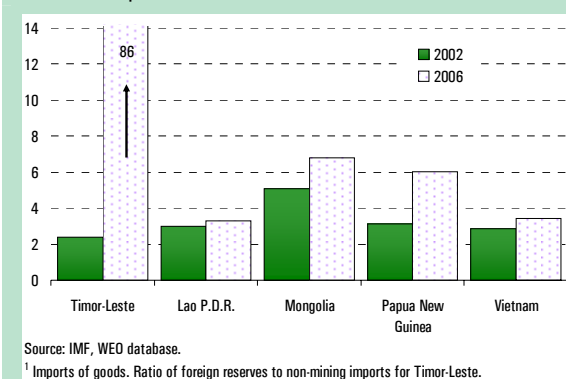
- Ensure sustainability of public debt. Countries with large fiscal debts can use the windfall to strengthen their financial positions, thereby keeping public debt on a sustainable path. This would help reduce vulnerabilities.

- Manage liquidity risks, supporting the build-up of prudential reserves. Governments need to ensure that fiscal policies can adjust to revenue shocks in an orderly and efficient manner. Liquidity constraints are particularly important for low-income countries, as they have limited access to international capital markets (particularly during downturns) and their financial markets are shallow. In this context, the build-up of foreign reserves during the recent windfall provides some self-insurance against potential shocks. In addition, budgets need to be flexible enough to cope with shocks, and large increases in recurrent costs, such as wages and pensions, or entitlement programs, should be avoided. Currently, none of the low-income resource-rich countries in Asia explicitly quantifies these short- and medium-term fiscal vulnerabilities or targets a level of prudential reserves.⁴⁹

⁴⁹ See Heller and others (2006) for a discussion of liquidity measures for aid dependent countries, which face similar problems to many resource producers. Aizenman and Lee (2005) and Rodrik (2006) also look at the rationale for holding enough precautionary international reserves to ensure smooth and orderly fiscal adjustment in the face of potentially large resource revenue shocks.

Figure 4.15. Ratio of Foreign Reserves to Imports¹

(In months of imports)



- Increase spending for enhancing productivity, but only if the resources can be used effectively. For countries where the initial physical and human capital stock is low, a gradual increase in spending for infrastructure, education, and health may be the most appropriate response to higher oil revenues, because the return from investment could exceed a financial return from saving. The low-income resource-rich countries in Asia have significant human and physical capital needs. However, as these countries also face institutional constraints, any increase in spending

should be focused on the provision of high-priority public goods and be accompanied by efforts to develop and strengthen public financial management (PFM) systems.

- Consider intergenerational equity, given that the resources will eventually be exhausted. Many countries are expected to enjoy reasonable levels of production over the next 10–15 years. However, production of a nonrenewable resource can be viewed as transforming a country's physical assets into financial assets, rather than as revenue. Many methods have been proposed for addressing this issue, and Timor-Leste has developed a fiscal framework that explicitly considers the balance between consuming exhaustible resources today versus investing and/or saving for future generations (Box 4.1).⁵⁰ Notwithstanding the degree to which a government can choose to accumulate financial or physical and human assets, a key consideration for both sustainability and equity is the government's ability to sustain the nonresource fiscal balance when the resource depletes.

Table 4.1. Indicators for Spending Consideration

	High- and Middle-Income Countries			Low-Income Countries					Asia average ¹
	Brunei	Indonesia	Malaysia	Lao P.D.R.	Mongolia	Papua New Guinea	Timor-Leste	Vietnam	
Indicators of human and physical capital									
Public infrastructure quality (most recent year)							Poor		
Paved roads (percent of total roads)	34.7	58.0	77.9	14.1	3.5	3.5		25.1	58.4
Water quality (percent of population with access)	...	55.0	94.0	30.0	59.0	44.0	36.0	61.0	58.3
Human capital quality Index									
Adult literacy rate (percent of ages 15 and over)	92.7	90.4	88.7	68.7	97.8	57.3	58.6	90.3	87.9
Life expectancy at birth (years)	76.6	67.2	73.4	55.1	64.5	55.7	56.0	70.8	72.1
Indicators of country capacity to spend²									
Country Policy and Institutional Assessment (CPIA)	...	2.5	...	3.5	2.5	1.5	...	3.5	...
Government effectiveness	0.6	-0.5	1.0	-1.1	-0.4	-1.0	-1.0	-0.3	0.6
Rule of law	0.5	-0.9	0.6	-1.1	-0.3	-0.9	-0.5	-0.4	0.3
Political stability	1.1	-1.4	0.5	-0.3	0.9	-0.8	-0.7	0.3	-0.2

Sources: World Bank, *World Development Indicators*; and Kaufmann, Kravay and Mastruzzi (2005).

¹ Coverage varies depending on data availability.

² The World Bank Country Policy and Institutional Assessment rates eligible countries against 16 criteria grouped in four clusters: (a) economic management; (b) structural policies; (c) policies for social inclusion and equity; and (d) public sector management and institutions. Scores range from 1-6, with higher scores reflecting better performance. Other indicators range between ± 2.5 , with higher positive outcomes reflecting better outcomes. See www.worldbank.org.

⁵⁰ See Davis and others (2003) for a review of the different approaches used.

Institutional Framework for Resource Revenue Management

Few countries explicitly design their fiscal policy to smooth the impact of revenue windfalls on public expenditure. Table 4.3 summarizes the fiscal framework for resource revenue management in Asia. Key policy considerations include:

- Using the non-resource (primary) fiscal balance to help set fiscal policy.⁵¹ Most countries frame their budget in terms of an overall deficit target. If implemented, this would transmit resource revenue volatility to the rest of the economy, resulting in procyclical expenditure patterns. Furthermore, the overall balance may improve due to a temporary windfall, while masking increases in government spending that may create large fiscal vulnerabilities if resource revenues recede.⁵² Accordingly, the non-resource (primary) fiscal balance would better reflect the impact of fiscal policy on domestic demand, or the government's discretionary policies.
- Formulating fiscal policy within a medium-term policy framework (MTF). An MTF can help governments plan gradual adjustments in the nonresource fiscal balance and avoid large swings in policy. It can also help countries justify the accumulation of net financial assets during periods of high commodity prices to mitigate the fiscal risks posed by reliance on volatile and uncertain revenues. While many countries in Asia produce some sort of multiyear plan, in many cases there is a need to more fully integrate this with the annual budget, make the plans rolling, and

incorporate long-term sustainability considerations.

- Establishing a sustainable long-term fiscal framework. This is particularly important with an exhaustible resource. The development of institutions that promote a long-term perspective is warranted given the inability of future generations to voice preferences on the use of the nonrenewable resource.⁵³ However, such long-term planning is subject to considerable uncertainty and measures of sustainable spending may vary over time, while budgets also need to be flexible enough to respond to short-term policy considerations.

Resource funds may support fiscal policies that promote intergenerational saving, macro economic stabilization, and transparency, but are not a prerequisite. A well-designed fund can help enhance transparency and strengthen the management of nonrenewable resource revenues, mainly for political economy and asset management reasons.⁵⁴ However, a poorly designed fund may complicate fiscal policy and hamper asset management, while even a well designed fund is unlikely to be effective in the face of weak political commitment to prudent policies. In general, a well-designed fund should (i) be integrated with medium-term fiscal policy, based on the government's net wealth; (ii) not allow spending outside the budget process; and (iii) have stringent mechanisms to ensure transparency, good governance, and accountability in the use of resource revenues.

⁵¹ See Barnett and Ossowski (2003) for an explanation of this approach.

⁵² For examples in oil producing countries, see Bartsch and others (2004), Eifert, Gelb, and Tallroth (2003), and Askari, Nowshirvani, and Jaber (1997).

⁵³ See Barnett and Ossowski (2003) for an explanation of various approaches to assessing sustainability for resource producers.

⁵⁴ See IMF (2007) for a discussion of oil funds and other special fiscal institutions for managing oil wealth.

Strengthening public financial management is particularly important in poor countries, to improve the effectiveness of fiscal spending. In some low-income resource-rich countries, development spending has often underperformed the budget plan, partially owing to procurement and PFM problems. An increase in spending associated with higher resource revenues is likely to place additional pressures on the PFM systems, and strengthening PFM systems would be a key to increase spending while avoiding wasteful or nonpriority spending.

Transparency in the management of the natural resources varies considerably between countries. To avoid squandering the large revenue windfall, many countries place emphasis on improving transparency and establishing clear and widely understood policies on management of the resource assets and revenue flows. Timor-Leste and Mongolia have committed to the global Extractive Industries Transparency Initiative (EITI) to improve transparency in the sector.⁵⁵ Papua New Guinea and Mongolia have also undertaken, with the IMF, a fiscal transparency Report on the Observance of Standards and Codes (ROSC) that includes resource revenue transparency.

Box 4.1. Managing Oil Revenues in Timor-Leste

Policy Features

- Timor-Leste has adopted a long-term expenditure and saving policy, with the objective of ensuring that oil revenues are used consistent with intergenerational equity. Annual ‘sustainable’ fiscal spending is equal to the sum of the estimated permanent (interest) income from the oil-and-gas wealth and domestic non-oil revenue. While oil production and price assumptions impact the calculation of sustainable income, the guideline should help to minimize the potential for procyclical fiscal policy.
- A petroleum fund was established in 2005. The fund receives all the petroleum income and finances the central government budget deficit, ensuring that it is fully integrated into the budget process and transparently managed. Annual transfer ceilings are set on the basis of the fiscal sustainability policy, although parliament can approve additional withdrawals as long as they are transparently justified. Designated oversight bodies monitor operations and internationally recognized accounting firms conduct annual audits.
- To promote efficient and well targeted public spending, the government has developed sector investment programs (SIPs) that fit within an overall National Development Plan, which underpins the medium-term fiscal framework.
- Fund assets are invested abroad to limit risk and minimize real exchange rate appreciation.

⁵⁵ See <http://eititransparency.org>.

Making Resource Abundance a Blessing

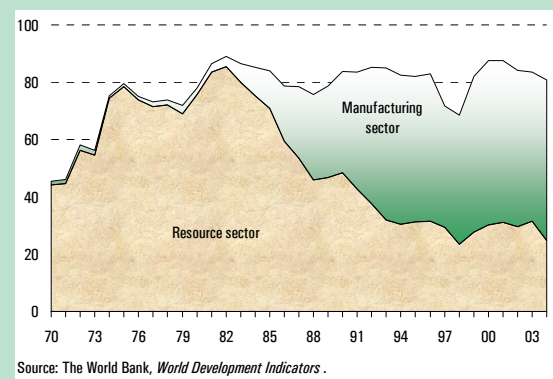
For low-income countries, the key challenge is how best to transmit the resource boom to long-run economic development. A large body of literature discusses whether natural resources contribute to growth. Auty (1997) and Sachs and Warner (1995 and 2001) argue that countries rich in natural resources have tended to grow at a slower pace than those without (“the natural resource curse”). This reflects first, that large foreign exchange inflows may cause “Dutch disease,” whereby nontradable goods prices increase and the real exchange rate appreciates, thereby undermining the competitiveness of the non-resource tradable sector. Second, easy access to natural resource wealth could encourage rent-seeking behavior that affects the quality of institutions and governance.

However, there is evidence that the resource curse is avoidable.⁵⁶ In the region, Malaysia and Indonesia, once highly dependent on the resource sector, appear to have avoided resource curse problem, and achieved economic diversification.

- There is a broad consensus that Indonesia managed two oil shocks, in the 1970s and 1980s, relatively successfully (Gelb, 1988). The government maintained broadly prudent macroeconomic policies, which aimed to support the agriculture and manufacturing sectors, and used its windfall gains to increase spending on public infrastructure, health services, and education. This combination of measures is generally regarded as successful, notwithstanding somewhat weak governance. For example, the share of non-oil exports increased markedly between the early 1980s and 1990s; social conditions improved significantly with

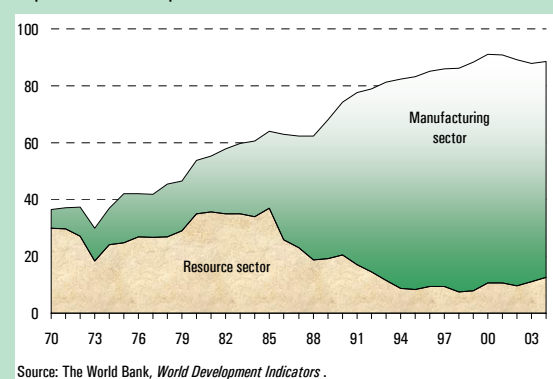
near universal primary education enrollment by the mid-1980s, and poverty declined (World Bank, 1993).

Figure 4.16. Indonesia: Exports Composition
(In percent of total exports)



- Malaysia has achieved rapid economic diversification (Barbier, 2005, and Gylfason, 2001).⁵⁷ The government invested a large portion of resource revenues in public infrastructure and human capital development, which was vital to the development of the export-oriented manufacturing sector and led to the diversification of production.

Figure 4.17. Malaysia: Exports Composition
(In percent of total exports)



⁵⁶ See Lederman and Maloney (2006).

⁵⁷ Other success cases, commonly cited in the literature, include Botswana and Chile.

Successful country experiences suggest the important role of economic policies and institutions in overcoming the challenges of natural resources. Resource-rich low-income countries in Asia are broadly pursuing outward-oriented and market-based policies, including trade liberalization, the *'right-sizing'* of government, and the promotion of foreign direct investment. However, these countries may need intensified efforts to improve weak institutional capacity, which is critical for effective resource management, and in particular, for spending resource windfalls at an appropriate pace for productive purposes.

Table 4.2. Country Sample and Size of the Resource Sector
(Average 2004-06)

Country	Resource exports		Resource fiscal revenues		Per capita GDP (in U.S. dollar)	Reserves ¹		Commodity ²
	In percent of total exports of goods and services	In percent of GDP	In percent of total fiscal revenue	In percent of GDP		Oil (in billions of barrels)	Natural gas (in trillions of cubic feet)	
Low-income countries								
Lao P.D.R.	37.5	9.1	3.7	0.4	501	...	...	Copper and gold
Mongolia	61.5	35.8	20.8	8.4	847	...	...	Copper and gold
Papua New Guinea	75.3	66.2	31.3	8.8	666	0.2	12.2	Oil, gas, copper, and gold
Timor-Leste	...	109.2	79.8	72.4	353	0.8	11.7	Oil and gas
Vietnam	22.5	14.5	33.3	9.0	639	0.6	6.8	Oil and gas
High- and middle-income countries								
Australia	46.2	9.0	...	...	34,381	1.6	30.4	...
Brunei	85.3	62.0	91.6	45.2	25,976	1.1	13.8	...
Indonesia	23.1	6.8	28.0	5.2	1,353	4.3	97.8	...
Malaysia	8.1	8.8	29.7	6.5	5,126	3.0	75.0	...
Total regional average	18.5	7.3	29.4	6.3	2,054	1.7	30.7	...
Low-income country average	22.9	14.7	32.0	9.0	608	1.7	30.7	...
Memorandum item:								
Oil exporters in Middle East and Central Asia region ³	76.4	38.7	...	...	8,671	827.5	2,992.0	Oil and gas

Sources: IMF, World Economic Outlook database; and staff calculations.

¹ Data for oil and natural gas are from PennWell Corporation, Oil & Gas Journal, Vol. 104.47 (December 18, 2006).² Commodities subject to analysis in this chapter.³ Comprising Algeria, Azerbaijan, Bahrain, Iran, Iraq, Kazakhstan, Kuwait, Libya, Oman, Qatar, Saudi Arabia, Syria, Turkmenistan, and the United Arab Emirates.

Table 4.3. Summary Institutional Frameworks for Resource Management

Country	Does the budget refer to a non-resource fiscal balance?	Is the budget presented within a medium-term policy framework or set of fiscal rules?	Does the fiscal goal consider long-term sustainability?	Is there a fund to manage resource flows?	Are resources managed transparently?
Lao P.D.R.	No.	No.	Yes. The government's 5 year plan emphasizes the importance of fiscal consolidation in the medium-term.	No.	Transparency is generally weak.
Mongolia	No.	Yes. The government develops a rolling three year budget framework statement.	There is no statement of fiscal sustainability in the budget.	Yes. The Development Fund (DF) was created in 2006 to ensure that revenues from a new "windfall" tax are earmarked equally between: (i) saving; (ii) capital expenditure; and (iii) children and family allowances. DF spending is not consolidated with the national budget.	Mongolia has committed to implement the Extractive Industries Transparency Initiative (EITI) principles, but is at an early stage. A Report on the Observance of Standards and Codes (ROSC) in fiscal transparency was published in 2005.
Papua New Guinea	No.	Yes. The central government budget is formulated within a medium term macroeconomic framework.	Yes. Budget documents do include a discussion of fiscal sustainability. A Fiscal Responsibility Act was approved in 2006 with a commitment to firstly, not raise the overall level of debt during each Government's term.	No. Mineral Resource Stabilization Fund (MRSF) created in the 1970s held deposits in domestic currency. Abolished in 2000 after government study concluded that the stabilization objective had not been met, largely because any saving in he MRSF was more than offset by government borrowing.	ROSC in fiscal transparency was published in 2000.
Timor-Leste	Yes.	Yes. Multi-year investment programs are aggregated in to 3-year expenditure projections that are presented in the annual budget documents. However, planning and budget execution capacity is low and projections for the outer years are at best indicative of spending priorities.	Yes. A long-term fiscal expenditure and saving policy has been adopted, with the objective of ensuring that oil revenues are used in sustainable manner, consistent with intergenerational equity. Annual 'sustainable' fiscal spending is equal to the sum of the estimated permanent (interest) income from the oil- and gas-wealth and domestic non-oil revenue.	Yes. The fund (created in 2005) receives all oil and gas income, which is held overseas, and is used to finance the non-oil budget deficit. There is currently no government debt.	All resource flows are audited and petroleum fund performance reports are published quarterly. Timor-Leste subscribes to the EITI principles.
Vietnam	No.	No.	There is no statement of fiscal sustainability in the budget.	No.	There are no special arrangements to promote the transparency of the resource sector.

Sources: IMF country reports.

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