ADB Asia Economic Monitor 2008

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The *Asia Economic Monitor* (AEM) is a semiannual review of emerging East Asia's growth and policy issues. It covers the 10 members of the Association of Southeast Asian Nations; People's Republic of China; Hong Kong, China; Republic of Korea; and Taipei,China. This issue includes a special chapter on the impact of the global financial crisis on emerging East Asia's financial systems.

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Highlights

Recent Economic Performance

- Economic growth in emerging East Asia continued to slow in the second half of 2008, as the global financial crisis deepened and economic activity contracted in major industrial countries.
- Inflation peaked across most of emerging East Asia during the third quarter as sharp declines in oil and other commodity prices followed tightening credit conditions.
- The balance of payments remained in surplus across much of the region through the third quarter, even as current account balances narrowed and net capital flows declined.
- Stock markets across the region continued their downward slide in the second half of 2008 as the global crisis triggered massive sell-offs.
- Most emerging East Asian currencies depreciated against the US dollar on flight-to-safety, particularly since mid-September, while local currency bond market yield curves shifted downward.
- With the prospect of slowing growth, policy makers in the region have begun to ease monetary and fiscal policies.

Outlook, Risks, and Policy Issues

- The external economic environment for developing Asia is likely to worsen, as major industrial economies contract further, global financial conditions remain constricted, and world trade growth slows sharply.
- The deteriorating external environment will hurt developing Asia's immediate growth prospects—aggregate GDP growth is forecast to fall to 5.8% in 2009 from this year's estimated 6.9%.
- Economies in emerging East Asia will grow at 5.7% in 2009, down from 6.9% this year.
- Major risks to the outlook include (i) a sharper or prolonged global recession, (ii) persistent financial stress with volatile capital flows, (iii) further tightening of external and domestic funding conditions, and (iv) excessively volatile conditions in foreign exchange markets.
- The coming year will be a difficult one for developing Asia but it will be manageable if countries respond decisively to restore confidence in the financial system and real economy, and collectively to avoid the effects of contagion.

Continued overleaf

Acronyms, Abbreviations, and Notes

ABMI	Asian Bond Markets Initiative
ADB	Asian Development Bank
ADO	Asian Development Outlook
AEM	Asia Economic Monitor
AIG	American International Group
ASEAN	Association of Southeast Asian Nations
ASEAN+3	ASEAN plus People's Republic of China, Japan, and Republic of Korea
ASEAN-4	Indonesia, Malaysia, Philippines, Thailand
BIS	Bank for International Settlements
CDO	collateralized debt obligation
CDS	credit default swap
CGF	Credit Guarantee Fund
CGIM	Credit Guarantee and Investment Mechanism
CMI	Chiang Mai Initiative
CPI	consumer price index
ECB	European Central Bank
EU	European Union
FDI	foreign direct investment
Fed	Federal Reserve
FSF	Financial Stability Forum
G3	US, eurozone, Japan
G7	Group of Seven industrialized economies
G20	Group of 20
GDP	gross domestic product
H1	first half
H2	second half
HKMA	Hong Kong Monetary Authority
IDR	Indonesian rupiah
IMF	International Monetary Fund
ISM	Institute for Supply Management
IT	information technology
JCI	Jakarta Composite Index
KLCI	Kuala Lumpur Composite Index
KOSPI	Korean Stock Price Index
Lao PDR	Lao People's Democratic Republic
MSCI	Morgan Stanley Capital International Inc.
m-o-m	month on month
MYR	Malaysian ringgit
NEER	nominal effective exchange rate
NIE	newly industrialized economy
NPL	nonperforming loan
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
OREI	Office of Regional Economic Integration
OTC	over-the counter markets
PCOMP	Philippine Composite Index
PRC	People's Republic of China
Q1	first quarter
Q3	third quarter
q-o-q	quarter on quarter
RMB	renminbi
SBV	State Bank of Viet Nam
SET	Stock Exchange of Thailand
STI	Straits Times Index
TARP	Troubled Asset Relief Program
TWSE	Taiwan Stock Exchange Index
UK	United Kingdom
US	United States
VaR	Value at Risk
y-o-y	year on year

Note: "$" denotes US dollars unless otherwise specified.

The *Asia Economic Monitor* December 2008 was prepared by the Office of Regional Economic Integration of the Asian Development Bank and does not necessarily reflect the views of ADB's Board of Governors or the countries they represent.

- With the balance of risks shifting from rising inflation to slowing growth, monetary policy must remain flexible enough to allow growth stimulus where appropriate while keeping inflation expectations firmly anchored.
- Fiscal policy could hold center stage for many emerging East Asian economies in mitigating/minimizing effects of deteriorating external economic conditions on growth prospects.
- Policy makers in many emerging East Asian economies need to deepen and broaden structural reforms to rebalance the sources of growth from an over-reliance on exports to domestic demand.

Global Economic Crisis: Impact and Challenges for Emerging East Asia's Financial Systems

- In recent months, the ripple effects of the global financial crisis have reached Asian shores, and the region's financial systems have come under increased pressure as a result.
- The region's policy makers still have the opportunity to be proactive rather than reactive, and to forestall emerging threats to financial stability.
- Three sets of short-term policy responses are needed to bolster the foundations of financial stability:
  - close monitoring of the region's financial systems and the identification of both weak financial institutions and systemic vulnerabilities;
  - provision of adequate foreign currency as well as domestic liquidity to systemically critical financial institutions so that credit continues to flow into the economy; and
  - prevention of the effects of slowing economic growth from spilling over onto the region's banking systems.
- In the longer-term, reforms of regulation and oversight of financial systems should aim to
  - strengthen transparency and accountability;
  - enhance sound regulation and prudential oversight;
  - mitigate the procyclicality of financial markets;
  - broaden and deepen financial markets to enhance resilience; and
  - reinforce cross-border cooperation.

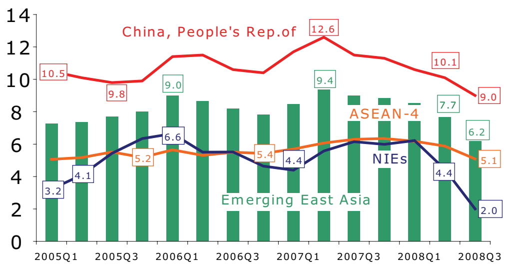
Emerging East Asia—A Regional Economic Update

Recent Economic Performance

Growth and Inflation

Economic growth in emerging East Asia continued to slow in the second half of 2008, as the global financial crisis deepened and economic activity started to contract in major industrial countries.

Figure 1: Regional GDP Growth[1]—Emerging East Asia[2]



[1]Weighted by gross national income (atlas method, current $).
[2]Includes ASEAN-4, NIEs, and People's Republic of China. Aggregates do not include Brunei Darussalam, Cambodia, Lao People's Democratic Republic, Myanmar, and Viet Nam, for which quarterly GDP data are not available.

Source: OREI staff calculations based on national sources.

In the second half of 2008, economic growth in emerging East Asia continued to decelerate. Combined gross domestic product (GDP) in the nine largest economies in emerging East Asia[1] grew 6.2% (year-on-year)[2] in the third quarter of 2008—excluding the People's Republic of China (PRC), the aggregate growth slipped to 3.0%, down from the peak of 6.2% in the third quarter of 2007 **(Figure 1)**. In the PRC, GDP growth was 9.0% in the third quarter, the lowest since mid-2003—when the impact of severe acute respiratory syndrome hit. The four middle-income economies of the Association of Southeast Asian Nations (ASEAN-4)[3] grew 5.1%, compared with 6.0% in the first half. GDP growth in the four newly-industrialized economies (NIEs)[4] decelerated markedly to 2.0% in the third quarter from 5.3% in the first half of 2008. Early economic indicators for the region in the fourth quarter already show the widening impact of recession among the G3,[5] along with effects from the financial turmoil that engulfed global markets from mid-September.

The resilience of domestic demand is being tested, with a visible slowdown in the NIEs, although private consumption held up relatively well in the PRC and ASEAN-4.

In emerging East Asia, excluding the PRC, domestic demand grew 4.3% in the first three quarters of 2008 from 4.6% in 2007. Although the demand component is not available for the

[1] The nine largest emerging East Asian economies are People's Republic of China; Hong Kong, China; Indonesia; Republic of Korea; Malaysia; Philippines; Singapore; Taipei,China; and Thailand.

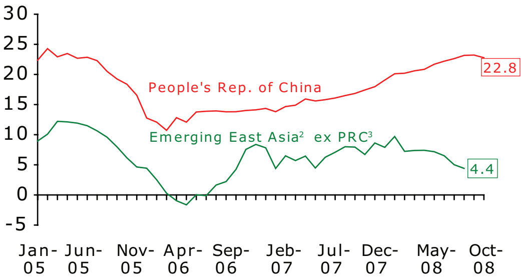
[2] Unless otherwise noted, all figures are year-on-year.

[3] Indonesia, Malaysia, Philippines, and Thailand.

[4] Hong Kong, China; Republic of Korea; Singapore; and Taipei,China.

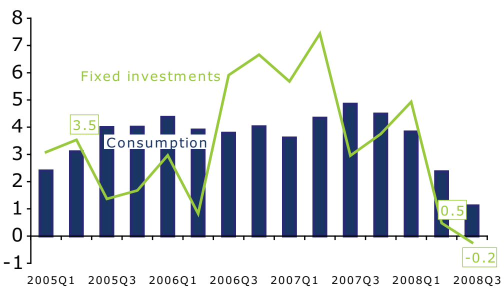
[5] United States, eurozone, and Japan.

Figure 2: Retail Sales Growth[1] (y-o-y, %)



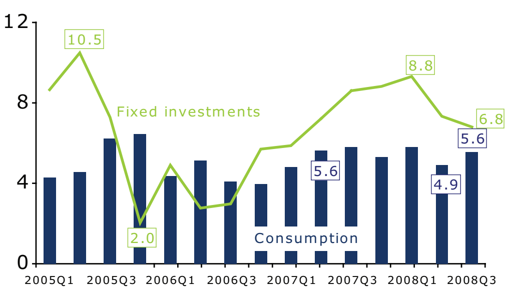
[1]3-month moving average.
[2]Refers to Hong Kong, China; Indonesia; Singapore; Taipei,China; Thailand, and Viet Nam; does not include Brunei Darussalam, Cambodia, Lao People's Democratic Republic, Malaysia, Myanmar, Republic of Korea, and Philippines, for which monthly data are not available.
[3]PRC = People's Republic of China

Figure 3: Domestic Demand Growth—NIEs (y-o-y, %)



Source: OREI staff calculations based on CEIC data.

Figure 4: Domestic Demand Growth—ASEAN-4 (y-o-y, %)



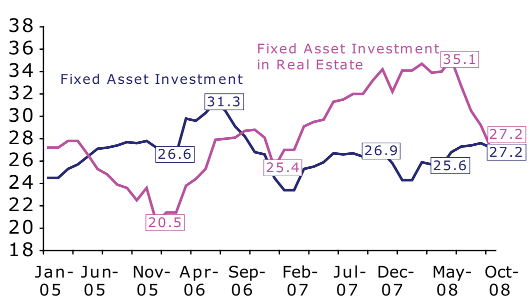
Source: OREI staff calculations based on CEIC data.

PRC, resilient growth in retail sales suggests continued strength in private consumption **(Figure 2)**. But, growth momentum in retail sales has weakened significantly elsewhere, reflecting a slowdown in private consumption. The slowdown in domestic demand growth is most visible in the NIEs, with fixed investment contracting in the third quarter from a year ago **(Figure 3)**. Among the ASEAN-4, investment is also cooling rather fast while consumption has held up relatively well **(Figure 4)**. For the year to date, the region's external sector still contributed positively to overall expansion despite recession among the G3 countries.

PRC economic growth slowed to 9.0% in the third quarter of 2008 from 11.5% in same quarter of 2007, and the pace of deceleration is quickening on falling investment and export growth.

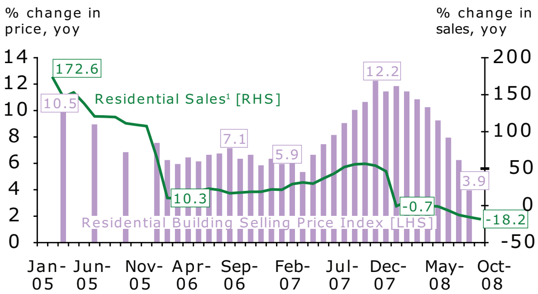
GDP growth has been slowing for five consecutive quarters—falling to 9.0% in the third quarter of 2008—mainly due to the effects of policy tightening from 2007 to end-June 2008, and the global downturn. While real investment and export growth fell, consumption remained buoyant. In the first 10 months, fixed-asset investment in nominal terms grew 27.2% from the same period in 2007, marginally higher than 26.9% in the first 10 months of 2007 **(Figure 5)**. However, with prices of capital goods rising much faster, investment growth in real terms will be lower in 2008 than in 2007. Similarly, exports in the first 10 months were up 22% this year (down from the 26.5% gain in 2007); but export growth in real terms is expected to be even lower in 2008 given higher export prices during the year. As the trade surplus in nominal US dollar terms in the first three quarters was slighter than that in the same period of 2007, net

Figure 5: Fixed Asset Investment—People's Republic of China
(nominal, year-to-date, y-o-y growth)



Source: OREI Staff Calculations based on CEIC data.

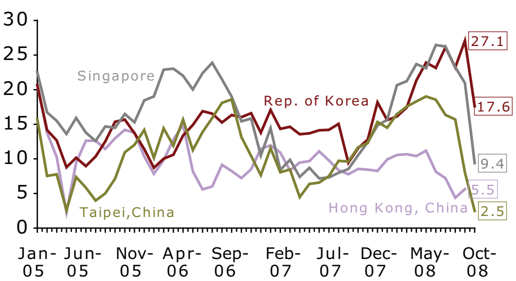
Figure 6: Residential Building Sales & Selling Price Index—PRC (y-o-y, %)



¹Current value of sales; data for the month of January is not available.

Source: OREI staff calculations based on data from Datastream.

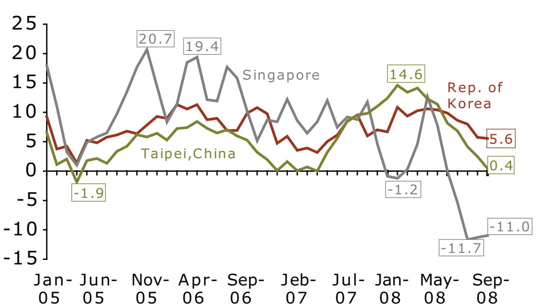
Figure 7: Merchandise Export Growth¹—NIEs ($ value, y-o-y, %)



¹3-month moving average.

Source: OREI staff calculations based on CEIC data.

Figure 8: Industrial Production Growth¹—NIEs (y-o-y, %)



¹ 3-month moving average.

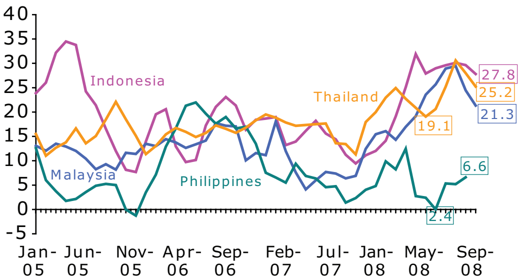
Source: OREI staff calculations based on CEIC data.

exports must have made no, if not negative, contribution to GDP growth in the third quarter of 2008. Net exports contributed 2.3 percentage points to GDP growth of 11.9% in 2007. Consumer spending apparently grew steadily in 2008, with growth in retail sales on an upward trend—reaching 22.8% in October. The housing sector, however, continued to cool, with property sales down sharply in recent months and property prices falling **(Figure 6)**. As a result, property investment—about a fifth of total fixed-asset investment—will likely continue to impact economic activity.

GDP growth in the NIEs decelerated markedly in 2008, with Singapore and Taipei,China already contracting in the third quarter, due to weakening exports, and as domestic demand slipped, particularly as asset prices plunged alongside big losses in the major global markets.

As global economic conditions worsened, NIEs export growth has decelerated sharply **(Figure 7).** Yet domestic demand has weakened even faster, dragged down by plunging asset prices in recent months. With slowing external and domestic demand, industrial production weakened sharply **(Figure 8)**. Korea's economic growth slid to 3.8% year-on-year in the third quarter as expansion in exports decelerated and household spending remained sluggish. Industrial production has been contracting in recent months, with increasing spillover on employment; jobs growth slowed in October to the weakest pace since 2005. On a quarter-on-quarter basis, Hong Kong, China; and Singapore have already experienced two consecutive quarters of contraction, from April through September. On a year-on-year comparison, Hong Kong, China's GDP grew 1.7% in the third quarter as private consumption stalled, despite positive contribution from business equipment investment and net exports. Singapore's GDP fell 0.6% year-on-year in the third quarter of 2008 with contraction largely coming from the manufacturing sector due to falling external demand. And in Taipei,China, the fall in domestic demand saw the economy contract 1.0% year-on-year in the third quarter. Private consumption and fixed investment were down 2% and 11%, respectively; net exports contributed 0.85 percentage points to GDP growth due to imports falling much faster than exports.

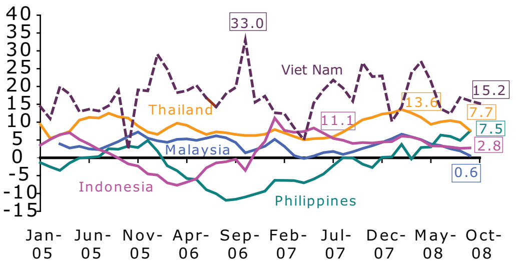
Figure 9: Merchandise Export Growth¹—ASEAN-4 ($ value, y-o-y, %)



¹3-month moving average.

Source: OREI staff calculations based on CEIC data.

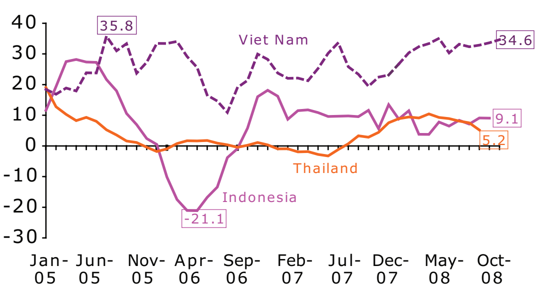
Figure 10: Industrial Production Growth¹—ASEAN-4, Viet Nam (y-o-y, %)



¹3-month moving average.

Source: OREI staff calculations based on CEIC data.

Figure 11: Retail Sales Growth¹—Selected Economies (y-o-y, %)



¹3-month moving average.

Source: OREI staff calculations based on CEIC data.

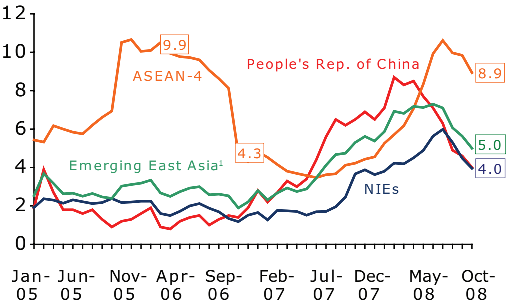
Growth in the four middle-income ASEAN economies moderated in the second half of 2008—as the global downturn cut into exports—after growing strongly in the first half.

In response to the global financial crisis, GDP growth in ASEAN-4 has begun to slow. Thailand's economic growth in the third quarter fell to 4.0%, from 5.6% in the first half of 2008, due to sluggish investment and weakening exports. Malaysia's GDP growth also declined in the third quarter to 4.7% from 7.1% in the first half, due to weakening exports and the drop in commodity prices after July. The other two countries have fared somewhat better **(Figure 9)**. Indonesia's GDP growth in the third quarter eased to 6.1%, compared with 6.4% in the first two quarters. The Philippine economy remained resilient, growing 4.6% year-on-year in the third quarter (about the same rate as in the first half) on increased government spending and solid domestic demand. In the third quarter, industrial production growth in ASEAN-4 showed signs of slowing, yet retail sales held up well due to resilient domestic demand **(Figures 10, 11)**.

Of the remaining ASEAN countries, growth in Cambodia, Lao People's Democratic Republic (Lao PDR), and Viet Nam also showed signs of slowing as external demand softened in the difficult global environment.

In Viet Nam, GDP growth in the first 9 months of 2008 was 6.5%, the lowest since 1999. Domestic demand slowed with retail sales (in real terms deflated by consumer prices) rising by only 7.5% in the first 10 months, compared with 15% in the same 2007 period. GDP in Brunei Darussalam likely contracted 0.5% in 2008 as oil production dropped due to overproduction in previous years and ongoing renovation in existing facilities. In Cambodia, a gradual deceleration in GDP growth continued as external demand softened and private consumption eased, although GDP growth remained robust at an estimated 6.5% this year. In Lao PDR, GDP likely grew 7.5% in 2008 as foreign investment continued to drive a robust expansion of the industrial sector, especially in mining and energy. In Myanmar, estimates from unofficial sources put GDP growth in a range of about 0.9–2.0% for the 2008 fiscal year, after agriculture and manufacturing were hit hard by the devastating cyclone and flooding in May.

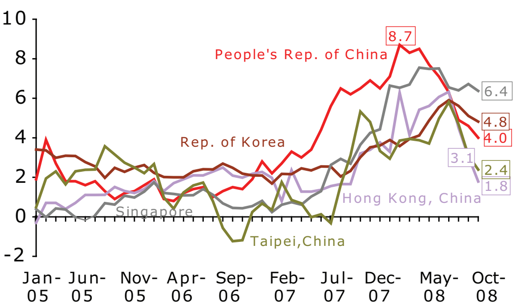
Figure 12: Regional Inflation—Headline Rates (y-o-y, %)



[1]Refers to ASEAN-4, NIEs, People's Republic of China, and Viet Nam; does not include Brunei Darussalam, Cambodia, Lao People's Democratic Republic, and Myanmar, for which monthly data are not available.

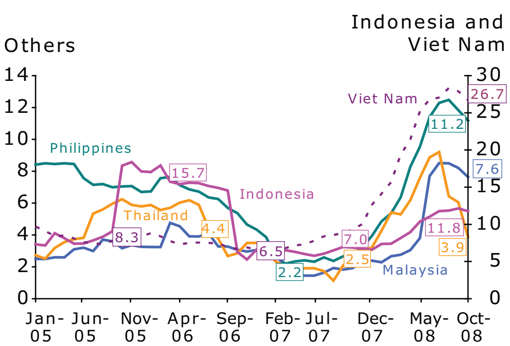
Source: OREI staff calculations based on CEIC data.

Figure 13a: Inflation in NIEs and PRC—Headline Rates (y-o-y, %)



Source: OREI staff calculations based on CEIC data.

Figure 13b: Inflation in Selected ASEAN Economies—Headline Rates
(y-o-y, %)



Source: OREI staff calculations based on CEIC data.

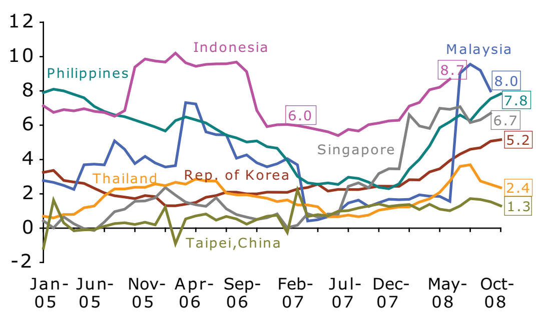
Inflation peaked across most of emerging East Asia during the third quarter as sharp declines in oil and other commodity prices followed tightening credit conditions.

After rising rapidly in the first half of 2008—mainly due to fast-rising food and oil prices and the removal of fuel subsidies in some economies—headline inflation across much of the region has subsided **(Figure 12)**. Average inflation was down to 5.0% in October; from its June 2008 peak of 7.3%, mainly due to the rapid fall in commodity prices, especially oil, amid slowing demand. Inflation fell most in Thailand (from 9.2% to 3.9%); PRC (from 8.7% to 4.0%); and in Hong Kong, China (from 6.3% in July and 1.8% in October).[6] Headline inflation has also moderated in Korea; Singapore; Malaysia; and Taipei,China **(Figure 13a)**. Headline inflation was still hovering above 10% in Indonesia and Philippines, and remained above 25% in Viet Nam in October **(Figure 13b)**.

Core inflation—excluding food and energy—is still rising in some economies, such as Korea, Philippines, and Singapore **(Figure 14)**, as previously high input prices continue to work their way through. Also, producer price inflation remains relatively high in Thailand, Malaysia, Korea, PRC, Singapore, and Philippines

[6] After netting out the effect of various government relief measures, CPI inflation in Hong Kong, China eased from 6.3% in July to 5.9% in October.

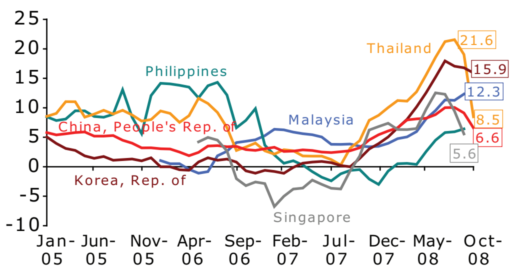
Figure 14: Core Inflation Rates (y-o-y, %)



Note: Official figures, except for Malaysia (excl. food, fuel, utilities) and Singapore (excl. food, private transport).

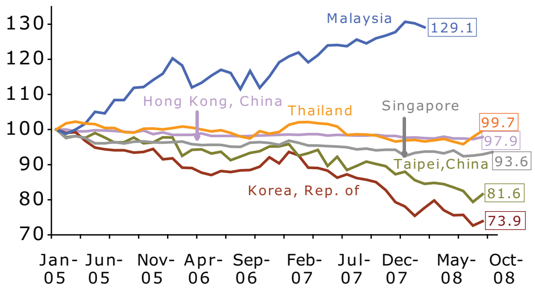
Source: OREI staff calculations based on CEIC data.

Figure 15: Producer Price Inflation—Selected Economies (y-o-y, %)



Source: CEIC.

Figure 16: Terms of Trade Indexes (Jan 2005 = 100)



Source: CEIC.

(Figure 15), although it has begun to drop in most regional economies, indicating that underlying inflationary pressures may have worked their way through their economies.

Balance of Payments

The balance of payments remained in surplus across much of the region, even as current account balances narrowed and net capital flows declined.

Despite a narrowing of current account balances—as export growth (by value) in emerging East Asia softened on slowing external demand and imports remained generally strong—the balance of payments remained in surplus in most of the region. A sharp drop in oil and commodity prices since mid-September, however, has slowed the pace of growth in import bills. And terms of trade has also improved marginally across much of emerging East Asia during the second half of the year **(Figure 16)**. Capital and financial account net inflows remained strong in the first half, contributing to a continued strong overall balance of payments for the first two quarters of 2008 **(Tables 1a, 1b, 1c)**. Financial accounts in many economies turned to net outflows in the second quarter and likely worsened further into the second half as the global financial crisis intensified. Still, foreign exchange reserves in most economies kept rising **(Table 2)**. In recent months, however, some central banks in the region have actively intervened in foreign exchange markets to prevent excess volatility in their currencies, resulting in losses in international reserves.

Current account surpluses fell across much of the region as export growth slowed amid continued resilient domestic demand.

The current account surplus as a ratio to GDP in the PRC likely narrowed in 2008 from 11.4% in 2007 as the $216 billion trade surplus in the first 10 months was only marginally higher than last year's. For the NIEs, on the back of declines in exports to advanced economies like the US and Europe, the merchandise trade deficit in Hong Kong, China and Korea widened, while the surplus in Singapore and Taipei,China narrowed, compared with the same 2007 period. Investment income surpluses in Hong Kong, China and Taipei,China increased in the first half of 2008**.** In aggregate, the current account surplus, as a ratio to GDP, fell

Table 1a: Balance of Payments—ASEAN-4 (% of GDP)

	2000-2004 Average	2004H1	2004H2	2005H1	2005H2	2006H1	2006H2	2007H1	2007H2	2008H1
Current Account	**4.2**	**2.2**	**4.4**	**1.2**	**2.9**	**3.9**	**6.2**	**5.6**	**6.2**	**4.0**
Net goods balance	9.7	7.3	9.4	5.3	7.9	7.7	9.5	8.4	8.9	5.5
Net services	-3.4	-2.6	-2.7	-2.5	-3.2	-2.5	-2.3	-2.1	-1.9	-0.3
Net income	-3.6	-3.9	-3.6	-3.5	-4.1	-3.3	-3.0	-2.6	-2.5	-2.9
Net transfers	1.5	1.4	1.3	1.9	2.3	2.0	2.0	1.9	1.8	1.7
Capital and Financial Account	**-1.8**	**0.4**	**1.6**	**2.8**	**-2.5**	**1.6**	**-1.7**	**1.0**	**-1.8**	**3.1**
Capital Account[1]	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1
Net direct investment	0.9	0.9	1.3	2.7	1.7	1.8	1.3	0.9	0.5	0.9
Net portfolio investment	0.2	1.9	3.0	2.1	0.6	1.9	1.9	4.1	-2.1	0.8
Net other investment	-3.0	-2.4	-2.7	-2.1	-4.9	-2.2	-4.9	-4.0	-0.2	1.4
Net errors & omissions	-0.4	0.6	-1.3	-1.2	-0.7	0.2	-0.7	-0.1	-0.6	0.2
Overall Balance	**2.0**	**3.2**	**4.7**	**2.8**	**-0.3**	**5.7**	**3.8**	**6.6**	**3.8**	**7.4**

[1]Capital account records acquisitions less disposals of non-financial assets by resident units and measures the change in net worth due to saving and capital transfers.
Note: ASEAN-4 = Indonesia, Malaysia, Philippines, Thailand
Sources: *International Financial Statistics Online*, International Monetary Fund; and CEIC.

Table 1b: Balance of Payments—NIEs (% of GDP)

Current Account	**5.3**	**5.6**	**7.0**	**4.8**	**5.5**	**4.2**	**6.4**	**5.5**	**6.7**	**4.1**
Trade balance	4.9	5.5	6.3	5.0	6.2	4.4	5.8	4.8	5.5	2.2
Net services	0.4	0.7	0.5	0.3	0.6	0.5	0.8	0.6	1.2	1.1
Net income	0.6	0.2	0.9	0.3	-0.7	0.1	0.4	0.9	0.7	1.4
Net transfers	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7
Capital and Financial Account	**-0.7**	**-0.8**	**-0.7**	**-0.7**	**-0.7**	**-0.8**	**-0.6**	**-0.7**	**-0.7**	**-0.7**
Capital Account[1]	-0.2	-0.2	-0.2	-0.3	-0.2	-0.2	-0.2	-0.2	0.0	0.0
Net direct investment	0.5	-0.7	0.1	1.5	0.1	0.7	0.4	1.1	-0.8	-1.3
Net portfolio investment	-2.7	-6.5	-0.2	-4.7	-0.9	-3.7	-5.9	-3.8	-4.5	-5.3
Net other investment	1.3	8.6	-3.0	3.3	-3.7	1.6	1.9	-3.2	-2.7	6.0
Net errors & omissions	0.6	0.9	1.1	1.1	1.0	0.7	0.9	2.9	4.2	-0.7
Overall Balance	**4.7**	**7.8**	**4.9**	**5.7**	**1.8**	**3.2**	**3.3**	**2.3**	**2.9**	**2.7**

[1]Capital account records acquisitions less disposals of non-financial assets by resident units and measures the change in net worth due to saving and capital transfers.
Note: NIEs = Hong Kong, China; Republic of Korea; Singapore; Taipei,China.
Sources: *International Financial Statistics Online*, International Monetary Fund; and CEIC.

Table 1c: Balance of Payments—People's Republic of China (% of GDP**)**

Current Account	**2.7**	**1.1**	**6.5**	**7.0**	**7.4**	**8.0**	**10.6**	**11.8**	**11.2**	**10.4**
Net goods balance	3.3	0.8	5.7	5.6	6.3	7.0	9.2	9.8	9.6	7.2
Net services	-0.6	-0.8	-0.4	-0.4	-0.4	-0.5	-0.2	-0.2	-0.3	-0.2
Net income	-1.0	-0.3	-0.1	0.5	0.5	0.3	0.5	0.9	0.7	2.1
Net transfers	1.0	1.4	1.4	1.3	1.1	1.2	1.0	1.3	1.1	1.3
Capital and Financial Account	**3.2**	**9.4**	**4.7**	**4.0**	**2.0**	**3.4**	**-1.9**	**6.5**	**-0.9**	**3.9**
Capital Account[1]	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Net direct investment	3.4	4.3	2.4	2.3	3.6	2.7	2.0	3.7	3.8	2.2
Net portfolio investment	-0.2	3.9	-0.9	-0.1	-0.3	-2.6	-2.6	-0.3	1.3	1.1
Net other investment	0.0	1.2	3.1	1.5	-1.5	3.1	-1.5	3.1	-6.0	0.5
Net errors & omissions	0.4	-1.0	3.7	-0.5	-0.9	-0.7	-0.3	0.9	0.2	0.9
Overall Balance	**6.4**	**9.4**	**14.8**	**10.4**	**8.4**	**10.7**	**8.4**	**19.2**	**10.5**	**15.2**

[1]Capital account records acquisitions less disposals of non-financial assets by resident units and measures the change in net worth due to saving and capital transfers.
Sources: *International Financial Statistics Online*, International Monetary Fund; and CEIC.

Table 2: Foreign Exchange Reserves (excluding gold)

	Value ($ billions)				% change (y-o-y)			m-o-m % change		
	Dec-07	Mar-08	Jun-08[3]	Sep-08[3]	Mar-08	Jun-08[3]	Sep-08	Jul-08	Aug-08	Sep-08
Brunei Darussalam	0.7	0.7	0.7	0.7	36.5	22.1	...	0.6	...	...
Cambodia	1.8	2.1	2.3	2.4	64.8	62.3	...	-1.1	8.6	...
China, People's Rep. of	1528.2	1,682.2	1808.8	1905.6	39.9	35.7	32.9	2.0	2.1	1.1
Hong Kong, China	152.6	160.7	157.5	160.5	18.8	15.6	14.0	0.0	0.3	1.6
Indonesia	55.0	56.8	57.3	56.4	24.4	16.0	...	2.0	-3.5	...
Korea, Rep. Of	262.2	264.2	258.0	239.6	8.3	3.0	-6.9	-4.1	-1.7	-1.5
Lao PDR	0.5	0.7	0.7	...	75.9	57.3	...	...	...	...
Malaysia	101.0	120.0	125.5	109.4	36.0	27.9	11.8	-0.6	-2.0	-10.5
Myanmar	...	...	...	...	...	...	...	...	...	...
Philippines	30.2	32.8	32.7	32.9	51.3	39.6	17.9	0.8	0.5	-1.0
Singapore	163.0	177.5	176.7	170.1	28.8	22.6	...	-1.0	-2.8	...
Taipei,China	270.3	286.9	291.4	281.1	7.2	9.5	6.9	-0.2	-3.0	-0.3
Thailand	85.2	107.5	103.2	100.0	55.5	44.8	27.1	-0.9	-3.2	1.0
Viet Nam	23.6	25.0	21.0	...	36.7	0.9	...	...	...	...
Emerging East Asia	**2674.3**[1]	**2,916.9**[1]	**3035.8**[1]	**3,058.8**[2]	**30.6**[1]	**26.7**[1]	**25.2**[5]	**0.8**[3]	**0.5**[4]	**0.1**[5]
Japan	952.8	992.6	978.7	974.1	11.2	9.0	5.0	0.3	-0.6	-0.2
East Asia	**3,627.1**[1]	**3,909.6**[1]	**4,014.5**[1]	**4,032.9**[2]	**25.1**[1]	**21.9**[1]	**19.8**[5]	**0.7**[3]	**0.2**[4]	**0.2**[5]

[1]Excludes Myanmar as data are unavailable.
[2]Excludes Lao PDR, Myanmar, and Viet Nam as data are unavailable.
[3]If data is unavailable for reference month, data is for most recent month in which data is available.
[4]Excludes Brunei Darussalam, Lao PDR, Myanmar, and Viet Nam as data are unavailable.
[5]Excludes Brunei Darussalam; Cambodia; Indonesia; Lao PDR; Myanmar; Singapore; and Viet Nam as data are unavailable.

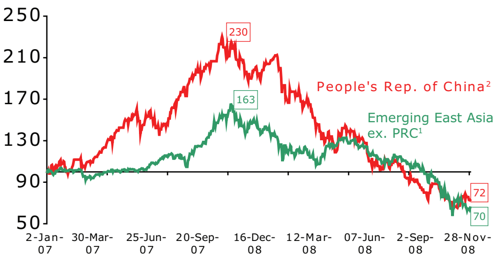
Source: *International Financial Statistics Online*, International Monetary Fund.

to 4.0% in ASEAN-4 during the first half of 2008 from 5.9% in 2007. It appears the ASEAN-4 current account narrowed further in the third quarter, as the aggregate trade surplus, at $15 billion, was $3 billion less than the same period of 2007. The strong inflow of remittances from overseas Filipino workers—equivalent to about 10% of GDP—have continued to aid the current account surplus, despite a large trade deficit. Viet Nam's trade deficit in the first 10 months increased to $16.3 billion, an increase of 66% from the $9.8 billion in the same period of 2007. Viet Nam's current account deficit is expected to rise to about 13% of GDP this year, compared with 9.9% in 2007.

Capital began flowing out of the region as the financial turmoil deepened—compared with strong capital inflows during the first half of 2008.

Balance of payments data for the third quarter—only available for Korea; Singapore; and Taipei,China—show that deficits in the capital and financial accounts widened. Compared with the first

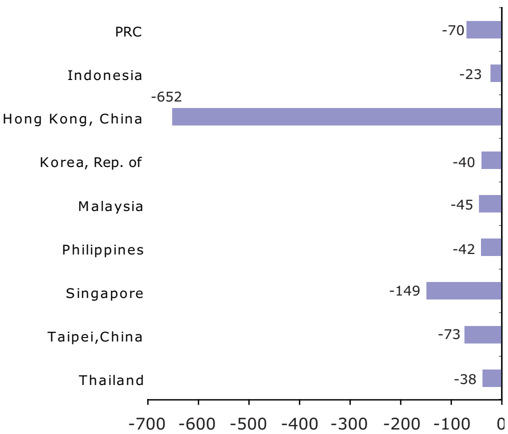
Figure 17: Composite Stock Price Indexes
(last daily price , 2 January 2007 = 100, local index)



¹Daily stock price indexes of Hang Seng (Hong Kong, China), JCI (Indonesia), KOSPI (Korea), KLCI (Malaysia), PCOMP (Philippines), STI (Singapore), TWSE (Taipei,China) and SET (Thailand) weighted by market captialization.
²Daily stock price indexes of combined Shanghai and Shenzhen Composite, weighted by their respective market capitalization (PRC).

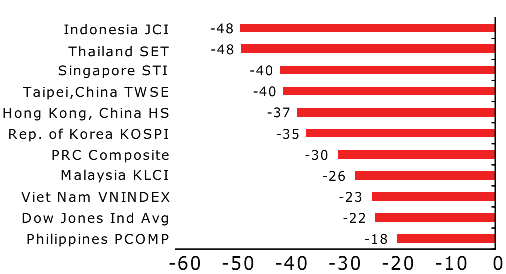
Source: OREI staff calculations based on Bloomberg data.

Figure 18: Fall in Market Capitalization
(% of GDP, 01 January to 27 November 2008)



¹ PRC = People's Rep. of China.

Figure 19: Stock Price Indexes*
(01 July to 28 November; % change)



*Latest closing as of 28 November 2008.

Source: OREI staff calculations based on Bloomberg data.

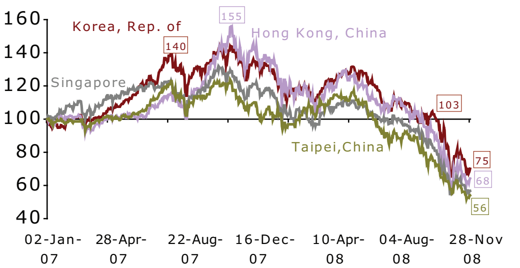
half, portfolio investment outflows grew much larger in Korea and Taipei,China, and in Singapore direct investment and other investment reversed capital flows outward in the third quarter. In the first two quarters of 2008, while NIEs maintained a small capital and financial account deficit, the capital and financial account surpluses increased in ASEAN-4 and the PRC (see Tables 1a, 1b, 1c). Direct investment in the PRC moderated, but other investment reversed from net outflows to net inflows. Foreign direct investment in ASEAN-4 remained robust at 0.9% of GDP in the first half of 2008, and the "other investment" account recorded net inflows, compared with net outflows over the past few years as ASEAN-4 repaid outstanding debt. The financial account turned to net outflows in Malaysia and Thailand in the second quarter. In general, the NIEs run capital and financial account deficits—with direct and portfolio investment outflows, and while other investment generally records inflows. In the first half, while there were net capital inflows into Hong Kong, China and Taipei,China (mainly in the form of other investments), net outflows were recorded in Korea (mainly direct and portfolio investment outflows) and Singapore (portfolio investment outflows).

Financial Markets and Exchange Rates

Stock markets across the region continued their downward slide in the second half of 2008 as the global crisis triggered massive sell-offs amid expectations of a major global economic downturn.

Equity markets in emerging East Asia continued their downward trend in 2008 on heightened risk aversion and worsening global economic prospects **(Figure 17)**. The sharp fall in stock market capitalization across the region—representing seriously reduced asset values and thus wealth—will hurt consumption and investment as well, further exacerbating the economic slowdown **(Figure 18)**. Among the region's economies, Indonesian and Thai stock price indexes fell by nearly 50%, followed by the NIEs at about 40% **(Figure 19)**. Indonesia's stock market index plummeted as investors shunned local assets and remained concerned that a weaker rupiah might stoke more inflationary pressure. Thailand's main index fell dramatically on worries that the political crisis would delay policies to support the economy amid the global financial crisis. Stock prices in Singapore and

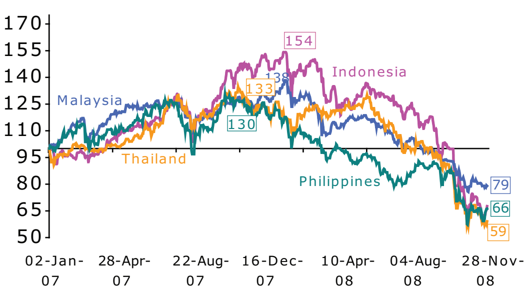
Figure 20: Composite Stock Price Indexes—NIEs[1] (last daily price, 2 January 2007 = 100, local index)



[1]Daily stock price indexes of Hang Seng (Hong Kong, China), KOSPI (Korea), STI (Singapore), and TWSE (Taipei,China).

Source: OREI staff calculations based on Bloomberg data.

Figure 21: Composite Stock Price Indexes—ASEAN-4[1] (last daily price, 2 January 2007 = 100, local index)



[1]Daily stock price indexes of JCI (Indonesia), KLCI (Malaysia), PCOMP (Philippines), and SET (Thailand).

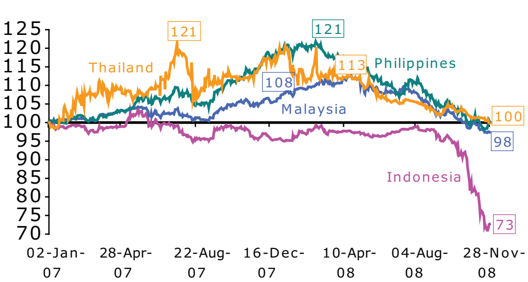
Source: OREI staff calculations based on Bloomberg data.

Hong Kong, China dropped as tightened financial conditions and worsened economic prospects undermined corporate profitability and curtailed domestic spending **(Figure 20)**. In Korea and Taipei,China, stock market indexes fell by 35–40% amid the worsening growth outlook as credit conditions tightened, export demand for technology products softened, and overseas investments incurred substantial losses. Stock prices in the PRC continued a marked decline. The Shanghai composite index fell 30% from July to end-November 2008, despite government measures to stimulate growth and restore investor confidence. Benchmark indexes in other ASEAN economies, likewise, dropped **(Figure 21),** with share prices in Malaysia, Philippines and Viet Nam down by 18–26% from July to November.

Most emerging East Asian currencies depreciated against the US dollar on flight-to-safety, particularly since mid-September, following massive financial deleveraging and as slower external demand pared export earnings.

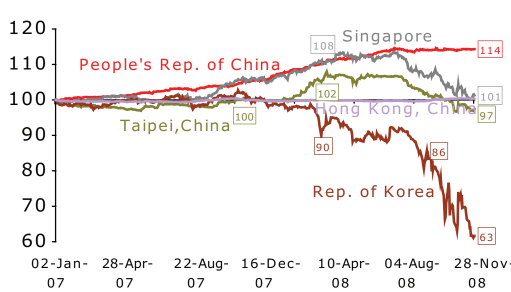
Since the freeze in global credit markets beginning mid-September, most currencies in the region have depreciated sharply against the US dollar **(Figures 22a, 22b)**. The Korean won depreciated most—29% from July to end-November—on a widening current account deficit and a sharp withdrawal of foreign portfolio investment flows **(Figure 23)**. The Indonesian rupiah fell 25% during the period on foreign portfolio deleveraging and flight-to-safety. The Malaysian ringgit, Philippine peso, Singapore dollar, and new Taiwan dollar depreciated 8–10% as demand for the region's assets and exports weakened. Viet Nam's dong faced limited depreciation pressures compared with the first half of 2008, on declining imports and restrictions

Figure 22a: Exchange Rate Indexes—ASEAN-4 (local currency vis-à-vis US$; 2 January 2007=100)



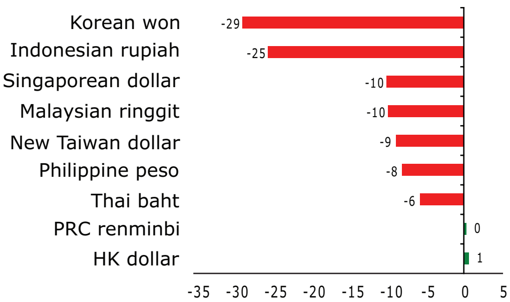
Source: OREI staff calculations based on Bloomberg data.

Figure 22b: Exchange Rate Indexes—NIEs and People's Rep. of China (local currency vis-à-vis US$; 2 January 2007=100)



Source: OREI staff calculations based on Bloomberg data.

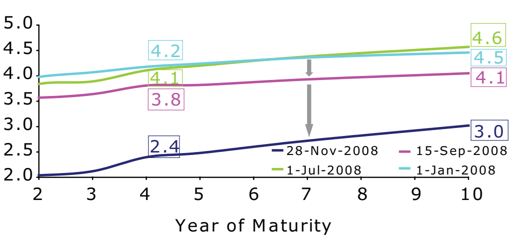
Figure 23: Regional Currencies*
(01 July to 28 November 2008, % change)



*Latest closing as of 28 November 2008, based on the $ value of local currency. Negative values show depreciation of local currency.

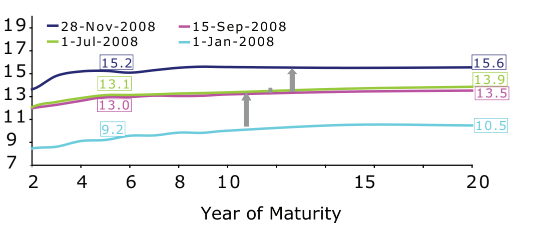
Source: OREI staff calculations based on Bloomberg data.

Figure 24a: PRC Benchmark Yields
(% per annum)



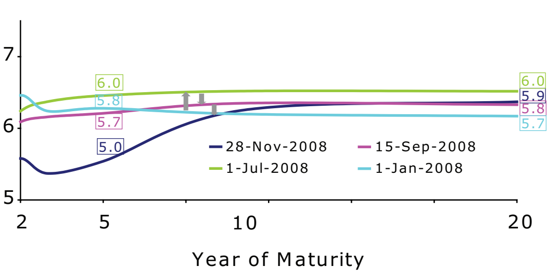
Source: Bloomberg.

Figure 24b: Benchmark Yields—Indonesia (% per annum)



Source: Bloomberg.

Figure 24c: Benchmark Yields—Republic of Korea (% per annum)



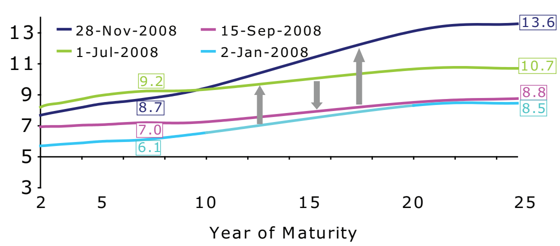
Source: Bloomberg

on capital transactions. Authorities in some economies have intervened in foreign exchange markets to prevent disorderly conditions. The PRC renminbi remained relatively stable during the period while the Hong Kong dollar stayed at the strong side of the convertibility zone, triggering injections of liquidity into the banking system by the Hong Kong Monetary Authority in response to growing demand for Hong Kong dollar funds.

Local currency bond market yield curves shifted downward in the second half of 2008 as inflationary expectations eased and the severity of the global financial crisis deepened.

Government bond yield movements in emerging East Asia went through three distinct phases in 2008: (i) most yield curves shifted up during the first half as many central banks raised interest rates to fight inflation; (ii) yield curves shifted downward from July to early September as the severity of the global credit crisis deepened and inflationary expectations peaked; and (iii) global credit markets seized-up in September and the combination of an investor "flight-to-quality" and emergency measures drove government bond yields lower. In Malaysia; Singapore; Taipei,China; and Thailand, yield curves fell sharply as inflationary expectations peaked and the financial contagion spread to the region. Yield curves in PRC, Thailand, and Singapore shifted below their January 2008 levels. In the fourth quarter, however, yield curves in Indonesia, Korea, and Philippines shifted upward—most notably for longer maturities—on rising credit risks **(Figures 24a, 24b, 24c, 24d)**. In Korea, the yield curve also steepened significantly as the Bank of Korea aggressively cut policy rates in October and November.

Figure 24d: Benchmark Yields—Philippines
(% per annum)



Source: Bloomberg.

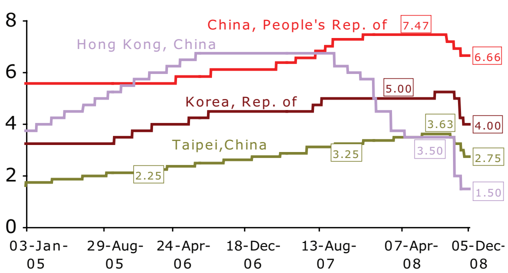
Monetary and Fiscal Policy

With the prospect of slowing growth, policy makers in the region have begun to ease monetary and fiscal policies.

Since mid-September, the balance of risks through most of emerging East Asia has shifted from rising inflation to slowing growth. Authorities across the region have announced—and some have begun implementing—a series of policy measures to stabilize financial markets, restore investor confidence, and to mitigate the impact of the financial crisis on the real economy. Policy measures include deposit guarantees, monetary easing, liquidity injections, foreign exchange market intervention, and fiscal stimulus, and other administrative and regulatory measures **(Table 3)**. Were economic growth to slow and financial conditions worsen further, additional policy responses could be expected.

Monetary authorities in the PRC and the NIEs have loosened policy and adopted various measures to stabilize financial markets.

Figure 25a: Policy Rates[1]—NIEs and People's Republic of China (% per annum)



Note: [1]Hong Kong base rate (Hong Kong, China); Korea base rate (Korea); official discount rate (Taipei,China), one-year lending rate (People's Republic of China).

The PRC dramatically shifted its monetary stance from one of tightening to easing. Benchmark interest rates have been cut four times since mid-September by a total of 1.89% and the reserve requirement ratio cut by between 350 to 450 basis points **(Figure 25a)**. The People's Bank of China lifted the credit quota that had been the binding constraint on credit expansion since late 2007. Until recently, PRC monetary policy had been restrictive with the last measure a rise in reserve requirements on 7 June. Authorities have also encouraged state-owned companies to buy shares in companies where they are major shareholders, and the China Investment Corporation took stakes in key banks to support share values. To stabilize financial markets and ease financial distress, the NIEs have adopted various policy measures, such as deposit guarantees, liquidity injections, and interest rate cuts. Since mid-September, interest rates have been cut significantly in Korea and Taipei,China, by 125 basis points and 88 basis points, respectively, and the Hong Kong Monetary Authority (HKMA) adjusted its formula for determining its base rate – from 150 basis points above the prevailing US federal funds rate to 50 basis points, with effect until the end

Table 3: Government Responses to the Financial Crisis

	Deposit Guarantee	Government Stakes in Banks	Regulatory Forbearance	Monetary Policy (Policy Rate and Reserve Ratio)	Exchange Rate (New Arrangement & Government Intervention)	Stock Market Intervention	Fiscal and Administrative Measures
Cambodia				Doubled reserve requirements for private banks from 8.0% to 16.0% in Jul 08. Implemented measures to strengthen banks' financial status in Oct 08: (i) increased capital requirements for commercial and specialized banks to 150 billion riels ($37.5 million); and (ii) reserves of at least 10 billion riels and 30 billion riels will be required from rural specialized banks with single and multiple shareholders, respectively.			Banned rice exports from Mar through May 2008 and subsi-dized fuel [ongoing].
China, People's Republic of		China Investment Corporation took stakes in key banks to support their shares.		Lending rate cut by 108 bp to 5.58% on 26 Nov 08, preceded by three 27 bp cuts from 16 Sep 08 to 29 Oct 08. Deposit rate cut by 108 bp to 2.52% on 26 Nov 08, preceded by two 27 bp cuts in Oct 08. Reserve requirement ratio cut for major deposit-taking institutions by 100 bp to 16% and for smaller institutions by 200 bp to 14% on 27 Nov 08. This was preceded by 100 bp cut for small banks on 15 Sep 08, followed by 50 bp cut applicable to all banks on 8 Oct 08. Separately exempted interest paid on bank deposits from tax on 8 Oct 08. Announced on 5 Oct 08, the restarting of the program that allows non-financial companies to raise funds in interbank market by issuing medium-term notes. Imposed a hike in lending quota to provide additional financing for small and medium-scale enterprises in Jun 08.		Eased rules on share buybacks in Sep 08 and eliminated stamp duty on stock purchases on 23 Apr 08. Approved a trial program for margin trading and short-selling on Oct 08.	Announced a fiscal stimulus package of 4 trillion yuan over the next 2 years or about 7% of GDP in new spending per year, on 9 Nov 08. Implemented changes to the property market, e.g., reduction of the down payment requirement for first homes, cuts in mortgage interest rate & reduction of VAT on land sales, on 22 Oct 08. Tax rebates raised on 3,486 industry items on 22 Oct 08.
Hong Kong, China	Blanket guarantee of all deposits in authorized institutions announced on 14 Oct 08 backed by the Foreign Exchange Fund until end-2010. A Contingent Bank Capital Faciltiy will be established to make available capital to locally incorporated licensed banks when necessary, until end-2010.			Base rate adjusted downwards to 1.5% on 30 Oct 08 according to a new pre-set formula of 50 bp above the prevailing US Fed funds target rate (announced on 8 Oct 08). This was preceded by a 2% downward adjustment in the base rate on 9 Oct 08. Implemented five liquidity enhancement measures for the banking system effective 2 Oct 08 to Mar 09: (i) broadened eligible securities to access funds from HKMA discount window; (ii) extended the duration of HKMA liquidity assistance; (iii) waived the penalty for using over 50% of the Exchange Fund paper as collateral for borrowing through the discount window; (iv) HKMA to conduct foreign exchange swaps with individual banks when necessary; (v) HKMA lending term money up to one month to individual banks when necessary.	Injected HK$ 2.183 billion to the interbank market on 31 Oct 08 and simultaneously purchased US$361 million from the foreign exchange market, following the same action (involving different amounts) on 27 Oct 08. Since the Lehman Brothers collapse in Sep 08, interbank market interventions have been frequent and have totaled HK$ 31.6 billion (US$4.2 billion).		Fiscal measures such as reinforcement of large infrastructure projects, household electricity charge subsidy, increasing old-age allowance and tax cuts, among others.

	Deposit Guarantee	Government Stakes in Banks	Regulatory Forbearance	Monetary Policy (Policy Rate and Reserve Ratio)	Exchange Rate (New Arrangement & Government Intervention)	Stock Market Intervention	Fiscal and Administrative Measures
Indonesia	Guaranteed deposits up to 2 billion rupiah (about $200,000) from 1 million rupiah on 14 Oct 08.	Approved the bailout of an overseas subsidiary of Bank Indonesia in Amsterdam with a capital injection of €546 million ($700 million) on 27 Oct 08.	Abolished the limits on the daily balance of short-term foreign borrowings on 15 Oct 08. Exempted banks from mark-to-market accounting for debt on 9 Oct 08.	Cut policy rate by 25 bp to 9.25% on 4 Dec 08. It was on hold in Nov 08, which broke a string of six consecutive meetings from May to Oct 08 which hiked the policy rate. Cut reserve requirement ratio to 7.5% from 9.08% for rupiah deposits on 9 Oct 08, and for foreign currency deposits, to 1% from 3% on 14 Oct 08. Subsequently allowed commercial banks to use central bank debt and government bonds as secondary reserves on 22 Oct 08. Extended the FX swap tenor up to 1-month from 7 days on 15 Oct 08. Made available foreign currencies for domestic firms through commercial banks on 15 Oct 08. Injected $483.2 million in 6-day repo on 19 Sep 08, lowered overnight repo rate and adjusted the rate of liquidity facility on 16 Sep 08.	Implemented a new regulation on 13 Nov 08 requiring that purchases of foreign currencies above $100,000 per month be backed by underlying transactions. Introduced a wave of measures to improve USD/IDR demand and supply balance on 28 Oct 08: remove palm oil levies, tighten control against illegal importation and provide post-shipping guarantees to exporters. Proposed a clearing house to manage the supply and demand of foreign currency among state-owned enterprises and ordered the latter to place their forex receipts in onshore banks.	Suspended trading on 8-9 Oct 08 (first time in 8 yrs). Imposed ban on short-selling for month of Oct. Eased rules/cap for firms to buy back shares on 10 Oct 08.	Government announced on 24 Nov 08 that it is seeking credit lines from Australia, Japan, World Bank and ADB to fund 2009 deficit with plans to increase spending on infrastructure and public services. Also announced, together with the central bank, to buy back 4 trillion rupiah of government bonds on 28 Oct 08.
Korea, Republic of	Guaranteed banks' external debt taken up from 20 Oct 08 to 30 Jun 09 for three years with total value of guarantees capped at $100 billion.		Announced plans to implement selective lifting of real estate regulations on 21 Oct 08.	Benchmark interest rate cut by 25 bp on 7 Nov 08, preceded by 75 bp and 25 bp cuts on 27 Oct 08 and 8 Oct 08, respectively. Cut interest rates on special loans to 2.5% from 3.5% to small and mid-sized companies on 27 Oct 2008. Introduced a competitive auction swap facility from 20 Oct 08 for onshore FX swaps with the central bank. Established on 30 Oct 08 a $30 billion swap line with the Federal Reserve available until 30 Apr 09. Additional dollar liquidity of $30 billion in won-dollar swap market by utilizing foreign exchange reserves after an initial $10 billion on 6 Oct 08. Announced provision of windfall interest payment of 500 billion won ($340 million) on reserves deposited by domestic banks on 3 Dec 08. Raised aggregate ceiling to SMEs to KRW9 trillion (US$7.5 billion) effective Nov 08.		Imposed temporary ban on short selling on 8 Oct 08.	Announced increased spending of KRW10 trillion for 2009 on 3 Nov 08, which includes infra expenditure, financial support for small and medium-sized business and tax cuts. Invested KRW1 trillion ($840 million) to expand capital base of Industrial Bank of Korea and provided $5 billion to SMEs via Korea Export Import bank from 1 Oct 08. Announced a support package of KRW8 trillion ($6.7 billion) for the real estate/ construction sector on 24 Oct 08. The National Pension Service will buy up to KRW10 trillion ($8.3 billion) in new bonds from local banks and high-rated companies.
Lao People's Democratic Republic				Bank rate unchanged at 8% since the first quarter.			
Malaysia	Blanket guarantee on all deposits until Dec 2010 in 16 Oct 08 announcement.			Cut overnight policy rate by 25 bp to 3.25% (first move since Apr 06), and statutory reserve requirement to 3.5% from 4%, on 24 Nov 08. Allowed insurance companies and takaful operators to access funds from the bank's liquidity facility on 14 Oct 08.		Announced plans to infuse additional Rm5 billion in a state agency to buy undervalued stocks, on 20 Oct 08.	Announced a MYR 7 billion fiscal stimulus package on 04 Nov 08. Reduced subsidy on gas and diesel in Jun 08, followed by cuts in gas and diesel prices in Aug and Sep.
Myanmar					Waived a policy on forex entering the country to ease conditions on aid inflows on Sep 08 .		Restricted exports and domestic trade of rice on Aug 08, lifted Nov 08.

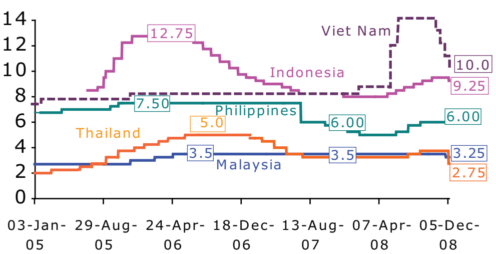
	Deposit Guarantee	Government Stakes in Banks	Regulatory Forbearance	Monetary Policy (Policy Rate and Reserve Ratio)	Exchange Rate (New Arrangement & Government Intervention)	Stock Market Intervention	Fiscal and Administrative Measures
Philippines	Announced plans to raise deposit guarantee from P250,000 to P1 million, pending Congress approval, on 21 Oct 08.		Allowed financial institutions to reclassify their investments in debt and equity securities from 23 Oct 08 until 31 Dec 2008. Eased FCDU asset cover requirements on 31 Oct 2008.	Policy rates kept at 6% since Jun 08. Reduced regular reserve requirement on bank deposits and deposit substitutes by 2 percentage points effective 14 Nov 2008. Increased central bank budget for the peso rediscounting facility from P20 billion P40 billion on 7 Nov 2008. Opened a $ repo facility on 20 Oct 2008 to ensure dollar liquidity with the banks' dollar-denominated Philippine sovereign bonds as underlying collateral.			Postponed planned 2008 budget balance to 2010 in May 08. Imposed domestic petrol price rollbacks in the third quarter of the year.
Singapore	Blanket guarantee on all deposits until Dec 2010, announced on 16 Oct 08.			Established on 30 Oct 08 a $30 billion swap line with the Federal Reserve available until 30 Apr 09. Injected liquidity via market operations in Sep 08 and committed to provide further liquidity if necessary on 10 Oct 08.	Abandoned its appreciation policy (first since 2003) in favor of a neutral stance on 10 Oct 08.		Announced on Aug 08, additional 50% increase in utility rebates and second installment of growth dividends, on top of special transfers disbursed earlier in the year.
Taipei,China	Blanket guarantee on bank deposits from 7 Oct 08 until 31 Dec 09.		Reduced the required reserve ratios on NT$ deposits, and expanded the scope (eligible parties now include insurance companies) and lengthened the terms of Repo operations (to 180 days from 30 days) on 25 Sep 08. Central bank extended the credit line for banks to extend funding to securities firms in Oct 08.	Cut major policy rates by 25 bp on 9 Nov 08, the fourth in two months and totaling a cumulative 87.5 bp. The discount rate is now at 2.75%, the secured accomodation rate at 3.125% and the unsecured loan rate at 5%. Reserve requirement ratio on TW$ deposits cut to a range of 4-10.75% on 16 Sep 08 from previously, 4.75-12%.		Banned short-selling 150 stocks in the Taiwan 50 Index, Taiwan Mid-Cap 100 and Taiwan Technology Index on 21 Sept 08 until 31 Dec 08. Activated the National Stabilization Fund on 19 Sep 08 (which has NT$500 billion in capital) to prop up the stock market.	Government announced on 18 Nov 09, the provision of NT$3,600 (US$108) in shopping vouchers to each individual on Jan 09 and to expire by Dec 09. On 7 Nov 08, increased government's donation to the SME Credit Guarantee Fund (CGF) to NT$6 billion (US$187 million) in 2009 from NT$5 billion in 2008, raised the ceiling of CGF-guaranteed credit to each SME by NT$20 million (US$625,000) and doubled bank-guaranteed credit to SMEs to NT$20 million.
Thailand	Blanket guarantee of bank deposits put in place in Aug 08 was extended until 2011 as of late Oct 08 (the 100% guarantee in Aug 08 version was set to decrease gradually over a 5-yr period).			Cut policy rate by 100 bp to 2.75% on 3 Dec 08. Rate was on hold in Oct 08 after twice raising this by 25 bp each in the two preceding meetings in Jul and Aug 08. Announced plans to convince commercial banks to extend loans equivalent to B400 billion ($11.4 billion) and B50 billion ($1.4 billion) from state-run banks or at least 5% loan growth in 2009 on 14 Oct 08.		Established B10 billion matching fund linking the Stock Exchange of Thailand and financial institutions on 14 Oct 08.	Announced on 4 Nov 08 a spending boost of B100 billion for fiscal year 2008/2009 to be financed locally targeted at low-income families and job-creation. Implemented a $1.4 billion six-month stimulus package on Aug 08 to cut excise tax on ethanol-mixed gasoline, provide free bus passage and partially subsidize home electricity costs.
Viet Nam				Cut key policy rate by 1 percentage point to 10%, refinancing rate to 11% and discount rate to 9% on 2 Dec 08, the fourth cut for these rates since 20 Oct 08 for a total of 400 bp. Cut reserve requirement ratio by 200 bp to 6% from 8% effective 5 Dec 08 (last move was a 200 bp cut on 20 Nov 08).	Expanded the trading band by 3% on either side of the fixed rate on 7 Nov 08.	Announced plans to set up a stabilization fund to contain volatility and support shares, scrap foreign investment in listed companies, strengthen prudential/disclosure norms, delaying IPOs in Mar 08.	Announced on 3 Dec 08 a fiscal stimulus package that includes $1 billion worth of foreign currency reserves for high-priority development projects, $89 million for canal dredging and interest-free credit to state-owned agri distributors. Controlled price increases in power, coal, cement, and steel until Jun 08. Lowered domestic petrol price for the third time on 21 Oct 08.

Sources: Country write-ups as of 27 Oct 08, Economic Observatory of BBVA as of 29 Oct 08 and the RGE Monitor (for some countries) and various analyst and financial institutions reports as of 4 Dec 08.

of March 2009. The Monetary Authority of Singapore—which targets exchange rates rather than interest rates—abandoned its appreciation policy in favor of a neutral stance. Korea and Singapore established swap lines with the US Federal Reserve. Korea also introduced a $130 billion financial-rescue plan in October, which includes a sovereign guarantee of $100 billion of local banks' foreign currency debt (effective until June 2009), to help renew loans on the international market, and ease the liquidity shortage.

With moderating inflation amid prospects of slower growth, ASEAN economies have begun to loosen monetary policy.

Figure 25b: Policy Rates[1]—ASEAN-4 and Viet Nam (% per annum)



[1]BI Rate, (Indonesia); Overnight Policy Rate (Malaysia); reverse repurchase (repo) rate (Philippines); 14-day Repo Rate (before 17 Jan 2007) and 1-day Repo from 17 Jan 2007 onwards (Thailand); prime rate (Viet Nam).

Source: Bloomberg.

In late November, Bank Negara Malaysia cut its overnight policy rate by 25 basis points to 3.25%, the first cut since 2003, citing heightened downside risks to growth and diminishing inflationary pressures **(Figure 25b)**. Since October, the State Bank of Viet Nam cut interest rates four times (by 400 basis points to 10%) and reserve requirements were lowered to protect growth—this despite inflation still hovering above 25%. After keeping rates unchanged since August 2007, Thailand cut its main policy rate by a full percentage point to 2.75% on 2 December to prop up a sagging economy. And with inflation around 10% but slowly falling, Indonesia and the Philippines have left their interest rates unchanged recently, though the Philippine central bank cut reserve requirements and doubled its rediscounting budget. While both central banks are concerned about strong inflationary pressures, they also cite exchange rate volatility as a factor behind their policies. Both the rupiah and the peso depreciated sharply in recent months.

Fiscal policy has moved to center stage; fiscal prudence over the past several years has given many emerging East Asian economies room for stimulus packages, with the PRC the most notable example.

Several economies have already announced fiscal measures to support aggregate demand (see Table 3). Most notably, the PRC unveiled a fiscal stimulus package of RMB4 trillion ($586 billion) over the next 2 years, of which RMB120 billion will be disbursed by the end of this year **(Box 1)**. The grand scale

Box 1: The PRC Moves Decisively with Bold Stimulus Package

Emerging East Asia's largest and fastest growing economy—the People's Republic of China (PRC)—slowed sharply in the second half of 2008, as the recession among G3[1] economies began to spill over into the region. GDP growth of 9.0% in the third quarter was the lowest in 5 years. The economy continued to weaken into the fourth quarter, with industrial production growth falling to its lowest level since late 1999, and both investment and export growth fell. The housing sector continued to cause concern as home sales slumped.

Table B1: Allocation of RMB4 Trillion Investment in the Stimulus Package

Roads, railways, airports and power grids	1.8 trillion
Sichuan post-earthquake reconstruction	1.0 trillion
Rural development and infrastructure	.37 trillion
Environmental protection	.35 trillion
Low-rent housing	.28 trillion
Technical innovation and industrial restructuring	.16 trillion
Public healthcare, culture and education	.04 trillion
	Total: 4.0 trillion

To shore up domestic demand in a fast deteriorating external environment, on 9 November the PRC government unveiled a unprecedented economic stimulus package worth RMB4 trillion. The adoption of counter-cyclical fiscal policy is a significant proactive way to counter the economic risks from deteriorating global and domestic growth prospects. The package also signals a policy shift to rebalance the PRC sources of growth from exports to domestic demand—and to stimulate consumption by raising household income, increasing social spending, and expanding rural demand.

To boost the economy in 2009 and 2010, the package identifies measures in 10 areas, including social and infrastructure spending, earthquake reconstruction, value-added tax reform, and subsidies to farmers and industries. The center piece of the package is for investment projects, the majority in infrastructure development **(Table B1)**. The central government has committed RMB1.18 trillion—with the remaining 70% financed by local governments, state-owned enterprises and bank financing. To fast-track the package, the central government allocated RMB100 billion for the remainder of 2008 for investments, 60% of which are for infrastructure with the rest to support long-term social development aimed at improving living standards.

The package should have a sizable impact on the PRC economy, but the exact size of the stimulus remains unclear. The RMB4 trillion stimulus is on a "gross" basis, as some projects have been long planned and will be simply brought forward, while others are delayed projects still awaiting approval. Thus, the actual amount of new spending is uncertain. Moreover, not all of the RMB4 trillion will be spent by the government. The government estimates the package will boost economic growth by 1 percentage point per year, yet the estimates by others range from 2 to 4 percentage points for 2009.

The PRC introduced a similar stimulus package in August 1998 after the Asian financial crisis. Again, one major component of the 1998 package was increased infrastructure expenditure. This was done by issuing long-term construction bonds (LTCB) to state-owned commercial banks. Unlike the current package, in 1998 the government did not name an overall amount for the package. Like today's stimulus package, however, it was rolled out gradually. From 1998 to 2000, RMB360 billion in LTCBs was issued, about 1.3% of annual GDP at the time.[2] According to official figures, the LTCBs generated RMB1.51 trillion in fixed-asset investments for 6,620 official projects—with co-financing from banks, local government, state-owned enterprises, and other non-government sources. The government estimates the LTCB-funded investments boosted GDP growth by 1.5, 2.0, and 1.7 percentage points from 1998 to 2000, respectively.

[1] United States (US), eurozone, and Japan.

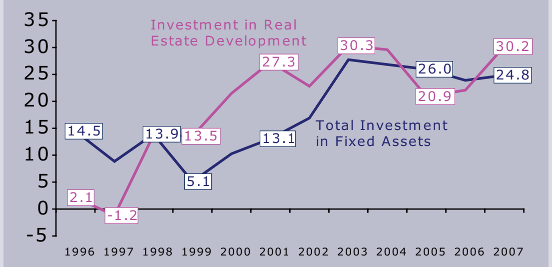
[2] Proportionally, the 1998–2000 package is similar to the 2008 package in terms of the central government contribution to infrastructure investment. The PRC's nominal GDP in 2007 was a little over three times of that in 1997. Coincidently, the size of central government contribution in the 2008 package, RMB1.18 trillion, is exactly three times of that in the 1998–2000 package (RMB360 billion), plus the RMB100 billion, which is to be spent in the fourth quarter of 2008.

During 1998–2000, however, the G3 economies were not in recession. But the domestic economy had cooled from the 1994/95 expansion—when inflation was running over 20%.

The current stimulus package may not have the same economic effects as in 1998–2000. Then, infrastructure was lacking and the housing market had just begun to pick up. Government-sponsored infrastructure investments were a stimulus for private investment as well. Many of the projects then created profit opportunities for private sector investment, particularly in real estate, which grew twice as fast as total fixed-asset investment over 1999–2001 **(Figure B1)**. Since then, infrastructure has become far more developed. Also, with real estate now in a slump, private investment associated with stimulus spending will likely be more cautious. This may be part of the reason the government predicts a smaller contribution to economic growth than in 1998–2000.

It is widely expected that the government will resume LTCB issuance or similar government bonds in 2009. It also plans for local governments, state-owned enterprises, and banks to co-finance projects. As local governments may lack funds due to the housing market slump, the stimulus package may be co-financed mainly by bank financing and bond issuance. The PRC's monetary policy has been loosened dramatically to facilitate credit expansion, with interest rate cuts and reductions in reserve requirements. Lending restrictions on commercial banks have also been abolished to encourage lending. Still, after major structural reforms over

Figure B1: Investment in Fixed Assets—People's Republic of China (% change)



Source: China Statistical Yearbook 2008.

the past decade aimed at promoting a commercially driven business culture, no one knows whether and how much banks will be willing to lend to potentially risky projects. For infrastructure projects partly funded by the central and local governments, however, banks will likely be eager to lend as these projects will have an explicit or implicit government guarantee. This may, however, crowd out bank lending to small and medium enterprises.

With rising government expenditures and falling revenues, the fiscal position will be in deficit in 2008 and 2009. While public debt over the next few years, as a ratio of GDP, would remain healthy despite the fiscal expansion, the PRC should prepare for consolidation following the package. Lower future spending commitments mean that future taxes will not need to rise as much. Moreover, the challenge of an aging population requires even stronger fiscal positions. The PRC's working population is projected to peak very soon with the elderly population rising rapidly.

It is crucial that the package provides opportunities for the country to rebalance sources of growth from external demand to a greater reliance on consumption. While it is important to shore up domestic demand immediately through direct government spending, the fiscal expansion could also increase spending on major impediments to private consumption, such as social security, health care, and education. In addition, the fiscal stimulus should be flexible and transparent. At times of major uncertainty, the size of the fiscal expansion may need to vary depending on how the economy performs. And transparency in spending and funding will help not only the public sector but also the private sector in making investment decisions.

of the package, representing some 17% of nominal GDP—and the equivalent of 29% of total fixed-asset investment in 2007—will have a significant impact on economic growth, adding an estimated one percentage point to GDP growth per year. The economic impact will be greater if business and consumer confidence is strengthened. Central and local governments have also implemented measures to support property markets—for example, tax refunds for home buyers, price subsidies, reduction in down payments for first-time home buyers, suspension of stamp duties and value-added tax on land for individual home sales. The authorities also raised tax rebates for many export items. With new spending and reduced revenue, the fiscal position is expected to post a small deficit in 2008, from its surplus of 0.7% of GDP in 2007.

With strong fiscal positions, the NIEs also announced a variety of fiscal measures to stimulate domestic demand.

Korea unveiled a raft of stimulus measures, including an $11 billion increase in public spending and tax cuts. Planned government spending in 2009 is now up 6.5% from 2008. Singapore announced recently that it would provide additional loan support of S$2.3 billion to improve credit access for local firms effective 1 December 2008, and it is also allocating S$600 million over the next 2 years for local worker skill upgrades. Taipei,China provided NT$3,600 ($108) in shopping vouchers to individuals—expiring 9 December. Hong Kong, China has also introduced several fiscal measures—such as reinforcement of large infrastructure projects, household electricity charge subsidies, increasing old-age allowances, and tax cuts.

Many ASEAN countries, given room for maneuver by recent fiscal prudence, have announced plans to increase expenditures in support of economic growth.

In Indonesia, the budget deficit has been generally modest following successful fiscal consolidation in recent years. The government plans to increase bilateral and multilateral borrowing and reduce fund-raising in the volatile capital markets to finance its budget deficit. Also, passage of an amended tax law—cutting corporate and personal income taxes from 1 January 2009—adds to a series of measures enacted to improve the business climate. Malaysia announced a RM7 billion ($2 billion) fiscal stimulus package in early November to buoy economic growth through infrastructure spending and private sector initiatives. As the stimulus package is funded by savings from fuel subsidy cuts, the government expects the budget deficit to remain at 4.8% of GDP in 2008 and 2009. In the Philippines, the government's focus shifted from balancing the budget this year to stimulating demand. Authorities have deferred their balanced budget goal to 2010. It has raised social spending, and also implemented tax breaks. With public debt at about 60% of GDP, the Philippines may have little scope for further fiscal expansion. In its recently approved 2009 financial year budget, Thailand boosts spending by B100 billion ($3 billion) during the fiscal year, increasing the fiscal deficit to 3.5% of GDP from the previous deficit target of 2.5%.

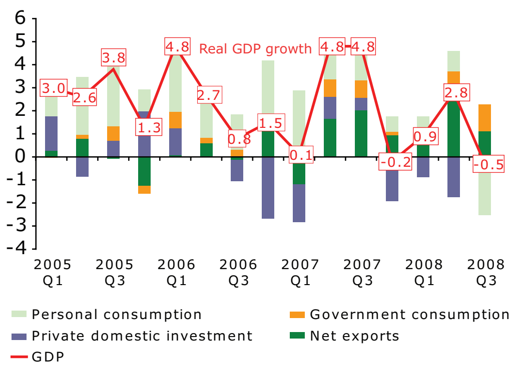
Economic Outlook for 2009, Risks, and Policy Issues

External Economic Environment

The world economy faces a major downturn, with major industrial economies in recession and the global financial crisis stifling credit to firms and households that are already under pressure from weaker income and record commodity prices earlier in the year.

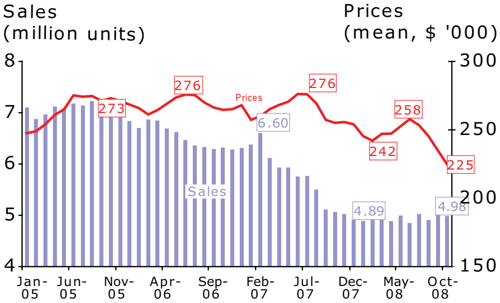
Major industrial economies have slipped into recession, with the IMF now projecting GDP in advanced countries to fall 0.3% in 2009—after estimated growth of 1.4% in 2008. This would be the first annual contraction in the advanced countries in the post-World War II period. G3 economies (US, eurozone, and Japan) have contracted in recent quarters, with domestic demand cooling fast. And the ongoing financial crisis has intensified its grip on global money and credit markets, choking off credit to the private sector. As financial deleveraging continues, the knock-on effects on cash-strapped households and the broad economy will increase significantly. While the measures authorities have taken so far around the globe should help reduce the severity and duration of the crisis, the damage to global credit conditions is significant and recovery will take considerable time.

Figure 26: Contributions to Growth—US
(seasonally adjusted, annualized, q-o-q, % change)



Source: US Bureau of Economic Analysis.

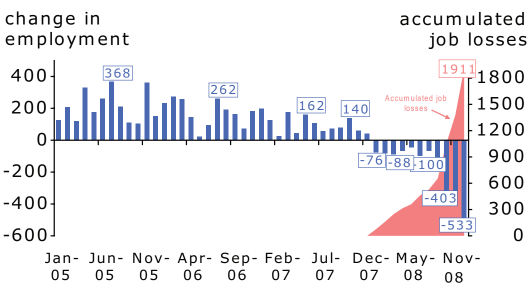
Figure 27: Existing Home Sales[1] and Prices—US



[1]Seasonally adjusted; annualized.

Source: CEIC.

Figure 28: Change in Non-Farm Employment (in thousands)



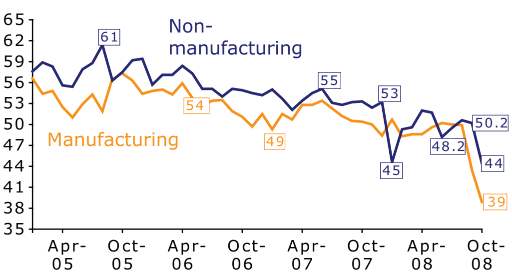
Source: OREI staff calculations based on US Department of Labor Bureau of Labor Statistics data.

The US economic outlook has darkened as the worst financial crisis in decades drives the economy into recession,[7] with suppressed consumer spending and business investment.

After contracting 0.5% (quarter-on-quarter [q-o-q], seasonally adjusted annualized rate [saar]) in the third quarter **(Figure 26)**, the US economy is expected to contract further into 2009. The IMF forecasts a 0.7% contraction in GDP in 2009. Private consumption expenditure dropped 3.7% in the third quarter, as consumers retrenched amid the continuing housing slump, mounting job losses, and the intensifying credit crunch. Home prices continue to fall amid high inventories, with sagging demand rapidly spilling over into business activity **(Figure 27)**. In November, job losses totalled 533,000, bringing losses to 1.9 million in the past year, with two-thirds in the past 3 months, a sign of an intensifying downturn **(Figure 28)**; the unemployment rate rose to 6.7%. Moreover, leading indicators suggest the downturn will likely be prolonged **(Figures 29, 30)**. The slump comes despite massive monetary and fiscal policy boosts, with the US Federal Reserve (US Fed) slashing its target policy rate 50 basis points (bp) to 1% on 29 October—for the ninth time since September 2007. In addition, since early September this year, the Fed has become a direct lender in credit markets under various programs to counter the impact on the economy of weak credit flows from the private

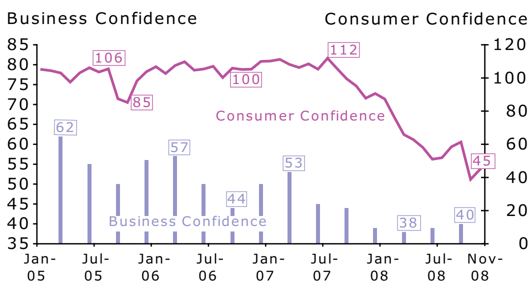
[7] On 1 December 2008, the Business Cycle Dating Committee of the National Bureau of Economic Research reported that the US economy entered into a recession in December 2007. The committee uses a number of economic indicators as well as GDP to date the beginning and end of US business cycles.

Figure 29: US Business Activity Survey Indexes[1]



[1]Data survey from the Institute for Supply Management. The indexes are summary measures showing the prevailing direction and scope of change. An index above 50% indicates that the manufacturing or non-manufacturing economy is generally expanding; below 50% indicates that it is generally declining.

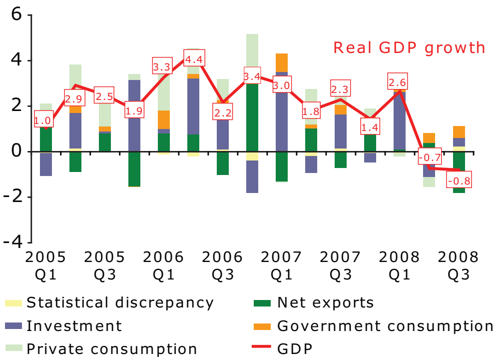
Figure 30: US Business and Consumer Confidence Indexes



Notes:
1. Consumer Confidence (1985 = 100)
2. A business confindence index above 50 means there are more positive than negative responses.
3. Consumer confidence is monthly, business confidence is quarterly.

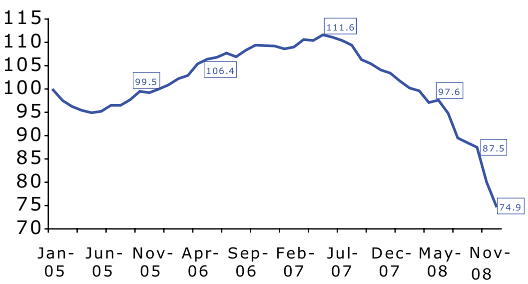
Source: Bloomberg.

Figure 31: Contributions to Growth —eurozone (seasonally adjusted, annualized, q-o-q, % change)



Source: Eurostat website.

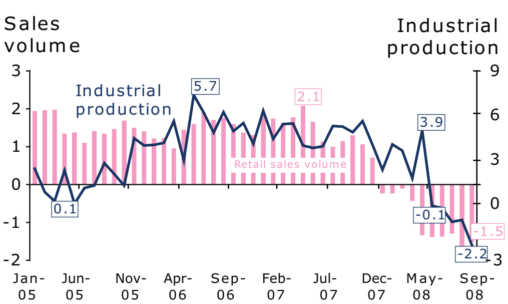
Figure 32: Economic Sentiment Indicator[1]—eurozone



[1]The economic sentiment indicator is a composite index of business and consumer confidence indicators based on survey of overall economic assessment and expectations in the eurozone.

Source: Bloomberg.

Figure 33: Retail Sales and Industrial Production[1]—eurozone



[1]Seasonally-adjusted, y-o-y growth rate of 3-month moving averages.

Source: OREI staff calculation based on CEIC data.

financial system. In doing so, the Fed's balance sheet had grown hugely to $2.2 trillion by end-November from about $900 billion in August. Meanwhile, a second, much larger, stimulus package is under discussion following the government's $150 billion fiscal package approved in February, and on top of the $700 billion financial rescue bill passed in September. Recent estimates indicate that to date the US government, through a broad range of programs, has committed an extraordinary $3.1 trillion as an insurer, $3.0 trillion as an investor, and $1.7 trillion as a lender to shore up the financial system. Slowing economic activity, however, is keeping price pressures at bay, as headline inflation eased to 3.7% in October, from the 5.6% July peak. Core inflation, which excludes food and energy, eased to 2.2% from 2.5% in September. The US trade deficit narrowed again in the third quarter as the effect of past dollar weakness was carried over, but the US dollar's recent strength may reverse the trend in coming quarters.

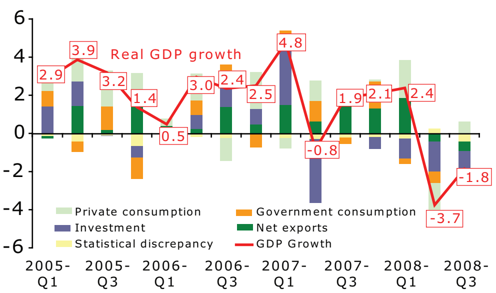
The eurozone is also already in recession after many financial institutions became direct casualties of the financial crisis, industrial production declined, and retail sales fell.

The eurozone is officially in recession, after contracting during the second and third quarters this year, battered by a series of negative shocks over the past year or so, including financial turbulence, high oil prices, and significant housing price declines in several countries **(Figure 31)**. High inflation eroded real incomes—hurting consumer spending—and business investment weakened amid heightened uncertainty. Financial systems have been visibly shaken since mid-September, when the financial crisis intensified, because many European banks were caught with severely damaged balance sheets. Belgium, France, Germany, Luxembourg, the Netherlands, and the United Kingdom took extraordinary measures to rescue banking systems at the national level, while Denmark and Ireland announced blanket deposit and debt guarantees for their banking systems. But the effect of financial deleveraging continues to reverberate through the real economy, as banks reduce lending and credit conditions tighten. Economic activity is likely to weaken further with consumer and business confidence down sharply **(Figure 32)**. Retail sales remain depressed and industrial production has slumped, reflecting a drop in exports **(Figure 33)**. The global downturn will likely dampen external demand further, partly offsetting the effect of the recent weakening in the euro and declines in oil and other commodity import bills. Inflationary pressures are subsiding on falling oil prices and the shrinking economy, which gives some room for monetary easing. In an attempt to restore confidence in financial markets—with the eurozone facing its worst downturn since the early 1990s—the European Central Bank (ECB) on 4 December cut its policy rate 75 basis points to 2.50%, its biggest cut ever, bringing its cumulative rate cuts since 8 October to 175 basis points. (UK, Swedish, and Danish central banks also cut rates). And there will likely be more stimulus in the period ahead to counter sagging demand: the European Commission has approved a €200 billion spending plan, although implementation falls to the individual EU countries.

The Japanese economy—hurt by declining external demand and still sluggish domestic consumption—has fallen into recession, with GDP now expected to contract 0.2% in 2009.

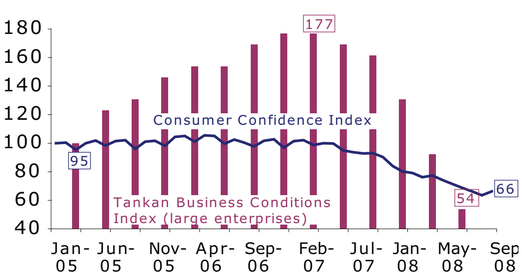
The Japanese economy contracted a seasonally adjusted, annualized 1.8% in the third quarter of 2008, after a 3.7% drop in the previous quarter **(Figure 34)**. Exports are expected to further weaken as the global downturn takes hold, while declining corporate profits and household income drive down business and consumer sentiment, suggesting that domestic demand will also likely remain weak **(Figure 35)**. The recent strengthening yen and plunge in Japan's stock prices—to a 26-year low—also cast a shadow over next year's economic performance. However, falling commodity prices should support consumption, and growth in emerging economies may still help Japan's exports. Concerns are rife, nonetheless, that global financial turmoil may depress consumer and investor sentiment further, particularly if the US economy contracts more significantly and emerging economies experience a hard landing. Headline inflation rose above 2% in recent months due to high food and energy prices, but fell to 1.7% by October, and is expected to fall substantially in 2009 on reduced commodity prices and the effects of recession

Figure 34: Contributions to Growth—Japan
(seasonally adjusted, annualized, q-o-q, % change)



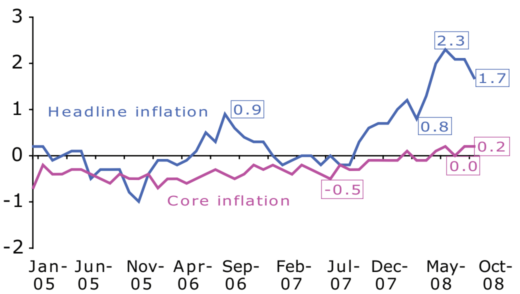
Source: Cabinet Office, Government of Japan.

Figure 35: Business and Consumer Sentiment Indexes—Japan (Jan 2005 = 100)



Source: OREI staff calculations based on Bloomberg data.

Figure 36: Inflation—Japan (y-o-y, %)

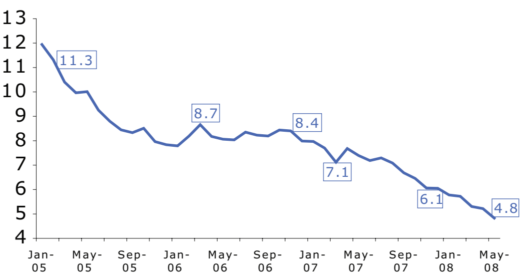


Source: OREI staff calculations based on CEIC data.

(Figure 36). The Bank of Japan cut its policy rate to 0.3% on 31 October after having kept rates steady since February, reflecting both softer economic activity and a more cautious stance given recent financial market volatility. The government unveiled another ¥27 trillion ($275.7 billion) stimulus package, including expanded credits for small businesses and a total of ¥2 trillion ($20.4 billion) in cash disbursements to households in October, following the introduction of the ¥11.7 trillion ($107.4 billion) stimulus package approved in August.

World trade growth is slowing sharply as demand from major industrial countries slumps, reducing export production in emerging market economies.

Figure 37: World trade volume[1] (y-o-y, %)

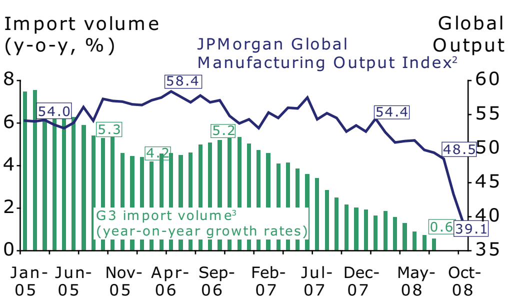


[1]12-month moving average; import values deflated by their respective price indexes.

Source: OREI staff calculations based on data from *International Financial Statistics,* International Monetary Fund.

A synchronized downturn in advanced economies is adding to pressure on world trade **(Figure 37).** The World Bank estimates trade volume will contract 2.5% in 2009, from an estimated 5.8% expansion this year. Global manufacturing output has slumped, with G3 import demand growth slowing rapidly **(Figure 38)**. The global financial crisis is spreading malaise to emerging market economies, where industrial production growth is dropping fast. Industrial output growth in the People's Republic of China (PRC) eased to 8.2% (y-o-y) in October, bringing the 3-month moving average to 10.8%, compared with average 18.3% growth in the first half **(Figure 39)**. Weaker export orders, softening investment demand, and increasing factory closures were key

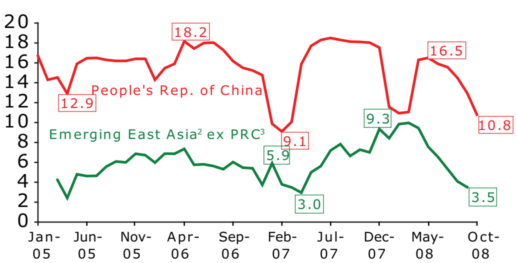
Figure 38: Global Manufacturing Output and Import volume[1]—G3



[1]Annual growth rate.
[2]A component of the JPMorgan Global Manufacturing Purchasing Managers' Index, which serves as an indicator of global manufacturing business conditions, based on data collected from surveys around the world. A reading above 50 indicates an increase in the variable since the previous month and below 50, a decrease.
[3]Import values deflated by import price indexes.

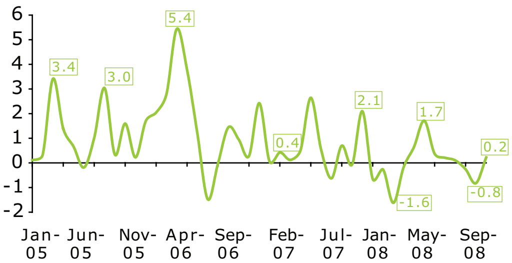
Sources: OREI staff calculations based on data from *International Financial Statistics,* International Monetary Fund; Bloomberg; and JP Morgan.

Figure 39: **Industrial Production Growth[1]**
(y-o-y, %)



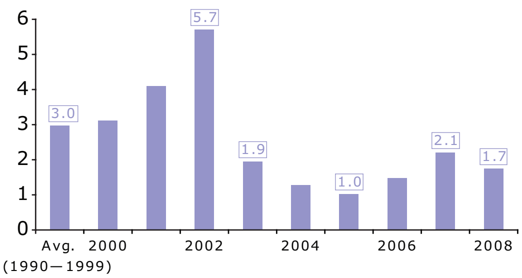
[1]3-month moving average.
[2]Refers to ASEAN-4; Republic of Korea; Singapore; Taipei,China; Thailand, and Viet Nam; does not include Hong Kong, China, Brunei Darussalam, Cambodia, Lao People's Democratic Republic, and Myanmar, for which monthly data are not available.
[3]PRC = People's Republic of China

Figure 40: New IT Orders[1]—G3[2]
(% change)



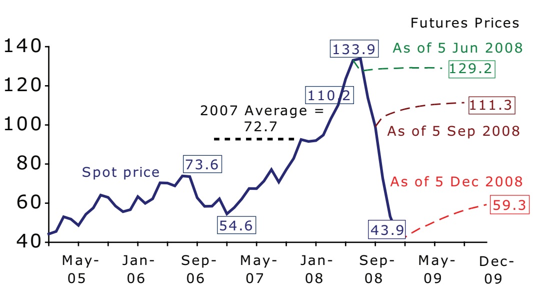
[1] Seasonally-adjusted, 3-month moving average, month-on-month.
[2] US, eurozone, and Japan.
Sources: OREI staff calculations based on national sources.

Figure 41: OPEC Spare Capacity
(in million barrels per day)



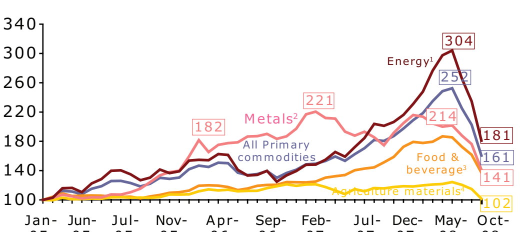
Source: US Energy Information Administration.

Figure 42: Brent Spot[1] and Futures Prices



[1] Monthly average of daily spot prices.
Source: Bloomberg.

Figure 43: Primary Commodity Price Indexes (Jan 2005 = 100)



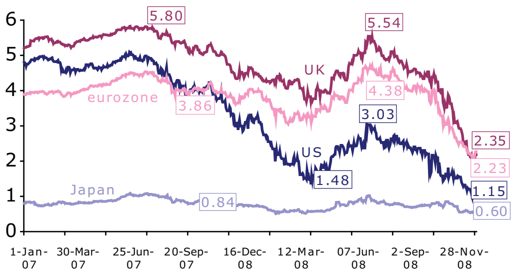
[1] Crude oil, natural gas, and coal.
[2] Copper, aluminum, iron ore, tin, nickel, zinc, lead, and uranium.
[3] Cereal, vegetable oils, meat, seafood, sugar, bananas, oranges, coffee, tea, and cocoa.
[4] Timber, cotton, wool, rubber, and hides.
Source: OREI staff calculations based on data from the *IMF Primary Commodity Prices*, International Monetary Fund.

factors behind the slowdown. Excluding the PRC, industrial production in emerging East Asia grew a mere 3.5% on average for July–September, down sharply from average first-half growth of 8.3%. Softening global demand for high-tech products, depressed chip prices, and sluggish inventory adjustments have taken a heavy toll on regional production. The tentative recovery earlier this year in new G3 orders for information technology (IT) products weakened amid heightened uncertainty about economic prospects **(Figure 40)**. Manufacturing output could tumble further over the next few quarters with major industrial countries in recession and emerging market economies feeling the global credit squeeze

Global oil and commodity prices have fallen sharply—some from record highs—amid fears of a global recession and a strengthening US dollar.

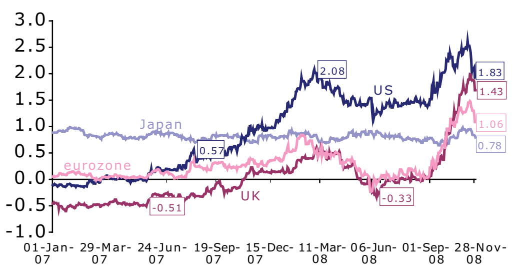
Crude oil prices dropped below $50 per barrel, from a mid-July peak near $150, on slowing world economic growth and the strengthening dollar. Expectations of a significant economic downturn have also reinforced the sense of an easing in market balances brought on by Saudi Arabia's oil production increase during July-August 2008 and the signs of slowing oil demand in response to extremely high prices in recent years. However, the market balance remains tight, particularly with the recent decision by the Organization of the Petroleum Exporting Countries (OPEC) to cut production by 1.5 million barrels per day from 1 November, and given the relatively low surplus capacity among OPEC countries **(Figure 41)**. Nevertheless, commodity markets are focused on rapidly deteriorating world demand. Futures suggest that crude oil prices will remain subdued, only moving back up toward $60 per barrel well into 2009, while prices of non-oil commodities have dropped sharply since mid-2008 on slowing demand **(Figures 42, 43)**. Softening import demand from the PRC—a major source of incremental demand in recent years—combined with the prospect of deteriorating world demand, will continue to place downward pressure on agricultural raw material and base metal prices—at least in the short run.

Figure 44a: 2-year Government Bond Yields (% per annum)



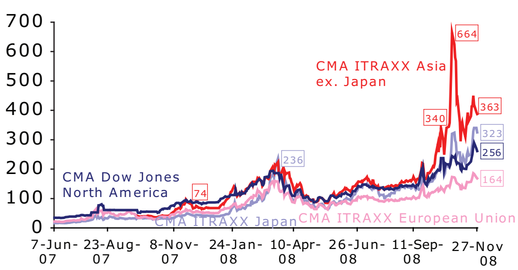
Source: Bloomberg.

Figure 44b: 10-year and 2-year Government Bond Yield Spreads (% per annum)



Source: Bloomberg.

Figure 45: Credit Default Swap Indexes (Investment Grade, Senior 5-Year)



Source: Datastream.

Despite substantial liquidity injections by monetary authorities across the globe, money markets and financial conditions generally remain stressed, and the recovery will take place only gradually.

Since mid-September, the world's major central banks have taken measures of unprecedented scope and magnitude—including coordinated massive injections of liquidity into institutions and markets and extending agreements on foreign exchange swaps—to stem the crisis and rebuild public confidence. But market volatility remains high and markets for bank funding remain under severe stress. Flight to quality and liquidity during the market sell-off has compressed US, UK, and euro government bond yields to historic lows on the short-end, thus steepening yield curves **(Figures 44a, 44b)**. The cost of protecting against corporate defaults, which shot up amid heightened risk aversion among global investors, will likely remain high or rise further, with corporate default rates expected to increase amid worsening economic conditions **(Figure 45)**. If global financial stress intensifies, the effect of tighter domestic credit on overall economic activity will be substantial for emerging East Asia, where firms rely heavily on banks for funding.

Group of 20 (G20)[8] leaders agreed on 15 November to enhance cooperation to revive economic growth and move quickly on reforms in the world's financial systems.

Leaders pledged to take "what further actions are necessary to stabilize the financial system" and to "use fiscal measures to stimulate domestic demand to rapid effect, as appropriate". They set five broad principles for financial system reform: (i) strengthening transparency and accountability; (ii) enhancing sound regulation; (iii) promoting integrity in financial markets; (iv) reinforcing international cooperation; and (v) reforming international financial institutions. A detailed action plan has been drawn up to implement the five principles and G20 finance ministers are expected to undertake the work under the 2009 G20 leadership. Some high priority actions would be completed before the G20 leaders meet next in April 2009. Leaders also pledged to avoid protectionism.

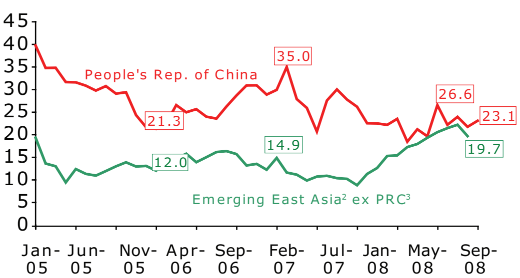
[8] G20 members include: Argentina, Australia, Brazil, Canada, People's Republic of China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom, and the United States. The European Union is also a member, represented by the rotating Council presidency and the European Central Bank.

Regional Economic Outlook for 2009

The external economic environment for developing Asia is likely to worsen as major industrial economies contract further, global financial conditions remain constricted, and world trade growth slows sharply.[9] Aggregate GDP growth in developing Asia is forecast to fall to 5.8% in 2009 from this year's estimated 6.9%; economies in emerging East Asia will grow 5.7% in 2009, down from 6.9% this year.

The global economic downturn will have significant impact on developing Asia. But carefully crafted macroeconomic policies—especially fiscal stimulus programs—and underlying growth momentum should allow many of the region's economies to sustain a healthy, albeit slower expansion **(Table 4)**. In the PRC a marked weakening in external demand from industrial countries, as well as the lagged effects of an overheated property market and a sharp drop in stock market values, will weigh down growth. Nonetheless, it will remain the world's fastest growing large economy into next year. The rest of the region will also see economic expansion slow next year, with the more open economies slowing more than others. In 2009, GDP growth is expected to ease substantially in the NIEs and moderately in ASEAN-4. Despite worsening external demand and the cyclical downturn in the global IT industry, most economies in the region should post solid current account surpluses in 2008, driven until recently by robust exports **(Figure 46)**. With export growth expected to slow next year, current account surpluses across the region are likely to compress significantly.

Figure 46: Merchandise Export Growth[1]
($ value, y-o-y, %)



[1]3-month moving average.
[2]Refers to NIEs, ASEAN-4 and Viet Nam; does not include Brunei Darussalam, Cambodia, Lao People's Democratic Republic, and Myanmar, for which monthly data are not available.
[3]PRC = People's Rep. of China

Source: OREI staff calculations based on CEIC data.

Following years of very rapid GDP growth, the PRC economy is expected to slow to 8.2% in 2009 as the external environment weakens amid global financial turmoil.

The outlook for the PRC would be weaker without the government's recently announced RMB4 trillion stimulus program. GDP growth has slowed moderately over the past year, to 9% in the third quarter of 2008, in response to policy measures to rein in an overheated economy. Growth is expected to decelerate further next year, after an estimated expansion of 9.5% in 2008,

[9] Developing Asia includes all of the Asian Development Bank's developing member countries. Available at http://www.adb.org/Countries.

Table 4: Annual GDP Growth Rates (%)

	2003	2004	2005	2006	2007	2008H1	2008Q3	ADB Forecasts 2008	ADB Forecasts 2009
Developing Asia	**7.1**	**7.9**	**8.1**	**8.9**	**9.0**	**8.1**	**6.2**	**6.9**	**5.8**
Emerging East Asia[1,2]	**6.9**	**8.0**	**7.8**	**8.7**	**9.0**	**8.1**	**6.2**	**6.9**	**5.7**
ASEAN[1,2]	**5.4**	**6.5**	**5.8**	**6.0**	**6.5**	**5.8**	**4.4**	**4.8**	**3.5**
Brunei Darussalam	2.9	0.5	0.4	4.4	0.6	...	...	-0.5	2.0
Cambodia	8.5	10.3	13.3	10.8	10.2	...	...	6.5	4.7
Indonesia[3]	4.8	5.0	5.7	5.5	6.3	6.4	6.1	6.1	5.0
Lao PDR	5.8	6.9	7.3	8.3	7.9	...	...	7.5	6.5
Malaysia[4]	5.8	6.8	5.3	5.8	6.3	7.1	4.7	5.0	3.5
Myanmar[5]	13.8	13.6	13.2	12.7	...	...	...	...	...
Philippines[6]	4.9	6.4	5.0	5.4	7.2	4.5	4.6	4.5	3.5
Singapore	3.5	9.0	7.3	8.2	7.7	4.5	-0.6	2.3	1.2
Thailand	7.1	6.3	4.6	5.2	4.9	5.6	4.0	4.0	2.0
Viet Nam	7.3	7.8	8.4	8.2	8.5	6.5	6.5	6.3	5.0
Newly Industrialized Economies[1]	**3.2**	**6.0**	**4.8**	**5.5**	**5.6**	**5.3**	**2.0**	**3.5**	**2.4**
Hong Kong, China	3.0	8.5	7.1	7.0	6.4	5.8	1.7	3.3	2.1
Korea, Republic of	3.1	4.7	4.2	5.1	5.0	5.3	3.8	4.2	3.0
Singapore	3.5	9.0	7.3	8.2	7.7	4.5	-0.6	2.3	1.2
Taipei,China	3.5	6.2	4.2	4.8	5.7	5.4	-1.0	2.4	1.7
China, People's Republic of	10.0	10.1	10.4	11.6	11.9	10.4	9.0	9.5	8.2
Japan	1.4	2.7	1.9	2.0	2.4	1.1	-0.5	0.5	-0.2
US	2.5	3.6	3.1	2.9	2.2	2.3	0.8[7]	1.4	-0.7
eurozone	0.8	2.1	1.6	2.8	2.6	1.7	0.6[7]	1.2	-0.5

... = not available

[1]Aggregates are weighted according to gross national income levels (atlas method, current $) from *World Development Indicators* (World Bank).

[2]Excludes Brunei Darussalam and Myanmar for all years as weights are unavailable.

[3]GDP growth rates from 1999–2000 are based on 1993 prices, while growth rates from 2001 onward are based on 2000 prices.

[4]Growth rates from 1999–2000 are based on 1987 prices, while growth rates from 2001 onward are based on 2000 prices.

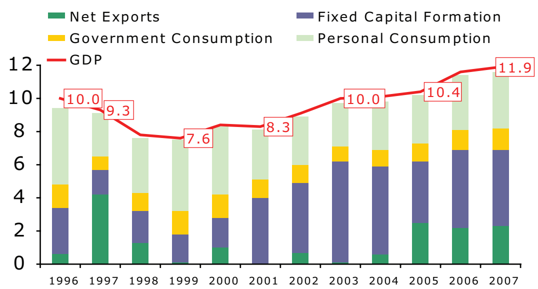
[5]For FY April–March.

[6]Figures for 2004–2006 are not linked to the GDP figures 2003 backwards due to National Statistics Office revisions of sectoral estimates.

[7]refers to year-on-year growth, seasonally adjusted data.

Sources: ADB; government estimates (Brunei Darussalam); Eurostat website (eurozone); Economic and Social Research Institute (Japan); Bureau of Economic Analysis (US); *World Economic Outlook,* International Monetary Fund (Oct. 2008).

Figure 47: Contributions to Growth—People's Republic of China (% change)



Source: China Statistical Yearbook 2008.

underpinned by robust private consumption and solid net exports. After contributing about 2 percentage points to GDP growth in 2007, net exports are expected to contract in 2009 as external demand slows sharply **(Figure 47)**. Macroeconomic policy has now shifted to spurring domestic demand to offset the expected weakening in exports and private investment growth. Monetary measures already adopted include sizeable cuts in interest rates and reserve requirements as well as lifting lending quotas for banks. Apart from the massive fiscal program (primarily infrastructure and social spending), the government has cut taxes, boosted subsidies to agriculture, and accelerated spending. Strong fiscal and trade positions should allow further initiatives to support economic growth in 2009, if needed.

As highly open economies, the NIEs are extremely sensitive to changes in the global economic environment; thus GDP is projected to grow by 2.4% in 2009, down from the 3.5% expected this year, outcomes well below recent trend and potential NIEs growth.

In recent months, falling stock prices and a weak won have undermined economic expansion in Korea. The authorities have taken various measures to ease financial stress and to stimulate demand, including a guarantee of $100 billion for local banks' foreign borrowing and an $11 billion fiscal stimulus package. Given the prospects for falling external demand and the reluctance of banks to lend, growth is expected to fall to 3.0% in 2009. Hong Kong, China's economy contracted again in the third quarter (q-o-q) and is expected to remain weak next year, reflecting its extensive trade and financial links with industrial countries. GDP growth is forecast to slow to 2.1% in 2009 from an estimated 3.3% this year. The outlook for Singapore, which is already in recession, is also bleak, with growth projected to slow to 1.2% in 2009 from 2.3% expected this year. The plunge in stock prices may further slow private consumption and investment. Growth in Taipei,China is projected at 1.7%.

Aggregate GDP growth in ASEAN is expected to weaken to 3.5% in 2009 from an estimated expansion of 4.8% in 2008 (which was only kept relatively high by a buoyant first half). Domestic demand, helped by policy measures, is likely to mitigate some of the impact of the weakening external environment.

The four largest, middle-income ASEAN economies—Indonesia, Malaysia, the Philippines and Thailand—are expected to see growth drop by about one to two percentage points, mainly due to the global downturn. In Indonesia, GDP growth is projected to moderate to 5.0% in 2009, after reaching 6.1% in 2008—growth in the first-half of 2008 was its best performance since the 1997/98 Asian financial crisis. In Malaysia, falling commodity prices weigh down economic activity, but domestic demand will be supported by increased public spending. Nevertheless, growth is expected to slide to 3.5% in 2009 from an estimated 5.0% this year. After slowing in the first half of 2008, Philippine GDP growth is expected to be sluggish at 3.5% in 2009—down from 4.5% this year—on weak exports and slower private consumption. In addition to the global financial turmoil, political uncertainty continues to drag on the Thai economy, with economic growth projected at 2.0% in 2009.

Growth in the remaining (smaller) ASEAN countries[10] is also expected to slow in response to the difficult global environment. After accelerating over the past few years, Viet Nam's GDP growth is projected to moderate to 6.3% in 2008 and 5% in 2009—on slowing industrial activity and investment. Cambodia is working to consolidate GDP growth by promoting a more balanced expansion among key industries—including agriculture, construction, garments, and tourism. But given a narrowly based economy that relies heavily on garment exports and tourism, deteriorating external demand will hamper growth—estimated at 4.7% in 2009. The Lao PDR economy has benefited from strong power and commodity prices. But with commodity prices falling, economic growth is forecast to slow to 6.5% in 2009 from an expected 7.5% this year. In Brunei Darussalam, with an economy concentrated on oil and gas production and exports, the sharp decline in oil prices will likely keep economic growth subdued at 2% in 2009.

[10] ADB forecasts are unavailable for Myanmar.

Inflation has peaked in most emerging East Asian economies as commodity prices have come off elevated levels, growth has slowed, and credit tightened. Given the global economic slump, inflation in the region in 2009 is expected to moderate substantially.

After rising rapidly in the first half of 2008, inflation has begun to subside recently, although headline and core inflation (which excludes food and energy) are still high in several economies. The recent weakening in some currencies may also add somewhat to inflationary pressures. Nevertheless, in general, lower oil and food prices and slowing economic activity should markedly reduce price pressures in 2009, though inflation in Indonesia, Philippines, and Viet Nam may remain relatively high.

The balance of payments position for most emerging East Asian economies is expected to weaken in 2009, with foreign exchange reserves declining in a few countries yet remaining comfortable in most.

In the first half of 2008, current account and balance of payments surpluses remained strong despite the run-up in oil and commodity prices. The aggregate current account surplus is expected to narrow in 2008 and 2009 after peaking at about 7.0% of GDP in 2007. Current accounts will likely post large, albeit smaller, surpluses in the PRC; Hong Kong, China; Malaysia; and Singapore, but are expected to be close to balance in Indonesia, Korea, and Thailand. During the recent financial turmoil, however, capital outflows rose markedly, particularly in Korea, Indonesia, and to a lesser extent, the Philippines and Thailand. Risk aversion and flight-to-safety have created depreciation pressures on the region's currencies, with the exception of the PRC. And foreign exchange reserves declined in a number of countries after authorities intervened in foreign exchange markets to curb the pace of depreciation (see Table 2).

Risks to the Outlook

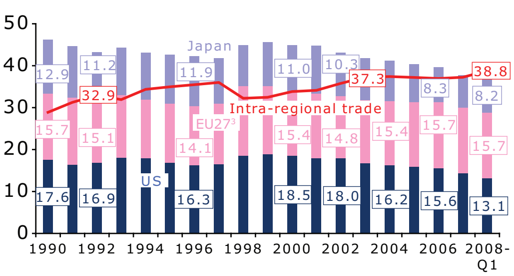
Major risks to the outlook include (i) a sharper or prolonged global recession, (ii) persistent financial stress with volatile capital flows, (iii) further tightening of external and domestic funding conditions, and (iv) excessively volatile conditions in foreign exchange markets.

A key assumption underlying the less favorable yet still positive regional outlook is that major governments continue to take measures to stabilize financial market conditions and shore up their economies. This remains a tenuous assumption, however, and leaves the outlook subject to much greater downside risks now than just a few months ago.

A deeper or more protracted economic downturn in the US and Europe would have severe spillover effects on emerging East Asian economies.

Major industrial economies have already seen a visible contraction and face a risk of deeper recession over the next few quarters. With the drastic intensification of the financial crisis, credit to households and firms could be further tightened, deepening and lengthening the downturn. Home prices in the US have already fallen about 18.5% from their peak in 2006, and could fall further as a result of continued mortgage defaults and foreclosures. Falling asset prices have sharply reduced household wealth, causing consumers to cut spending, which in turn further slows economic activity. The inability of the US to achieve wide-scale modifications in the growing number of distressed and negative equity mortgages to mitigate this negative feed-back loop from foreclosures may well delay a US recovery. Other components of aggregate demand, investment and net exports are also falling. Thus a downward demand spiral could become much worse and more prolonged across the developed world. Trade links between emerging East Asia and major industrial economies remain substantial despite a gradual decline in the overall trade share **(Figure 48)**. G3 economies account for more than 60% of final demand for Asian exports, after taking account of intraregional trade of intermediate goods.[11] With the world's major industrial economies slipping into recession, the region's exports will likely

Figure 48: Trade Links (share of G3[1] in Total Exports of Emerging Asia[2], %)

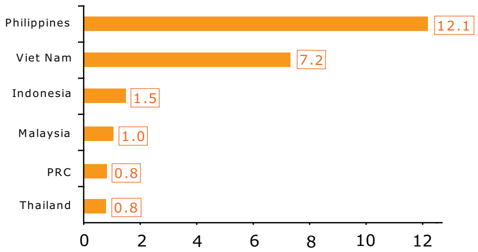


[1]US, EU-27, and Japan.
[2]Includes Brunei Darussalam; Cambodia; People's Republic of China; Hong Kong, China; Indonesia; Republic of Korea; Lao People's Democratic Republic; Malaysia; Myanmar; Philippines; Singapore; Taipei,China; Thailand; and Viet Nam.
[3]Includes Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and United Kingdom.

Source: *Direction of Trade Statistics,* International Monetary Fund.

[11] ADB (2007) "Uncoupling Asia: Myth and Reality," *Asian Development Outlook 2007.*

Figure 49: Overseas Remittances
(% of GDP, 2007)



PRC = People's Republic of China
Sources: *World Development Indicators,* World Bank; *Balance of Payments Statistics Yearbook,* International Monetary Fund; and national sources.

suffer. Net exports in some advanced regional economies have already dipped into negative territory. A protracted recession could also provoke steps toward protectionism, further compromising the world trade environment. The ripple effects of a global recession will be felt in the region's current account balances through tourism receipts and remittances as well. In particular, overseas remittances are an important source of income and, more importantly during a crisis, a supply of dollars for many of the region's economies—including Philippines and Viet Nam **(Figure 49)**. Growth in remittances slowed to 10.4% (y-o-y) in August in the Philippines, for example, after gains of 24.6% in July and 30% in June. Overall, risks to the region's growth outlook are strongly tied to the global outlook through both trade and financial links, with increasing signs that further financial disruptions could also exert a significant influence on consumer and investor confidence in the region.

Continued global deleveraging and heightened risk aversion could cause a sudden dramatic reversal in capital flows to the region, further disrupting domestic asset prices and threatening wholesale depreciation.

As deleveraging continues in global financial systems, capital flows to the region have reversed with sharp swings in emerging Asian market asset prices. Emerging Asian equities have been particularly hard hit, as foreign investors reposition their investment portfolios. Net equity outflows for eight economies in the region are now estimated to have totaled around $72 billion in the year through November,[12] contributing to sharp depreciation of many of the region's currencies. Should foreign banks decide to suddenly liquidate holdings of domestic Asian assets—as part of the deleveraging process—it would affect Asia's domestic asset prices and place further pressure on exchange rates and external reserves.

[12] Hong Kong, China; Republic of Korea; Indonesia; Malaysia; Philippines; Taipei,China; Thailand; Viet Nam.

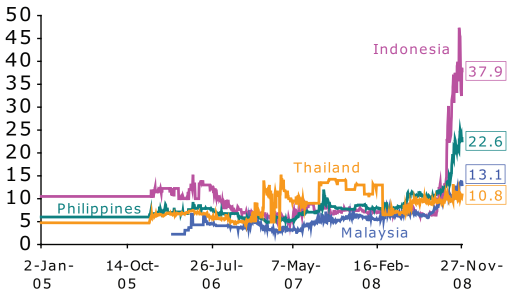
If international financial conditions worsen, external financing could dry up, placing several of the region's financial systems in jeopardy, and causing domestic credit conditions to deteriorate.

With risk aversion rising sharply, offshore funding conditions have deteriorated substantially. Offshore bond issuance dropped more than half and credit default swap (CDS) spreads for Asian sovereign and corporate issuers have widened sharply in tandem with global trends. With sharp rises in external borrowing costs, many emerging East Asian economies have also experienced difficulties in dollar funding. Cross-currency basis swap spreads increased sharply for a number of economies, reflecting both rising counterparty risk and dollar funding demand. Banking systems with relatively large short-term external debts experienced further stress due to heightened concerns about rollover risk. Liquidity and pricing strains in international funding markets could also be transmitted to local interbank markets and the domestic bond market. Pricing in domestic bank funding markets in some economies is already showing signs of stress and if the global credit crunch persists, local funding conditions could deteriorate sharply. Should the cost of capital and the level of investment be severely affected, the economic performance in countries in emerging East Asia could suffer far more significantly.

The region's relatively thin foreign exchange markets remain highly vulnerable, leading to excess volatility and overshooting.

The risk of one-way currency bets remains high in the region amid global deleveraging and the flight to safety. Heightened foreign exchange volatility threatens to undermine the financial health of the banking and corporate sectors in many of the region's economies where currency hedging remains difficult. Many currencies have been hard hit, largely due to heavy selling by foreign investors in local equity markets. Many emerging East Asian stock markets would face further sharp withdrawals of foreign portfolio investments in the event of a financial disruption. With relatively thin currency markets, these economies often have difficulties dealing with one-way bets on exchange rates. Excess volatility and overshooting in some currencies have already led policy makers to intervene heavily in foreign exchange markets over the past few months, depleting external reserves. Volatility

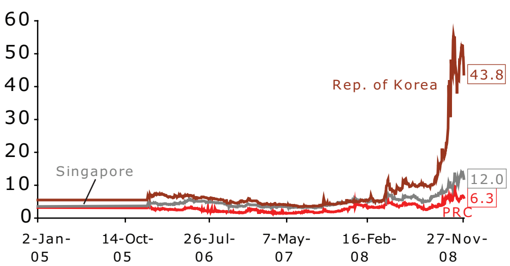
Figure 50a: Implied Volatility of Exchange Rates—ASEAN-4 (3-month ATM[1])



[1]At the money

Source: Bloomberg.

Figure 50b: Implied Volatility of Exchange Rates—PRC, Korea, and Singapore (3-month ATM[1])



PRC = People's Republic of China
[1]At the money

Source: Bloomberg.

remains high **(Figures 50a, 50b)**, adding strains on the trade sector, particularly where the domestic financial markets remain underdeveloped, providing few tools for the private sector's currency hedging. Rapid depreciation also places an added burden on monetary authorities to contain its pass-through onto domestic price levels, particularly in economies where inflation remains high and underlying price pressures from recent high oil and commodity prices are still working their way through the economy.

Policy Issues

Authorities should continue taking appropriate measures to calm financial markets and restore investor confidence.

As contagion struck Asia's financial markets, stock prices and currencies came under enormous pressure. In September and October, the region's major stock market indexes dropped between 20% and 60%, and some currencies depreciated by up to 29%, even as substantial reserves were used to smooth rate adjustments. Authorities have introduced various measures, including liquidity support and injections to financial institutions, deposit and loan guarantees, interest rate cuts, and other accommodative monetary measures, as well as adopting fiscal stimulus programs (see Table 3). Prompt and proactive action by the authorities remains key to stabilizing financial markets and keeping financial systems functioning normally.

As the effects of the global financial crisis intensify, emerging East Asia faces new challenges to ensure downside risks are properly addressed.

The global financial crisis has ravaged world financial systems on an unprecedented scale—leading to bank closures, stock market losses, and tremendous uncertainty across markets. While the measures taken so far around the globe should help reduce the severity and duration of the crisis, considerable damage has already been done to global financial systems, and the knock-on effects on the world economy will be felt for an extended period. As the financial storm has engulfed the global economy, downside risks to growth within the region have increased significantly. Detailed regulatory issues and some suggested policy options to safeguard financial stability are discussed in the Special Section.

The coming year will be a difficult one for emerging East Asia; but it will be manageable if countries respond promptly, decisively, and collectively.

Many predict the global economic slowdown will be the worst since the 1930's Great Depression. Emerging East Asia enters this tumultuous time probably better prepared than most other regions in the world. But for 2009 to be manageable for the region's policy makers, they will need to act promptly to stem both the threat to financial systems and the real economy. They must be decisive to rebuild confidence among both businesses and consumers. And they must cooperate and act collectively to minimize the contagion effects any further financial instability can cause.

Regional policy makers face the difficult task of navigating their economies through the global downturn while safeguarding financial stability.

Inflation has peaked in many of the region's economies, providing maneuverability for policy makers amid the rapidly deteriorating external environment. Global financial turmoil and its effects on the real economy have already called for immediate action to stabilize financial market conditions. However, much more needs to be done and a judicious mix of policy tools—monetary, fiscal, exchange rate, financial, and structural—should be used to minimize the deleterious effects of the crisis, while ensuring that short-term setbacks do not derail long-term economic growth. Overall, the region's ability to clear these short-term hurdles depends to a large extent on whether policy makers can successfully rebalance export-driven growth with a greater reliance on domestic demand, and to facilitate this rebalancing with financial deepening and continued reform.

With the balance of risks shifting from rising inflation to slowing growth, monetary policy must remain flexible to allow growth stimulus where appropriate while keeping inflation expectations firmly anchored.

In the past several months, PRC; Japan; Korea; Singapore; and Viet Nam have adapted their policy stances by cutting policy rates (see Figures 25a, 25b), reducing reserve requirements, or shifting the slope of their exchange rate bands to boost domestic demand. As inflation falls and economic activity slows, monetary fiscal policy in these economies may have more room to stimulate demand. Although inflationary pressures are subsiding, high inflation rates in several countries constrain monetary discretion. For example, Indonesia, Philippines, and until very recently, Viet Nam have had to maintain a tightening bias to fight inflation. While falling in many countries, inflation remains at double-digit levels in several, including Cambodia, Indonesia, Lao PDR, Philippines, and Viet Nam. Although world commodity prices are down considerably and capacity pressures are easing, currency depreciation has become a source of inflationary pressure in some countries. Moreover, prices may be less flexible downward as firms strive to maintain profitability in a weakening economic environment. In these circumstances monetary authorities will need to strike a careful balance to keep inflation under control, even though it may limit room to respond to a slowing economy. In particular, the implications of inflation on the poor is important as the burden of heightened food and fuel prices will likely fall disproportionately on those who face the prospect of lower incomes. Elevated price levels, diminishing employment opportunities, budgetary pressures on social programs, and the prospect of slowing growth in remittances, are likely to increase strains on the poor.

Fiscal policy could hold center stage for many emerging East Asian economies in mitigating/ minimizing the effects of deteriorating external economic conditions on growth prospects.

Authorities across the region have already taken fiscal measures in response to the global financial turmoil, with budget deficits expected for 2008/09 **(Table 5).** As discussed earlier, authorities in the PRC, Korea, and Malaysia have introduced large fiscal stimulus packages. In the Philippines, the government has deferred its goal of a balanced budget until 2010, raised social spending, and implemented tax breaks, and Thailand implemented a $1.4 billion 6-month stimulus package in August. Luckily, with healthy fiscal and external positions, many regional economies have sufficient scope to increase government expenditure to support growth **(Table 6)**. Current economic and financial circumstances also warrant more active fiscal responses as monetary policy may have less traction than in the past. Banks in the region have become more risk averse and are reluctant to lend in the face of a deteriorating and increasingly uncertain economic outlook. Authorities should carefully design fiscal support to cushion the most vulnerable from the immediate effects of the global downturn. When deploying fiscal stimulus, authorities should also be mindful of medium- and long-term fiscal challenges, as populations in several economies in the region are aging quickly.

Table 5: Fiscal Balance of Central Government (% of GDP)

	2000–2004 Average	2004	2005	2006	2007	2008[1]	2009[2]
Cambodia	-5.8	-4.6	-3.4	-3.0	-3.2	-3.2	-3.1
China, People's Rep. of[4]	-2.2	-1.3	-1.2	-0.8	0.7	-0.4	-2.6
Hong Kong, China[3]	-2.4	1.7	1.0	4.0	7.2	-0.4	2.7
Indonesia	-1.5	-1.1	-0.5	-1.0	-1.6	-1.1	-1.0
Korea, Republic of	-0.7	-0.5	0.1	-1.3	-1.5	-1.1	-1.0
Malaysia	-5.2	-4.1	-3.6	-3.3	-3.2	-4.8	-4.8
Philippines	-4.4	-3.8	-2.7	-1.1	-0.2	-1.0	-1.2
Singapore[3]	7.3	5.5	8.3	7.5	11.4	7.0	…
Taipei,China[3]	-2.2	-2.3	-1.8	-0.8	-0.1	-1.8	-1.1
Thailand[3]	-1.1	0.1	-0.6	1.1	-1.7	-1.8	-3.5
Viet Nam	-3.2	-4.7	-4.6	-4.1	-4.9	-5.0	-4.8

… = not available
[1]Figures for Hong Kong, China; Republic of Korea; Malaysia; and Singapore are from their respective national budgets. Figures for Indonesia; Philippines; Taipei,China; Thailand; and Viet Nam are government estimates. Figure for Cambodia is an IMF estimate.
[2]Budget except for Philippines; Taipei, China (government forecasts); Cambodia (IMF estimate).
[3]Fiscal year.
[4]2008–2009 figures for the PRC are World Bank projections and cover central and local governments.

Sources: *Asian Development Outlook* (various issues), Asian Development Bank; *International Monetary Fund Article IV,* International Monetary Fund; National sources; *China Quarterly Update* (December 2008), World Bank.

Table 6: Public and External Debt (% of GDP)

	2000-2004 Average	2004	2005	2006	2007	2008
Public Sector Debt						
China, People's Rep. of	19.3	18.5	17.9	17.3	...	...
Indonesia[1]	70.7	55.2	45.6	39.0	35.0	31.2[p]
Korea, Rep. of[1]	21.1	25.2	29.5	32.2	32.1	32.8[p]
Lao PDR	76.6	83.0	77.5	69.3	...	...
Malaysia[2]	42.1	45.7	43.8	42.2	41.6	...
Philippines[3]	93.2	95.2	86.0	73.9	62.3[e]	59.0[p]
Singapore[4]	96.9	101.1	100.3	95.1	96.3	94.4
Taipei,China[1]	28.0	30.4	31.0	29.9	30.7	...
Thailand	54.5	49.3	47.3	40.3	37.5	38.2[p]
Viet Nam	39.7	42.4	43.8	43.3	43.4[p]	44.9[p]
External Debt[5]						
Brunei Darussalam	9.6	8.7	7.7	7.0	7.5	5.3
Cambodia	26.2	21.0	20.5	17.9	18.8	16.2
China, People's Rep. of	8.1	6.7	5.8	5.3	5.7	6.0
Hong Kong, China	128.9	138.5	141.6	153.7	171.2	175.3
Indonesia	55.0	30.1	31.0	21.9	20.7	19.7
Korea, Rep. of	23.5	21.5	20.4	24.8	28.9	32.0
Lao PDR	64.5	57.9	58.2	54.1	57.4	48.5
Malaysia	42.8	42.1	42.9	40.2	38.4	38.5
Myanmar	53.2	20.8	18.0	17.0	17.8	18.5
Philippines	75.0	62.2	63.1	51.9	45.7	37.3
Singapore	266.9	272.1	263.9	242.8	290.6	275.6
Taipei,China	14.1	24.6	22.2	18.3	20.1	20.2
Thailand	37.2	20.8	20.9	19.3	14.8	12.8
Viet Nam	27.1	22.0	22.4	22.8	27.0	25.9

[p] = projection, [e] = estimate, ... = not available.
[1]Central government debt.
[2]Federal government debt.
[3]Nonfinancial public sector debt.
[4]As of Sep 2008.
[5]As of Jun 2008.

Sources: *Article IV Consultations,* International Monetary Fund, CEIC; and Joint External Debt Hub database.

While some recent foreign exchange market Interventions appear warranted given the extreme volatility and overshooting, excessive support of the exchange rate and depletion in foreign exchange reserves make economies more vulnerable to future shocks and constrain policy maneuverability.

Some intervention in the region's foreign exchange markets seems warranted, particularly where excess volatility and overshooting undermine the normal functioning of currency markets and severely hamper economic activity. But the region's authorities should remain cautious, as excessive interventions may eventually increase the risk of one-way bets on their currencies, leading to greater exchange rate volatility and a more disruptive adjustment down the road. In some economies with relatively rigid currency regimes, introducing greater flexibility may also help enhance the effectiveness of monetary and fiscal stimulus, while rebalancing demand.

Policy makers in many emerging East Asian economies need to deepen and broaden structural reforms to rebalance the sources of growth from an over-reliance on exports to domestic demand.

To improve the investment climate, many ASEAN countries should focus on key weak areas, such as policy uncertainties, good governance, the quality of legal and institutional frameworks, and regulatory capacity. Addressing these problems will require additional structural reforms to improve efficiency and competitiveness. In the PRC, for example, there is need for continued rebalancing of expenditures to support social sector development and to address income inequalities, removing some impediments to private consumption. Structural reforms would increase economic efficiency and agility, yield higher economic growth, and generate a large number of productive employment opportunities, thus eventually boosting domestic consumption and investment. Incentives must also be provided to encourage rational resource allocation and use so that firm-level productivity can be improved. This would ensure that firms remain competitive and are able to participate in and benefit from globalization.

The region has the opportunity to take collective action to address the knock-on effects of the global financial crisis.

Existing mechanisms under ASEAN+3, particularly the Chiang Mai Initiative (CMI), should be strengthened and put into operation. Because the challenges facing Asian economies are structurally different from those in the US and Europe, strengthening the CMI would not imply mobilizing resources to buy toxic assets from regional financial institutions, but offering immediate liquidity injections to those economies which may have urgent needs. ASEAN+3 should also consider accelerating the establishment of a credit guarantee and investment mechanism (CGIM) to provide credit guarantees for domestic commercial banks' loans and bond issuance to gain easier access to US dollar funding **(Box 2)**. Moreover, Asian authorities may consider establishing an Asian Financial Stability Dialogue to coordinate efforts to address the financial crisis. Many national governments introduced measures to support their banking systems to help stabilize financial markets and facilitate economic recovery. Coordination of these national measures from a regional and global perspective could help ensure the actions of one country do not add stress to a neighbor’s financial system by forcing them into inappropriate or rash ad hoc responses.

Box 2: A Credit Guarantee Facility—Easing the Impact of Financial Crisis

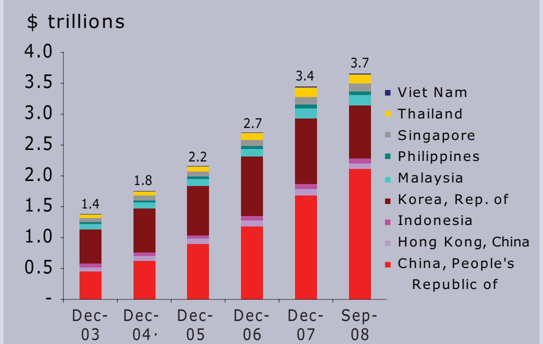
One of the most valuable lessons learned from the 1997 Asian financial crisis was the need to develop local currency bond markets as an alternative source of funding to bank loans. At the time, bank lending dominated. And with inadequate hedging, banks were highly vulnerable to foreign exchange risk. Also, there was considerable short-term borrowing to finance long-term investment. These currency and maturity mismatches made bank balance sheets vulnerable to sudden withdrawals by foreign investors, which helped trigger the crisis. Since then, to ensure availability of long-term domestic currency funding (preventing maturity and currency mismatches) and better channel the region's savings into regional investment, East Asia's policy makers have worked together to promote and develop a regional bond market.

In December 2002, the finance ministers of the Association of Southeast Asian Nations (ASEAN) and the People's Republic of China (PRC), Japan, and Republic of Korea (Korea)—or ASEAN+3—launched the Asian Bond Markets Initiative (ABMI) to promote the development of local currency bond markets. ASEAN+3 has focused policy support to create a larger supply of bonds denominated in Asian currencies, improve credit information on debt issuers to allow better investment decisions, and to help build market infrastructure supporting cross-border bond issuance and investment.

The ABMI has achieved much. Local currency denominated bonds outstanding in emerging East Asia grew sharply from $1.4 trillion in 2003 to almost $3.7 trillion in September 2008. However, much more needs to be done to give corporations better access to the region's bond markets and to offer a variety of maturities to meet issuers' financing needs. For example, regulators normally prescribe minimum ratings for bond investments for the institutions they supervise—generally A for banks and AA for insurance companies. The risk-return properties of these markets have not yet developed to the point where lower-rated companies can sell bonds—at any price.

This market failure is compounded by the lack of local bond guarantee agencies to enhance investment grade companies ratings (BBB and higher)—up to at least A, if not AA—to gain full market access. Most guarantee agencies in the region focus on providing loan guarantees for small and medium enterprises—a business that requires annual fiscal support, given the 2–4% nonperforming loans generally associated within this lending. Neither the skill sets nor the small capitalizations of these guarantee agencies allow them to be bonafide bond guarantee agencies.

Figure B2: Local Currency Bonds Outstanding in Emerging East Asia
(by market)



Source: *AsianBondsOnline*.

Another difficulty issuers face is limited bond maturities, particularly for infrastructure projects. For example, in Korea, while BBB-rated companies can issue bonds, the maximum maturity tends to be 3 years. Maturities of bonds issued by AAA-rated companies are not much longer, although government bonds can have maturities up to 20 years.

To address these constraints, ASEAN+3 has worked with the Asian Development Bank (ADB) on establishing a regional credit guarantee for bonds issued in local currencies to improve the corporate sector's access to bond markets and to minimize the currency and maturity mismatches.

ASEAN+3 and ADB recently agreed to establish a credit guarantee and investment mechanism (CGIM) to provide credit guarantees for bonds issued in the region and investments in domestic credit guarantee companies. CGIM will be an ADB trust fund, with capital from ASEAN+3 and ADB. It will carry an AAA rating. During the November 2008 Deputy Ministers of Finance meeting, ASEAN+3 and ADB agreed to fast-track setting up the CGIM, especially in light of the current global financial crisis.

With global credit tight, dollar illiquidity has reached Asian shores, despite the large build-up of foreign exchange reserves across the region. Major international banks have drastically reduced lending to Asian banks, as they try to hoard dollars for their own liquidity needs. This hurts Asian exporters, where dollar supply is an essential element for trade finance.

As the financial turmoil deepens, investors increasingly become risk averse. Offshore bond issuance dropped by more than half and credit default swap spreads for Asian sovereign and corporate issuers have widened significantly with the global trend. External borrowing costs have thus risen and many of the region's economies have trouble accessing dollars. Cross-currency basis swap spreads increased sharply in several economies, both from rising counterparty risk and dollar funding demand. Banking systems with relatively large short-term external debt face further stress with heightened concerns about rollover risk. Global liquidity and pricing strains have already transmitted to domestic interbank and local currency bond markets. Should this continue, the high cost of capital would severely dampen investment and economic growth in the region.

To help mitigate the impact of the financial turmoil, it would be highly desirable if the region's policy makers—together with ADB—could establish a credit guarantee facility to guarantee bonds issued by the corporate sector and selected ADB member countries seeking external funding for fiscal purposes. The facility could be built on the agreed ASEAN+3 framework for the CGIM, however, with a provision to expand availability to other ADB member countries. Moreover, the guarantees under the facility could be extended to bonds issued in both local currencies and US dollars to ease access to both international and domestic bond markets.

Credit guarantees for bonds in general help minimize capital outflows and those for bonds issued by banks in US dollars in particular make it possible for these institutions to continue lending to exporters, including small and medium size enterprises. Moreover, the facility would help reduce risks in the region's financial sectors by helping reduce currency and maturity mismatches. In turn, this helps make the region's financial systems more sound and resilient. Additionally, the credit guarantee facility would serve to promote regional public goods through promoting financial integration—allowing companies in the region to more effectively tap regional savings for financing regional trade and investment, and thus promoting economic growth.

Global Economic Crisis: Impact and Challenges for Emerging East Asia's Financial Systems

A. Introduction

The resilience of emerging East Asia's financial systems is being tested as the global economic crisis continues to escalate and risks of global recession increase.

The credit turmoil that originated from the troubled United States (US) subprime mortgage sector over a year ago has evolved into a full-blown financial and economic crisis. Spillover is increasingly felt in emerging East Asia and poses sizeable risks to macroeconomic and financial stability.

Still, there remain be grounds for guarded optimism over the ability of Asian financial systems to weather the crisis.

The relative resilience of regional banking and financial systems reflects a number of factors, including: (i) the very limited direct exposure of the region to subprime and other related securitized products; (ii) relatively strong bank balance sheets with a return to profitability—as impaired loans from the 1997/98 Asian financial crisis have been worked off; (iii) improvements in risk and liquidity management; (iv) strengthening of supervisory and regulatory systems; and (v) moves by banks into new and profitable domestic business lines such as consumer lending. The move into consumer lending implies an absence of the strong search for yield that led many banks and other financial institutions in industrialized countries to take on too much leverage and risk.

In view of the increasingly close integration between regional and international markets, however, and the sharp slowdown in growth expected next year, it would be imprudent to ignore the possibility of larger spillover and tension in the region.

There remains the risk that the region's financial systems will come under extreme stress and that banks may pull back further from credit intermediation, leading to a more regional or local "credit crunch". There are a number of important measures national authorities can take at this juncture to help forestall this and the associated threats to domestic financial stability. Under these circumstances, it is important for regional policy makers to ramp up monitoring of local financial markets and to establish contingency plans to deal with foreign and domestic currency liquidity problems, possible sharp deteriorations in bank balance sheets, and the risks of a generalized credit squeeze. As the crisis takes on broader and more troubling dimensions, Asian policy makers are facing a number of significant and growing challenges.

This section argues that the region's policy makers still have the opportunity to be proactive rather than reactive, and to forestall emerging threats to financial stability.

Key short-term challenges include helping regional financial systems weather the crisis and continue to function smoothly despite the shrinking global risk appetite and credit availability and slowing economic activity. Over the medium- to long-term, the region needs to continue strengthening risk and liquidity management, undertake any necessary restructuring and recapitalization, and upgrade market and institutional frameworks for providing systemic support for the smooth functioning of financial markets.

This section attempts to answer the following:

(a) How did the global financial crisis evolve?
(b) What has been the impact on the region's financial systems?
(c) Can the region's banking and financial systems weather the crisis?
(d) What should the region's policy makers do to safeguard financial stability?
(e) What are the medium- to long-term challenges facing the region's financial regulators?

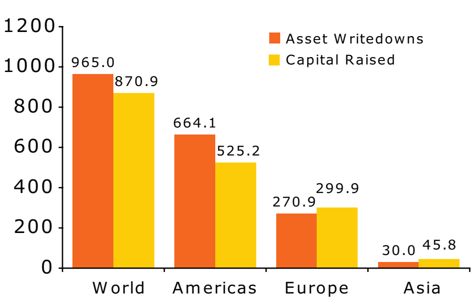
B. How Did the Global Financial Crisis Evolve?

The global financial crisis deepened dramatically in September 2008 as several financial institutions imploded—leading to a crisis of confidence in the financial system itself.

The current global financial disruption emanated from the US subprime mortgage crisis. As the US real estate bubble burst, rapid devaluation of mortgage-related assets led to massive write-downs on financial institution balance sheets eroding their capital base. Mounting losses on impaired or illiquid assets first claimed highly-leveraged hedge funds—the collapse of two Bear Stearns funds in June 2007 marked the overture of the subprime saga (Appendix: Chronology of Main Events). The crisis took a disastrous new turn in September 2008, when Lehman Brothers filed for bankruptcy, Merrill Lynch was bought by Bank of America, and American International Group (AIG) received a rescue package from the US Federal Reserve (US Fed), all within a few days of each other. A number of significant financial institutions failed and bailouts have thus far led to dramatic changes in the global financial landscape, evoking unprecedented policy interventions to arrest the growing panic.

Deterioration in the credit quality of subprime mortgages spread quickly to broad asset classes held by a wide spectrum of investor groups around the globe.

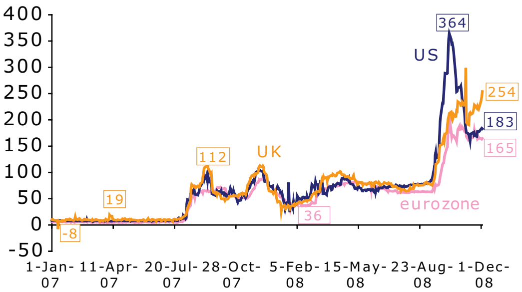
Figure 51: Writedowns and capital raised by major banks since the third quarter of 2007 ($ billions, as of 3 December 2008)



Source: Bloomberg.

Major banking systems worldwide have thus far written down subprime-related losses reaching $965 billion since July 2007 **(Figure 51)**. As subprime-related losses mounted and troubled off-balance-sheet investment vehicles found their way on to balance sheets—or resorted to bank lending lines—banks scrambled for liquidity. Opacity created by the complexity of structured credit products exacerbated the effect of the liquidity crisis in the first phase. Structured credit products such as collateralized debt obligations (CDOs) derive from a pool of debts, which is then partitioned into "tranches" representing varying degrees of risk and then sold off to investors with different risk appetites. In this process, credit rating agencies had an important role in helping structure these products and issuing a rating based on credit enhancement. When rating

Figure 52: 3-month Libor minus Overnight Index Swap (OIS) Spreads (basis points)



Sources: Staff calculations based on Bloomberg data.

agencies downgraded mortgage-related securities on deepening subprime losses, however, doubts over the ratings and their model-based valuations exacerbated the situation. Uncertainty about the valuation of these mortgage-related products—as well as the exposure of financial institutions to them—generated widespread distrust among financial institutions worldwide. This further hurt money market conditions on concerns over credit and counterparty risks. Key short-term market rates, which shot up in August 2007, remain elevated despite the rounds of coordinated actions by major central banks to ease monetary policies and inject large amounts of liquidity into interbank money markets **(Figure 52)**.

Liquidity evaporated and global money and credit markets effectively seized.

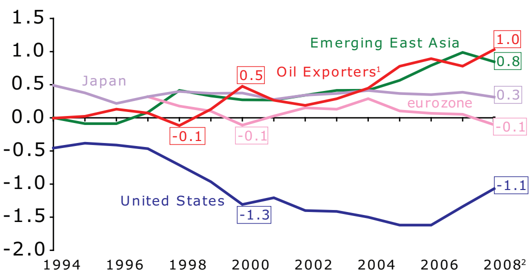
As strained financial institutions tried to unload their assets in distressed markets, asset values—particularly mortgage-related assets—plummeted. A vicious cycle started with falling prices leading to associated incremental losses, corresponding margin calls and other requirements for additional capital, and forced fire-sales, which drove asset prices down further. The cycle nearly toppled the overall financial system. Credit markets froze, effectively putting an end to price discovery. Amid heightened uncertainty over asset values backed by subprime mortgages and their derivatives, liquidity evaporated. Particularly following the bankruptcy of Lehman Brothers and the associated closure of the Prime Money Market Fund, widespread default risks led to a drying up of liquidity across interbank markets. As banks stopped lending to each other and hoarded cash, financial institutions have been forced to raise funds almost exclusively on overnight markets.

As markets froze, large liquidity injections and a raft of emergency measures were taken by the world's major central banks—followed by more broad-based rescue packages by governments.

The world's major central banks infused liquidity into financial markets through a range of facilities and by increasing swap lines or reciprocal currency arrangements. Many have slashed policy rates to help unfreeze credit markets. Governments augmented these actions by agreeing to purchase troubled assets, directly inject capital into troubled banks, purchase commercial paper, or temporarily take equity positions in faltering financial institutions. G7 and G20 governments have called for coordinated actions to stem the financial crisis, which has ignited fears of a deep and prolonged global recession.

The ongoing crisis also reflects the disorderly unwinding of a number of macroeconomic and financial imbalances that emerged during the seemingly benign period of rapid global growth in the first part of this decade.

Figure 53: Current Account Balances (% of world GDP)



[1]The oil exporters are Algeria, Angola, Azerbaijan, Bahrain, Republic of Congo, Ecuador, Equatorial Guinea, Gabon, I.R. of Iran, Kazakhstan, Kuwait, Libya, Nigeria, Norway, Oman, Qatar, Russia, Saudi Arabia, Syrian Arab Republic, Turkmenistan, United Arab Emirates, Rep. Bolivariana de Venezuela, and Republic of Yemen.
[2] Figures for 2008 are estimates.

Source: *World Economic Outlook,* International Monetary Fund.

The key macroeconomic imbalances included the buildup of large current account deficits of the US and the corresponding surpluses in the rest of the world, notably Asia and the Middle East **(Figure 53)**. The financial excesses of the period involved the development of massive increases in leverage and risk-taking; bubbles in property and equity markets; a deterioration of credit and underwriting standards; and a sharp compression of risk spreads across a wide range of financial instruments. With the crisis unfolding, the imbalances are starting to unwind as the private saving rate in the US rises sharply, risks are re-priced, and leverage is cut back. The US government's response to the financial crisis also has implications for these already significant global imbalances, which could transform this unwinding process into something abrupt and very disorderly.

The adjustments to the US financial system are being accompanied by significant financial spillover across countries due to high levels of financial interdependence—including as result of the transfer of risk through complex securitized products—and sharp increases in risk aversion.

Channels of pass-through to the region's economies and their financial systems include (i) a sharp drop in US and world demand, (ii) a broadening credit crunch through a rise in risk premiums and a reduction in available funding, and (iii) changes in the future path of monetary policy rates and adjustments in long-term interest rates in major industrial economies. Most recently, traditional trade links are having an effect as exports slow sharply in response to a generalized weakening of economic growth. Commodity prices have retreated sharply from their peak levels earlier this year.

C. What Has Been the Impact on the Region's Financial Systems?

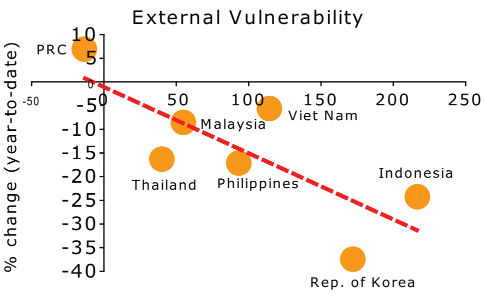
The intensified global credit crunch is adding pressure to emerging East Asia's economic and financial systems.

Early this year, the consensus was that the region's relatively strong fundamentals and large holdings of international reserves would provide a substantial measure of insulation from the global turmoil. However, with conditions in the advanced countries deteriorating sharply, spillover to the region is starting to increase dramatically in scale and scope **(Box 3)**. Contagion may strike the region's financial systems and economies more seriously if tightening credit conditions and financial instability affect broader economic activity regionally as well as globally. With share prices falling and credit conditions tightening, firms will face tougher financing conditions for new investment. Consumer and business confidence are already slipping.

The countries most affected include those with high foreign participation in local equity markets, banking systems that depend heavily on short-term foreign currency funding, and those running external current account deficits.

Volatility in the movement of foreign portfolio investments—short-term funds placed in stocks, bonds, and banks' overseas borrowing—is a significant risk. Exposures to short-term external funds have already affected the performance of the region's currencies amid greater uncertainty about the continuity and stability of these foreign currency funds **(Figure 54)**. Risks abound that international financial conditions could worsen further and dampen the investment climate further. Tighter credit conditions and increased financial market volatility could dampen investment spending, particularly where the business environment remains less friendly. And if the global credit crunch is prolonged, local funding conditions could also be affected, cutting into the region's economic activities more seriously.

Figure 54: External Vulnerability and Currency Movement[1]



[1]External vulnerability ratio is derived by dividing the sum of current account deficit, short-term debt, and foreign holdings of stocks and local currency bonds by total reserves. Currency movement is the percentage changes of the US$ value of local currency. Negative values indicate depreciation of local currency, and positive values indicate appreciation.

Sources: OREI staff calculations based on data from Bloomberg; Citibank; *International Financial Statistics,* International Monetary Fund; *World Economic Outlook,* International Monetary Fund (Oct 2008); and Joint External Debt Hub.

Box 3: Global Financial Integration and Volatility Spillover

Emerging East Asia's financial markets remain open to contagion from the global financial crisis. The 1997/98 Asian financial crisis showed clearly how rapidly crisis can spread. In response, authorities across the region implemented substantial reforms to improve their domestic financial systems. And one critical focus of these reforms was to deepen financial cooperation and integration at the regional level—in part as a safeguard against the spillover of global market instability. The region's policy makers also promoted capital account liberalization and regional financial integration along the way. Despite these efforts, however, regional financial integration remains in its infancy. Several studies find that financial markets in Asia are more financially integrated with the global economy than with each other.[1]

Increasing financial integration at the global rather than regional level, along with the rapid expansion of global capital markets, suggests that the potential for the financial transmission of global shocks has likely increased. This means, for example, that if the region's equity markets are fully integrated with global markets and no country-specific disturbances occur, stock prices should only react to news common to all markets. A simple test can be done to assess the extent of financial integration of the region's equity markets with the global markets.[2]

The returns of individual equity market are modeled as having an expected component and an unexpected one, $\varepsilon_{c,t}$. The expected return is obtained by relating individual market returns to a constant term and to the returns in the previous period. The error terms from the regression constitute the unexpected component of the return, or innovation.[3] The unexpected component is then decomposed into a purely local shock ($e_{c,t}$) and a reaction to global (say United States [US]) news ($\varepsilon_{us,t}$):

$$\varepsilon_{c,t} = e_{c,t} + \beta^{us}_{c,t}\varepsilon_{us,t} \qquad (1)$$

where β represents the country-specific sensitivity to US market shocks (of the unexpected component of equity returns).

It is assumed that an unexpected component of individual stock market returns can be decomposed into a purely local shock (an intercept or α_i) and a reaction to global news (proxied by an unexpected component of US market returns). If the local stock market is integrated globally, a global shock will dominate in explaining the unexpected component of an individual market return. That is, country-specific sensitivity (β_i) in the reaction to a US market shock will increase. On the other hand, the relative importance of local market shocks (α_i) will decrease. Under the assumption of complete global integration, α is close to zero and β close to 1.

In order to investigate the development of the country-specific betas over time, time-varying betas of individual markets have been calculated for the period from January 2001 through November 2008.[4] The time-varying betas are derived by running the above regression in 18-month rolling windows—the first $\beta^{us}_{c,t}$ is estimated using the monthly averages of equity returns for the first 18 months; subsequently, the data window is moved 1 month ahead and the equation is re-estimated until the last observation is reached.

The empirical results show that Asian equity markets track the US markets closely, and have increasingly done so. Tighter global integration translates into increased spillover from global shocks on returns and on the volatility of regional equities.

Figure B3.1 reports the unweighted average of $\beta^{us}_{c,t}$, for all *c*, as spillover intensity by which a US shock is transmitted to local equity markets, as well as the unweighted average of $e_{c,t}$, for all *c*, as an influence of purely local disturbance. The result generally confirms increasing spillover of global shocks on Asian stock market returns and the limited

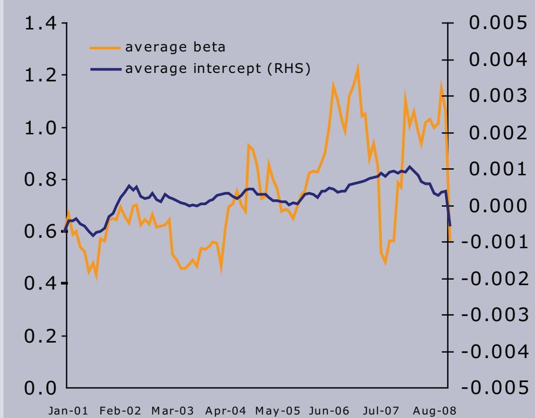
[1] Kim, Lee and Shin, 2007, "Regional and Global Financial Integration in East Asia" in *China, Asia and the New World Economy*, edited by Barry Eichengreen, Charles Wyplosz, and Yung Chul Park, and Kim and Lee, 2008, "Real and Financial Integration in East Asia" *ADB Working Paper Series on Regional Economic Integration* No. 17.

[2] For the details of the empirical methodology, see Lee and Park, 2008, "Global financial turmoil: Impact and challenges for Asia's financial systems," *Asian Development Bank Working Paper Series on Regional Economic Integration* No. 18.

[3] The conditional variance of the error terms is assumed to follow a standard asymmetric GARCH (1,1) process.

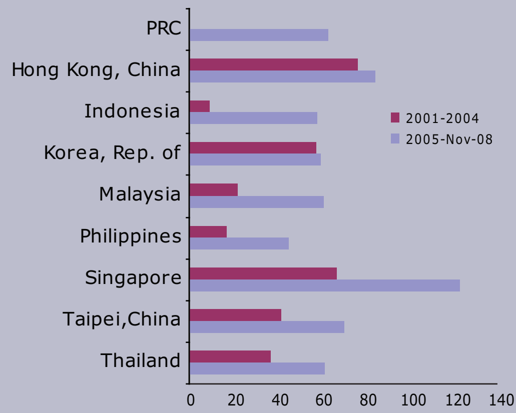
4 Equity returns are measured in local currency with daily frequency from 1 January 2001 to 3 December 2007 for 5 trading days a week. The continuously compounded total returns were calculated measured by the log differences of daily closing price levels such that, Rc,t = ln(Pc,t)-ln(Pc,t−1) for market c on day t.

Figure B3.1: US shock spillover intensity in Asian Equity Markets



Source: OREI staff calculations based on data from Bloomberg.

Figure B3.2: Share of Variance in local equity returns explained by US shocks



Source: OREI staff calculations based on data from Bloomberg.

influence of purely local news in explaining the change in level of returns. In particular, the average β increased sharply in recent months, reflecting the intensified spillover during the current crisis period.

Figure B3.2 reports the variance ratios for individual market returns. This is to estimate the proportion of total domestic equity volatility explained by the global (US) shock. The conditional variance is estimated by the GARCH (1,1) model for individual country-specific returns. Total volatility is then given by

$$\sigma^2_{c,t} = h_{c,t} + (\beta^{US}_{c,t})^2 \sigma^2_{US,t} \qquad (2)$$

where $h_{c,t}$ is the variance of the local shock component.

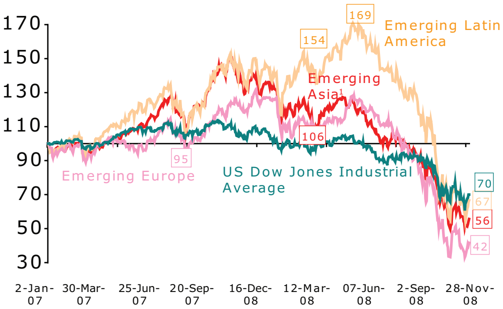
The variance ratio for an individual market is then obtained by

$$R^{US}_{c,t} = \frac{(\beta^{US}_{c,t})^2 \sigma^2_{US,t}}{\sigma^2_{c,t}} \qquad (3)$$

The variance ratio will be close to one if the beta approaches one and when the volatilities of the local and US market returns are similar. The variance ratio is derived by assuming that local shocks are not correlated with US market returns.

The result shows the proportion of total domestic equity market volatility explained by US shocks for the two sub-periods 2001–2004 and 2005–2008 (through November). In most emerging East Asian markets, a US shock is a major force behind domestic equity volatility. Aside from Hong Kong, China; Korea; and Singapore, where equity markets were already rather sensitive to volatility spillover from the US, sensitivity has increased sharply in most other equity markets in the region during the latter period, reflecting the spillovers from recently sharp swings in US markets. The rising incidence of spillover from global shocks on Asian market returns and volatility are supportive of the view that the relatively more open markets in emerging East Asia show greater global integration.

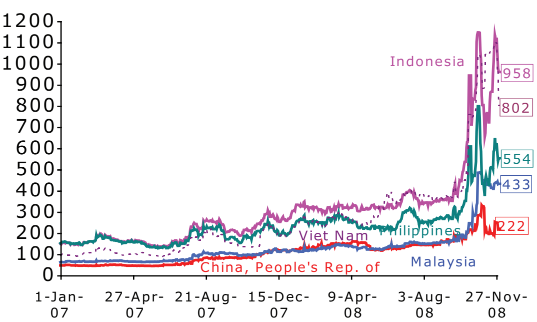
Figure 55: MSCI Indexes
(2 Jan 2007 = 100)



[1]Includes China, People's Rep. of; India; Indonesia; the Republic of Korea; Malaysia; Pakistan; Philippines; Taipei,China and Thailand.

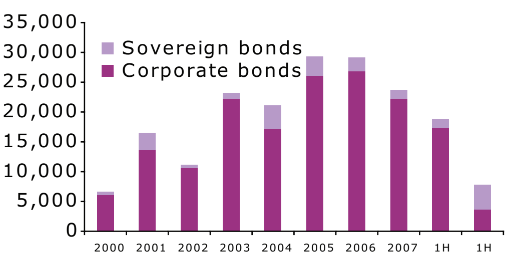
Sources: Morgan Stanley Capital International (MSCI) Barra and Bloomberg.

Figure 56: JP Morgan EMBI Sovereign Stripped Spreads (basis points)



Source: Bloomberg.

Figure 57: Corporate and Sovereign Eurobond Volume (Asia[1] excl Japan, $ million)



[1]Refers to China, People's Rep. of; Hong Kong, China; Indonesia; Rep of Korea; Macao, China; Malaysia; Philippines; Singapore; Taipei,China; Thailand; and Viet Nam.

Source: Dealogic.

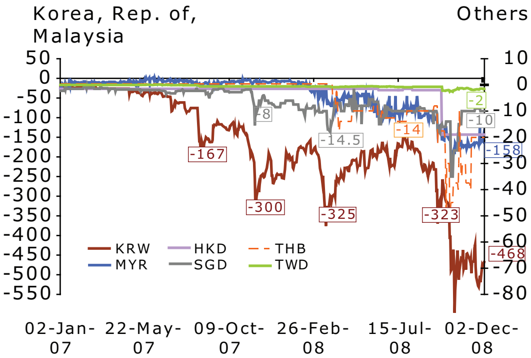
Across emerging East Asia, financial asset prices plummeted amid concerns over spreading global credit fears and the sharply deteriorating world growth outlook.

As global investors scale back holdings of emerging market assets amid continued financial system deleveraging, Asian equities and external funding conditions have been hurt. Asia's stock market indexes fell even more sharply than mature markets **(Figure 55)** and sovereign credit spreads widened significantly **(Figure 56)**. Heightened financial volatility and a sharp reversal in risk appetite—together with elevated funding costs—also narrowed external funding sources for Asian borrowers. Offshore bond issuance dropped sharply **(Figure 57)**. Capital outflows increased rapidly due to risk re-pricing and the unwinding of the "carry trade." The region's currencies also tumbled on flight to safety (see Figures 22a, 22b).

With the global credit squeeze, some emerging East Asian economies have experienced severe foreign currency liquidity shortages.

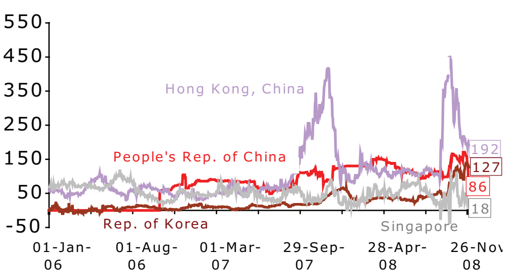
Despite the large build-up of foreign exchange reserves since the 1997/98 Asian financial crisis, dollar illiquidity is testing the resilience of Asian banks as access to international interbank markets has become difficult. As the global financial crisis intensified, major international banks sharply reduced interbank credit to Asian banks. Although this reduction reflects more the liquidity needs of major global banks than any change in Asian banks' creditworthiness, it has nonetheless led to tighter credit conditions and foreign currency liquidity shortages. Especially in the Republic of Korea (Korea) and Indonesia, withdrawals of foreign currency liquidity have been on a scale large enough that, from time to time, there have been significant challenges to financial stability. In view of the sharp rise in foreign currency liquidity and counterparty risks, cross-currency basis swap spreads (the cost that Asian banks have to shoulder in borrowing dollars by using local currency as collateral) have widened sharply **(Figure 58)**. This foreign currency liquidity issue has also had important ramifications for the region's investment and trade flows.

Figure 58: US Dollar Cross-currency Basis Swap Rate



Source: Bloomberg.

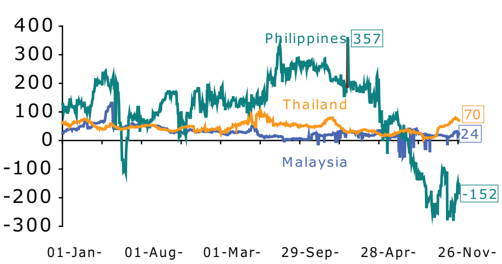
Figure 59a: IBOR minus Local Currency Governmont Bond Yields—NIEs[1] and People's Rep. of China (3-months, basis points)



[1]Excludes Taipei,China.

Source: Staff calculations based on Bloomberg data.

Figure 59b: IBOR minus Local Currency Governmont Bond Yields—ASEAN-4[1] (3-months, basis points)



[1]Excludes Indonesia.

Source: Staff calculations based on Bloomberg data.

Although varying in specifics, the region's authorities have responded to the sharp currency depreciation and tried to ensure adequate dollar funding for business.

Specific measures taken in the region to deal with foreign currency liquidity withdrawals include partial or blanket guarantees of customer deposits (Hong Kong, China; Singapore; Korea; Malaysia; and Taipei,China), guarantees for new external borrowing (Korea), and direct interventions in the spot and forward exchange markets to supply foreign currency. In parallel, both Korea and Singapore have recently concluded currency swap agreements with the US Fed. Although the historic swap arrangements of up to $30 billion each with the US Fed has provided some relief in foreign currency liquidity, uncertainty and volatility in bank funding markets remain high.

As interbank liquidity markets in the US and Europe seized, several bank funding markets in the region experienced a knock-on effect.

A sharp rise in counterparty risks and liquidity strains in major international interbank markets spilled over onto several regional interbank markets—particularly in key Asian financial centers of Hong Kong, China; and Singapore **(Figures 59a, 59b)**. There, the local currency interbank markets saw visible rate jumps and monetary authorities pumped in liquidity to bring greater normality to market operations. A smaller rate hike was also noticed in Korea. The domestic liquidity pressures reflect several factors, including arbitrage across foreign and domestic currency markets, rising uncertainty about the economic outlook, and stepped up risk aversion.

Authorities fear that a frozen interbank market—aside from squeezing the region's access to funding—will render a key channel of monetary policy impotent as well.

In Hong Kong, China, where banks have become more conservative in lending amid the global credit crisis, interest rates remained relatively high at the retail level despite the reduction of benchmark interest rates tied to US policy rates. In the current environment, regional banking systems have become much more concerned with balance sheet preservation than taking on new credit risk. To this end, injections of domestic liquidity and guarantees of domestic bank deposits may not help foster new lending. Nevertheless the interconnectedness of global financial markets means the degree of success of measures implemented by US and European policy makers to restore confidence and unfreeze credit markets is as crucial, perhaps more so, than domestic efforts. Recently, there has been a substantial improvement in bank-to-bank lending as a result of US and European governments guarantees of interbank loans.

Although the impact of the ongoing crisis have thus far been manageable, there is concern that it is worsening, as the sell-off in regional equity and debt markets has intensified, and foreign currency liquidity shortages continue to pressure the region's financial systems.

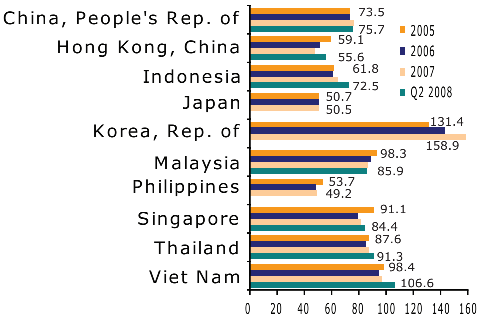
Although foreign currency liquidity pressures have abated somewhat as a consequence of active policy efforts, strains on the region's banking systems have not been fully addressed and may deepen in the face of a significant growth slowdown. The weakening regional growth will have implications not only for the quality of the region's bank balance sheets—through increases in nonperforming business and household loans—but may also lead to further downward corrections in the region's equity and property prices. Moreover, emerging East Asia's financial systems remain heavily bank-dominated and banking weaknesses will have significant systemic implications.

D. Can the Region's Banking and Financial Systems Weather the Crisis?

The region's banking systems entered this period of financial turbulence in relatively good health.

Limited exposure to the US mortgage-related assets has shielded Asia's banking systems from massive losses. Of the $965 billion in total write-downs and credit losses reported thus far, only $30 billion—or about 3%—comes from Asian financial institutions, the bulk of which concentrated in Japan and to a lesser extent, the PRC. Significantly—because of the small losses and banks' ability to raise fresh capital—credit losses have not materially impaired any of the region's banking systems' capital

Figure 60: Private Sector Loans to Deposit Ratio (%)



Source: OREI staff calculations based on data from *International Financial Statistics,* International Monetary Fund.

and profitability. Banks across the region also hold generally comfortable domestic currency liquidity cushions. Loan to deposit ratios across the region, with the exception of Korea, have been rather conservative **(Figure 60)** and many banking systems report high ratios of short-term assets to liabilities. These cushions reflect the increased attention to liquidity management since the 1997/98 crisis along with relatively subdued levels of lending to the corporate sector in recent years. Some pressures on domestic currency liquidity have, nevertheless, begun to emerge in a number of countries. Various indicators suggest the overall soundness of the region's banking systems, in terms of profitability, operational efficiency, and financial soundness, remains intact.

a. Prudential Indicators

On the whole, prudential indicators of emerging East Asia's banking systems remain solid with strong capital cushions.

Following post-Asian crisis efforts to deal with nonperforming loans (NPLs), bank recapitalization, as well as a period of robust economic growth and favorable financial conditions, the region's banks have strong profits and have further fortified their capital base. Although the current financial crisis has been going on for over a year, prudential indicators continue to show considerable strength of the region's banking systems. Most encouraging is the ratio of NPLs to total loans, which has continued to decline through the first half of 2008 (**Table 7**). Capital cushions have been sustained at high levels (**Table 8**). Through the second quarter of this year, most banking systems in the region continued to report relatively high rates of return on assets and equity, and did not experience increases in impaired assets (**Tables 9a, 9b**). This performance reflects the insignificant exposure of the region's banks to the toxic structured mortgage products that were extensively sold globally. Given largely domestically-focused business and relatively strong economic activities, profitability of emerging East Asia's banking systems has generally remained high in 2008 thus far.

Table 7: Nonperforming Loans (% of commercial bank loans)

	2000-2004 Average	2004	2005	2006	2007[1]	2008[2]
China, People's Rep. of	21.0	13.2	8.6	7.1	6.2	...
Hong Kong, China[3]	4.8	2.3	1.4	1.1	0.9	0.8
Indonesia	10.6	5.7	8.3	7.0	4.6	3.9
Korea, Rep. of	3.5	1.7	1.1	0.8	0.6	0.7
Malaysia[3]	8.9	6.8	5.6	4.8	3.2	2.4
Philippines[3]	14.8	12.7	8.2	5.7	4.4	4.0
Singapore	5.3	5.0	3.8	2.8	1.8	...
Taipei,China	5.2	2.8	2.2	2.1	1.8	1.6
Thailand	13.5	10.9	8.3	4.1	3.9	3.3

... = not available
[1]Data for Singapore as of Sep 2007.
[2]Data for Taipei,China, and Thailand as of Jun 2008; and Hong Kong, China as of Mar 2008.
[3]Reported nonperforming loans are gross classified loans of retail banks.

Sources: National sources; CEIC; and *Global Financial Stability Report,* International Monetary Fund.

Table 8: Risk-Weighted Capital Adequacy Ratios
(% of risk-weighted assets)

	2000-2004 Average	2004	2005	2006	2007[1]	2008[2]
Hong Kong, China	16.1	15.4	14.8	14.9	13.4	14.3
Indonesia	12.0	19.4	19.5	20.5	19.3	17.1
Korea, Rep. of	11.2	12.1	13.0	12.7	12.3	11.4
Malaysia	13.4	14.3	13.6	13.1	12.8	12.5
Philippines	17.0	18.7	17.7	18.5	15.9	15.7
Singapore	17.7	16.2	15.8	15.4	14.0	...
Taipei,China	10.5	10.7	10.3	10.1	10.6	10.6
Thailand	13.2	13.0	14.2	14.5	15.4	15.7

... = not available.
Note: Based on officially reported risk-adjusted capital adequacy ratios under Basel I and applied to commercial banks (except Republic of Korea, where data includes nationwide commercial banks, regional banks, and specialized banks). Data for the Philippines is on a consolidated, not solo, basis. Data for Japan is for major commercial banks only.
[1]Data for Singapore as of Sep 2007.
[2]Data for Malaysia, and Thailand as of Sep 2008; Indonesia as of Aug 2008; Korea and Taipei,China as of Jun 2008; and Hong Kong, China and the Philippines as of Mar 2008.

Sources: CEIC; national sources; and *Global Financial Stability Report*, International Monetary Fund.

Table 9a: Rate of Return on Commercial Bank Assets
(% per annum)

	2000-2004 Average	2004	2005	2006	2007[1]	2008[2]
China, People's Rep. of	0.2	0.5	0.6	0.7	1.0	…
Hong Kong, China	1.2	1.7	1.7	1.7	1.9	…
Indonesia	1.7	3.5	2.6	2.6	2.8	2.7
Korea, Rep. of	0.4	0.9	1.3	1.1	1.1	…
Malaysia	1.3	1.4	1.3	1.3	1.5	…
Philippines	0.8	1.0	1.1	1.3	1.4	1.2
Singapore	1.0	1.2	1.2	1.4	1.4	…
Taipei,China	0.3	0.6	0.3	-0.4	0.1	0.3
Thailand	0.1	1.3	1.4	0.8	0.1	1.2

… = not available.
[1]Data for Singapore as of Sep 2007; for PRC and Hong Kong, China as of Jun 2007.
[2]Data for Indonesia as of Aug 2008; for Philippines, Taipei,China, and Thailand as of Jun 2008.

Sources: CEIC; national sources; and *Global Financial Stability Report,* International Monetary Fund.

Table 9b: Rate of Return on Commercial Bank Equity
(% per annum, end of period)

	2000-2004 Average	2004	2005	2006	2007[1]	2008[2]
China, People's Rep. of		13.7	15.1	14.8	19.9	…
Indonesia	18.5	22.9	16.5	16.4	17.7	19.2
Hong Kong, China	15.3	18.7	18.4	18.9	…	…
Korea, Rep. of	6.3	15.2	18.4	14.6	14.6	…
Malaysia	16.2	16.0	16.8	16.2	19.7	…
Philippines	5.8	7.6	9.5	11.5	11.8	10.6
Singapore	9.6	11.6	11.2	13.7	13.4	…
Taipei,China	4.1	8.8	4.4	-7.3	2.6	4.4
Thailand	3.4	15.7	14.2	8.5	2.4	14.4

…= not available.
[1]Data for Singapore as of Sep 2007.
[2]Data for Philippines, Taipei,China, and Thailand as of Jun 2008; for Indonesia as of Mar 2008.
Sources: CEIC; national sources; and *Global Financial Stability Report,* International Monetary Fund.

b. Activity Indicators

Most of the region's banking sectors have scaled back investments in securities, likely due to the heightened uncertainty in financial markets.

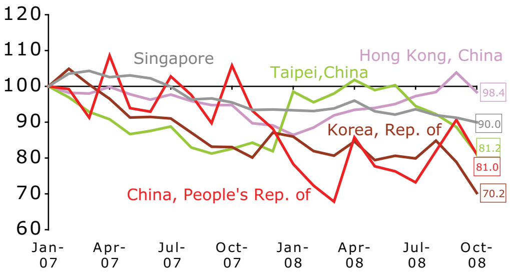
The post-Asian crisis economic landscape saw business investment in many countries decline markedly, while exports and domestic consumption became the main engine of growth. Accordingly, the composition of bank lending shifted toward the household sector, which increased bank sensitivity to changes in property and share prices and employment conditions. During the year, the region's banking systems reduced investments in securities, probably because of worsening financial markets (**Table 10**). In addition, bank lending to households has not kept up with nominal GDP in some countries, a possible sign of greater caution by the region's banks and the more uncertain business outlook **(Table 11a)**. It also appears that non-mortgage lending may have been reduced more than mortgage-lending in most countries **(Tables 11b, 11c)**.

c. Market Indicators

A marked decline in the stock market performance of banks and finance companies relative to the overall stock market index reflects fears that banks in emerging East Asia might incur substantial losses in the crisis aftermath as economic growth slows.

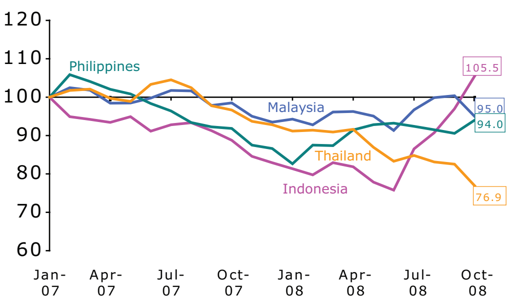
In general, most indexes of listed banks and finance companies on the region's stock markets performed below overall market indexes since August 2007 **(Figures 61a, 61b)**. The performance ratio has stabilized somewhat after it became apparent that banks in the region had very limited exposure to US mortgage-related investments. Nevertheless, despite the lack of any subsequent material deterioration in financial sector performance indicators, the bank equities in nearly all countries have continued to be priced at a discount to the overall market.

Figure 61a: Ratio of Financial Stock Price Index to Overall Stock Market Index—NIEs and PRC (January 2007=100)



Source: Bloomberg.

Figure 61b: Ratio of Financial Stock Price Index to Overall Stock Market Index (January 2007 = 100)



Source: Bloomberg.

Table 10: Securities Investment to Total Bank Assets of Commercial Banks (%)

	2000-2004 Average	2004	2005	2006	2007	Sep-2008[1]
Hong Kong, China	16.9	19.2	19.6	20.2	17.7	14.8
Indonesia	18.3[2]	20.2	18.0	24.8	27.8	17.4
Korea, Rep. of	23.2	20.8	22.1	20.2	18.6	17.4
Malaysia	12.7	10.6	9.6	9.3	11.9	13.1
Philippines	26.6	31.6	32.0	30.0	28.3	29.1
Singapore	16.9	17.1	16.5	15.9	15.8	14.3
Taipei,China	13.6	14.2	12.1	12.0	11.9	12.1
Thailand	15.2	16.0	16.0	15.8	15.9	14.7

… = not available.
[1]Data for Korea as of Jun 2008 and Philippines as of Feb 2008.
[2] Refers to 2001–2004 average.
Sources: CEIC, Hong Kong Monetary Authority, Bank Indonesia, and Bangko Sentral ng Pilipinas.

Table 11a: Household Indebtedness (% of GDP)

	2000–2004 Average	2004	2005	2006	2007	3Q2008
Indonesia	6.2[1]	8.2	9.1	8.5	8.9	11.4
Hong Kong, China	59.3	58.1	55.5	52.0	51.4	53.2
Korea, Rep. of	29.7	35.3	37.6	40.8	40.3	41.0[3]
Malaysia[2]	45.4	50.0	52.2	53.0	50.8	46.7
Philippines	5.5	5.2	4.7	4.2	4.3	4.1[3]
Singapore[4]	…	50.1	48.1	44.9	45.3	45.7
Taipei,China	45.9	53.0	57.9	55.8	53.5	53.8
Thailand	…	24.5	24.6	23.6	23.4	23.4

Table 11b: Household Non-mortgage Indebtedness (% of GDP)

	2000–2004 Average	2004	2005	2006	2007	3Q2008
Indonesia	4.7[1]	6.4	7.1	6.3	6.5	8.9
Hong Kong, China	10.4	10.9	11.6	11.7	12.9	13.5
Korea, Rep. of	12.6	13.6	14.1	15.2	15.7	16.0[3]
Malaysia[2]	20.0	21.9	23.6	24.7	23.6	21.7
Philippines	4.7	4.5	4.0	3.6	3.7	…
Singapore[4]	…	17.7	16.2	14.9	14.5	14.7
Taipei,China	17.8	21.5	23.3	19.2	16.6	15.7
Thailand	…	8.4	7.5	6.5	6.0	6.5

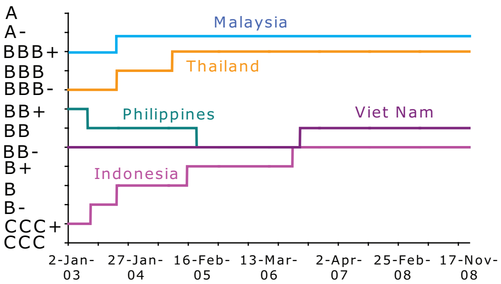
Table 11c: Household Mortgage Indebtedness (% of GDP)

	2000–2004 Average	2004	2005	2006	2007	3Q2008
PRC	…	10.6	10.0	10.6	11.6	…
Indonesia	1.4[1]	1.8	2.0	2.2	2.4	2.4
Hong Kong, China	48.9	47.3	43.9	40.3	38.5	39.8
Korea, Rep. of	17.1	21.8	23.5	25.6	24.6	24.3[3]
Malaysia[2]	25.4	28.0	28.6	28.3	27.2	25.0
Philippines	0.8	0.7	0.6	0.6	0.6	…
Singapore[4]	29.7	32.4	31.9	30.0	30.8	31.1
Taipei,China	28.1	31.5	34.6	36.6	36.9	38.0
Thailand	14.3	16.2	17.1	17.1	17.3	16.8

… = not available.
[1]Refers to 2001–2004 average.
[2]Sum of loans for personal use, credit cards, purchase of consumer durable goods, and purchase of passenger cars for commercial banks, merchant banks, and finance companies. 2006 and 2007 data from commercial banks and merchant banks only.
[3]Data is as of Jun 2008 (Korea) and Feb 2008 (Philippines).
[4]Refers to consumer loans from commercial banks and finance companies.

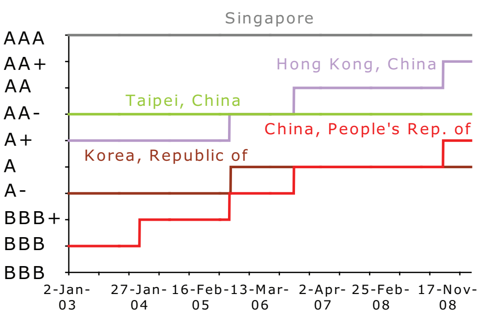
Sources: CEIC; *Monthly Statistical Bulletin,* Bank Negara Malaysia; *Monthly Statistical Bulletin,*Monetary Authority of Singapore; People's Bank of China, and Hong Kong Monetary Authority.

Figure 62a: S&P Sovereign Ratings—Selected ASEAN countries (Long-term foreign currency)



Source: Bloomberg.

Figure 62b: S&P Sovereign Ratings—NIEs and PRC (Long-term foreign currency)



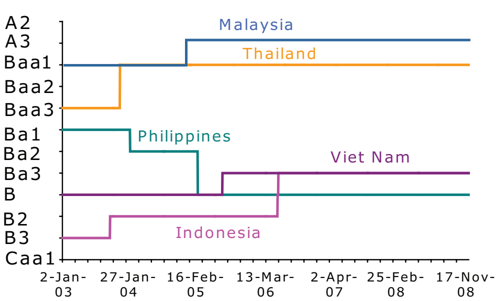
Source: Bloomberg.

This may be due the lack of any real progress in resolving the global financial crisis and a perceived risk of eventual contagion to the region's institutions.

Asian banking and financial systems will likely continue to weather the current financial turmoil relatively well, but they will inevitably face a tougher business environment in the coming year.

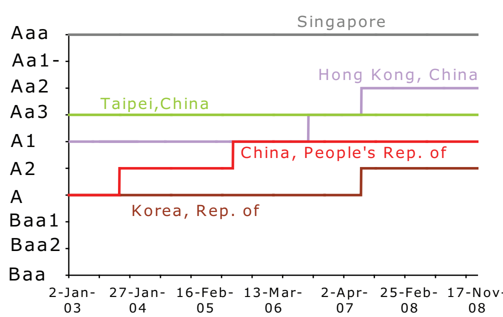
Notwithstanding the stable sovereign ratings of the region's economies—and the ratings upgrading in July of Hong Kong, China and the PRC **(Figures 62a, 62b, 62c, 62d)**, increased signs of stress in the financial sector have emerged in a number of Asian economies. In November, the sovereign outlook for Korea was downgraded to negative from stable by Fitch, as was Viet Nam in May. At the bank level, several small Vietnamese banks have experienced liquidity problems and sought central bank assistance. In other countries, downgrades in the rating outlook of financial institutions have occurred in the last two quarters, mostly from mid-September. Thus far, the rating outlook of seven financial institutions in Taipei,China has been revised downward by Fitch, as well as one each in Hong Kong, China; and Korea.

Figure 62c: Moody's Sovereign Ratings—Selected ASEAN countries (Long-term foreign currency)



Source: Bloomberg.

Figure 62d: Moody's Sovereign Ratings—NIEs and PRC (Long-term foreign currency)



Source: Bloomberg.

The growth slowdown will reflect the first real "stress" test of the robustness of regional financial systems in the aftermath of the 1997/98 financial crises, and of the preparedness of national authorities to act preemptively in response to emerging pressures.

Weakening growth regionally—and the continued tilting of global risks on the downside—implies a risk of a sharp deterioration in regional bank balance sheets and strains on financial systems. In the event the downturn in the region is very sharp, resulting increases in nonperforming assets and loans may be sufficiently large that they significantly cut into the capital cushions of banks. Another risk as economies slow is that banks may pull back from new lending, leading to a severe, generalized credit crunch. Some of the major advanced countries are already experiencing a sharp pull back in credit availability with potentially damaging consequences for the real economy. They are taking a range of measures to try to breathe life back into the credit intermediation process.

E. What Should the Region's Policy Makers Do to Safeguard Financial Stability?

Three sets of short-term policy responses are needed to bolster the foundations of financial stability and avoid deterioration in market confidence.

The most immediate challenges relate to pressures on foreign currency liquidity and the risks of spillovers to local financial systems. As is often the case, slowing growth may also reveal previously unrecognized financial system vulnerabilities. For this, contingency plans need to be in place to safeguard financial stability, while closely coordinating with policy measures on the macroeconomic front to forestall the risk of a sharp downturn in growth—further compromising regional financial soundness. Unlike the US or Europe, where financial spillover to the real economy has already occurred, preemptive and proactive policies may still help to sustain financial stability in emerging East Asia, thus breaking the potentially vicious loop between financial weakness and the real economy. While specifics will vary across economies, policy efforts fall broadly under the following three categories:

First, crisis management frameworks need to be strengthened and ready to be implemented, if required—critically important will be the scope and effectiveness of the institutional arrangements for providing emergency liquidity and other support while ensuring the adequacy of existing frameworks for dealing with troubled institutions.

- Regulators need step up their monitoring of bank solvency and to have clear policies in place to deal with stressed institutions. It will be also useful for national regulators to clearly signal that they are monitoring conditions closely and are ready to take measures to maintain financial stability. In normal circumstances, prompt corrective action frameworks would call for a graduated response to bank capital falling below certain critical thresholds and, in the extreme, to the possibility of bank closures. In current unsettled conditions, however, some deviations from this approach may be called for in the event of difficulties in systemically important institutions. If circumstances warrant, central banks should consider expanding the range of acceptable collateral while availing a broader set of liquidity instruments. For example, use of an auction-type facility for discount lending may counter the stigma associated with emergency funding requests.

- Extending and formalizing official guarantees of bank and other deposits might also be considered as short-term liquidity measures—should lender of last report facilities not be sufficient to prevent bank runs if confidence evaporates. Already, there have been a few bank runs, although they have been very localized and based on unfounded rumors. Nonetheless, the recent experience in industrialized countries suggests it may be prudent to address the risk of bank runs. To date, several countries in the region have announced the temporary introduction of blanket guarantees on deposits (Hong Kong, China; Singapore; and Malaysia) and/or have extended guarantees that had been scheduled to be removed (Indonesia and Thailand). As the1997/98 crisis showed—along with the recent experience in the industrialized countries—such guarantees can help limit pressures on banks and assist in maintaining financial stability. At the same time, however, these measures raised concerns about moral hazards in the banking sector and should be applied judiciously.

- Insolvencies require a case-by-case approach as national authorities need to balance immediate threats to financial stability against concerns over moral hazard and the potential budgetary implications of official interventions. Whatever approach is taken, it will be important that the reasons for particular interventions are explained to the market, along with why some institutions may be treated differently from others. Needless to say, regulators should not be fully transparent *ex ante* about the approaches they will take so as to limit moral hazard. In the current unsettled international conditions regulators may nevertheless usefully signal that systemically important financial institutions will not be allowed to fail. Public recapitalization schemes should also be at the ready where appropriate.

Second, the region's policy makers need to ensure adequate provision of foreign and domestic liquidity on a timely basis so that systemically important financial institutions do not come under pressure and flows of credit to key economic activities are not compromised.

- Regulators should encourage banks to increase transparency through more regular and timely reporting of key indicators of liquidity, profitability, and capital—and their exposure to advanced country counterparties. In parallel, regulatory standards for liquidity risk management need to be reviewed and strengthened, particularly for banks that rely heavily on wholesale funding. Authorities need to ensure that regulated financial institutions have in place proper liquidity risk management frameworks to avoid maturity mismatches, are subject to extreme stress testing, and have formulated contingency plans to deal with a disruption in external financing. Details of banks' financial positions should be regularly reported.

- Although easing somewhat recently, foreign currency liquidity pressures have not fully abated and may intensify in the face of further problems in advanced country financial institutions. National authorities may consider extending government guarantees to bank funding sources and ensure the adequacy of deposit insurance where appropriate. Direct interventions in foreign exchange markets or arranging bilateral or multilateral swap lines with foreign central banks or multilateral financial institutions could also help. In any case, the coverage and duration of deposit insurance systems and official guarantees should be explicit and supported by stepped up prudential oversight in order to avoid excessive risk.

- With the risk of pressure on domestic liquidity increasing, national authorities need to be ready to provide liquidity support on a timely basis where needed. The region's central banks should have a number of tools—most importantly lender of last resort facility so liquidity can be provided directly to banks if necessary—ready to address any pressures that emerge in local currency funding markets. At the same time, they should make sure liquidity support operations will not unnecessarily compromise monetary policy objectives. In parallel, clear policies are needed on eligibility, collateral to be accepted, interest rates charged, and maturity of lending. In all cases where lender of last resort is provided, authorities should ensure that adequate collateral is provided so as to avoid putting the central bank balance sheet at risk.

- In the event that circumstances warrant liquidity provision to financial institutions that are not covered under standing facilities, specific terms and conditions for support need to be made public. As part of contingency planning, authorities may also explore the modalities for providing support and whether any liquidity might best be made available directly to institutions in need or indirectly through bank lending.

Third, as the spread of the global financial crisis increasingly affects the region's growth prospects, policy responses will need to focus on containing the spillover effects of worsening financial conditions and risks arising from weaker growth on the region's banking systems.

- Regulators should encourage banks to immediately start raising capital to strengthen capital ratios well above prudential norms. Such preemptive action can provide larger cushions for any significant increase in impaired assets. These also send clear signals to the market that banks are entering the downturn from a position of strength rather than weakness.

- Authorities should undertake necessary measures to avoid a downward spiral arising from a broadening credit crunch feeding into the real sector. Providing guarantees on new lending might be a first option, if bank balance sheets and liquidity positions remain sound and the pullback is the result of excessive risk aversion. Providing full or partial guarantees to new lending can encourage credit activities and, as a result, avoid even sharper slowdowns in economic activity.

- Alternatively, however, if the pullbacks in credit are the result of bank capital becoming inadequate due to write downs and losses, the preferred approach might be to attract more capital to the sector. Where banks may not be able to raise additional capital in local capital markets or cutback on dividend payments so as to preserve capital, official capital injections may be considered.[13] In the extreme case of a credit crunch, where capital injections to the banking systems do not lead to increased lending, credit can be supplied directly to the real economy either by the public sector buying financial instruments issued by firms or through central bank credit extensions. This was the case during Japan's financial crisis in the 1990s, while a similar approach was adopted again more recently in the US and Europe.

F. What are the Medium- to Long-term Challenges Facing the Region's Financial Regulators?

The turmoil in the international financial markets has revealed significant weaknesses in the functioning, regulation, and oversight of financial systems within and across international borders.

Authorities in the region, both individually and collectively, need to address weaknesses in the financial systems and improve their functioning and integrity. Measures in these areas can be usefully coordinated regionally and with initiatives from the G20,

[13] Many regional economies already have established some modalities for recapitalization to shore up bank balance sheets from the 1997/98-crisis experience. Key considerations include the terms and conditions for official capital injections. In choosing between capital injections through preferred and common stocks, it is necessary to balance a number of competing considerations, including the impact on the incentives for raising private capital, the upside and downside risks to be faced by taxpayers, and the degree of effective control authorities wish to assert over assisted institutions.

the Financial Stability Forum and the International Monetary Fund (IMF) calling for the detailed work programs focusing on crisis prevention and improving crisis management. Based on the experience of the Asian financial crisis as well as the spillovers from the current turmoil, the region has a strong interest in contributing to the work programs and ensuring that financial systems becomes less crisis prone. The key areas requiring attention fall under broad headings:

Strengthening Transparency and Accountability:

- Responding to the problems associated with the opaqueness of complex derivative products and a lack of clarity about who holds the risks, special attention needs to be paid to measures to strengthen financial system transparency. Accordingly, attention should be given to enhancing the disclosure of complex financial products and ensuring "complete and accurate disclosure" by firms of their financial conditions.
- Problems of misaligned incentives that contributed to excessive risk taking and leverage are also to be addressed. The Financial Stability Forum and the IMF have noted numerous problems during the current crisis related to a misalignment of incentives between owners and managers of financial institutions that led to a short-term focus and excessive compensation; misaligned incentives faced by credit rating agencies in supplying ratings and offering advisory services, that may have contributed to excessively high ratings of complex financial instruments; and misalignments of incentives in the context of the originate and transfer model of securitized finance, that may have led to issuers of mortgages not paying adequate attention to the risks of the products included in CDOs and related securities. In principle, the reforms that will eventually be adopted will seek to ensure more incentive-compatible contracts that address these and related problems.
- Especially in the region, close attention will be needed to ensure that local banks are properly classifying loans and adequately provisioning against problem loans, with a proper information system to monitor customer credit. The Philippines recently passed a law that would centralize, collate, and disseminate credit information of borrowers. Malaysia's experience with a centralized credit information system has not only improved credit assessment and hence asset quality

of banks, but also expedited loan processing, increased loan volumes, and reduced borrowing costs. Regulators also require information on household balance sheets and income data that could help provide useful and realistic assessments of potential economic and financial shocks to the banking sector.

Enhancing Sound Regulation and Prudential Oversight:

- Weaknesses and gaps in financial sector regulation and supervision arguably allowed excessive leverage and risk-taking, and the build up of significant off–balance sheet leverage in Special Investment Vehicles and other conduits. Accordingly, strengthening and broadening regulation and oversight can help address those features of regulatory regimes that may have contributed to the current turmoil.
- Regulators need to strike an appropriate balance between competing objectives such as fostering financial innovation and maintaining financial stability. In doing so, however, they need to resolve the issues regarding the particular means to close regulatory gaps and ensure that all financial institutions and markets are subject to "appropriate" supervision or oversight.
- Important underlying issues include the nature of the regulatory regime that will be applied to non-bank financial institutions such as hedge funds, investment banks, and insurance companies, which have posed systemic risk during the current crisis. Similarly, a set of questions will need to be addressed regarding the oversight of large and opaque over-the-counter markets (OTC) in products such as credit default swaps (CDS). An important issue is the extent to which trading, settlement, and clearance in certain OTC markets—such as the CDS market—should either be centralized or shifted to formalized exchanges in order to reduce systemic risk.
- Stress tests should be carried out for extreme scenarios to gauge a system's stability as a whole. Other prudential supervision issues that may need attention relate to the strength of credit risk systems for overseas assets, the need for consolidated supervision, adequacy in communication between central banks and supervisors, the regulation of systemically important nonbank institutions and the scope of resolution and bankruptcy laws in light of the shutdown of cross-border financial institutions.

- In light of rapidly changing global financial landscape, many countries may consider alternative approaches to financial sector regulation and the possible adoption of new regulatory structures. A rationalization of the current fragmented regulatory structures in number of economies is one possibility. Regulators may seek to strengthen frameworks for macro-prudential oversight. This would be to both complement existing micro regulatory structures and ensure an appropriate focus on macro-prudential issues and systemic risk. Across many countries, central banks having been playing a key role monitoring and assessing systemic risk—including in the context of regular reports on financial stability—it is expected that these efforts will intensify. In line with this, the region needs to strengthen national and regional economic and financial monitoring using specific macro-prudential and financial vulnerability indicators through the mechanisms in place under the ASEAN Surveillance Process and ASEAN+3 Finance Ministers' Process' Economic Policy and Review Dialogue.[14]

Mitigating Procyclicality of Financial Systems:

- Regulators should consider designing prudential regulation in a countercyclical fashion, including forward-looking risk evaluation and adequate liquidity provisioning, to help *ex-ante* in avoiding large financial swings and their destabilizing effects on the economy **(Box 4)**. Currently, most financial systems exhibit a high degree of procyclicality. For example, as a result of mark-to-market, variations in specific provisioning, and changes in perceived risk, the Basel II framework may lead to the amount of capital banks are required to hold declining during business cycle expansions and increasing during contractions. Particularly in emerging market economies, excessive risk-taking during booms—associated with large capital inflows and rapid domestic credit growth—is often the origin of a financial crisis. Maturity and currency mismatches on financial and nonfinancial balance sheets during booms also add severe strain on currencies and financial systems. Effective risk analysis by financial institutions, together with countercyclical and forward-looking prudential provisioning, will help sustain financial stability through the down cycle.

[14] ADB assists in national and regional surveillance through its "Vulnerability Indicators and Early Warning Systems" software—installed in the ministries of finance and central banks of 10 ASEAN+3 countries. Surveillance reports are helpful in detecting the main sources of macro-economic instability in order for authorities to take prompt policy actions to restore economic fundamentals.

Box 4: Macroprudential Surveillance of Financial Systems

An important consequence of the current global financial crisis is the need to strengthen macroprudential surveillance. Macroprudential surveillance focuses on the links between key components of a financial system (cross-sectional focus), how systemic risk varies over time (temporal focus), and the robustness of financial systems when confronted by shocks (systemic risk). In short, macroprudential surveillance examines generic, big-picture issues that can trigger a large-scale financial crisis. Conversely, micro-based supervision, although critically important, focuses largely on the safety and soundness of individual financial institutions, instruments, and markets and does not typically address broad systemic issues. Also, micro-based supervision deals largely with the regulatory compliance of institutions, whereas macroprudential surveillance focuses on monitoring the system's overall performance and emerging risks. As macroprudential surveillance is a relatively new discipline, its key tools and approaches are not yet well developed. Nonetheless, they have expanded rapidly in recent years.

The current attention on macroprudential issues is not new. Over the past 10 years or so, many central banks have ramped up their work on systemic financial issues. A relatively common approach has been for monetary authorities to establish departments—such as financial stability groups—to regularly monitor, assess, and report on systemic financial developments. Using information from many sources, and in close collaboration with micro-based supervisors and regulators, financial stability groups typically develop "models" of the interlinks and spillovers across different segments of a financial system, using tools such as Value at Risk (VaR)—a statistical analysis of historical price trends and volatilities—to identify key risks and vulnerabilities. They also subject financial systems to a variety of stress tests to check for robustness. Financial stability groups also make use of a wide range of financial market indicators and communicate regularly with private sector market participants to access and assess financial intelligence. Work programs also frequently include developing composite early warning indicators for systemic risk events.

The work of the financial stability groups is typically carried out in close coordination with—but separate from—groups that prepare macroeconomic forecasts using variables such as GDP, balance of payments, and inflation. As documented in a recent International Monetary Fund (IMF) Working Paper,[1] an increasing number of central banks have begun to regularly publish financial stability findings in standalone reports. Within emerging East Asia, People's Republic of China (PRC);, Hong Kong, China; Indonesia; Republic of Korea (Korea); Malaysia; Singapore; and Thailand regularly prepare financial stability reports. At the same time, the IMF, Financial Stability Forum (FSF) and the Bank for International Settlement (BIS) also regularly issue their own financial stability or related reports. And there are regular international and regional meetings of the FSF and IMF to review financial system developments and issues, and emerging threats to financial stability.

Three considerations, in particular, lie behind the current interest in strengthening macroprudential surveillance and giving it a more significant role:

- The failure to anticipate the current crisis and the implied threats to systemic financial stability within and across countries;
- The apparent high degree of procylicality of financial systems under which both boom and bust conditions tend to feed themselves in virtuous and vicious spirals; and
- Large interdependencies across markets, financial instruments, and institutions related to the "originate and transfer" model of finance, high levels of short-term capital market funding, and the difficulties pricing complex securities.

Currently, efforts to strengthen macroprudential surveillance focus on ways to mitigate the high procyclicality of financial systems. At the same time, however, work continues on improving the understanding of the highly complex interactions across institutions and markets, informed by the spillovers and links during the current crisis; and there is renewed interest in developing early warning indicators of impending financial distress.

Several ideas have been advanced to help mitigate the high procyclicality of financial systems. As discussed by the IMF, World Bank, and Bank of England, several key proposals have been proffered:[2]

- The re-introduction of a pure capital assets ratio under which banks are required to maintain a certain minimum level of capital in relation to their on and off

[1] Martin Cihak, How do Central Banks Write on Financial Stability?, IMF Working Paper 06/163.

[2] International Monetary Fund, *Global Financial Stability Report*, October 2008. Bank of England, *Financial Stability Report,* October 2008. World Bank, *The Unfolding Crisis. Implications for Financial Systems and their Oversight*. October 2008

balance sheet assets. Such a ratio would be in addition to the risk-adjusted Basel capital ratios and would provide a direct limit on the overall amount of leverage a bank can assume. The ratio is designed to limit the amount leverage increases during boom periods and hence reduce the need for a possibly destabilizing deleveraging process during downturns. More generally, a pure capital asset ratio would ensure that banking systems hold a specified minimum level of capital at all times, and does not engage in regulatory arbitrage across different risk-weighted assets, so as to reduce levels of capital below a certain minimum level. The proposal would represent a return to the pure capital ratios used by the United States (US) and United Kingdom (UK) before the first Basel Accord came into effect in 1988. In this sense, at least, the proposal could be seen as a step backward, in so far as it takes no account of the riskiness of different assets in determining capital requirements. How effective a pure capital asset ratio might be in mitigating procyclicality still needs to be studied carefully. Essentially, the ratio obtains its traction by seeking to offset the tendency for the perceived riskiness of assets to decline during booms, leading to increased leverage during these periods. The pure capital asset ratio places an upper bound on leverage. Rather obviously, the capital underlying the ratio needs to be the "real" thing—Tier I capital—and it is critical that off-balance sheet assets are fully covered for the proposal to be effective. At the same time, it is not clear how banks will respond to such a ratio and whether the implicit equal risk-weighting of assets will itself encourage more risk-taking rather than less; a concern that led to the creation of different risk buckets under Basel I and II. To the extent to which a pure capital asset ratio was to limit leverage during the business cycle expansion, it could contribute to mitigating some of the current procyclicality of financial systems.

- Systematically varying regulatory (risk-adjusted) capital ratios over the business cycle according to simple formulae so that the ratios increase during boom periods and are reduced in a downswing. To the extent to which such an approach reduces leverage in a boom, it could contribute to less procyclicality, as in the case of the (fixed) pure capital asset ratio. And there would be less need for deleveraging in a downturn, as the regulatory capital ratio would decrease. How such a time-varying rule would work in practice depends on a number of factors, including the formula used to determine the regulatory capital ratios, with a possible role for both current and lagged credit growth in influencing the ratio, and the sensitivity of the ratio to its determinants. To the extent to which the approach introduces a distinction between an average regulatory capital ratio and its variability over the cycle, there are also important issues with tying down the appropriate "average" regulatory capital ratio and the permissible amount of variation over the business cycle. Considerable further work is required on these and related issues.

- Varying specific or general provisioning over the business cycle to offset procyclicality. Given that specific provisioning tends to decline during business cycle upturns when loan losses are low (while rising during downturns), a simple approach would be to vary general provisioning so as to offset these moves and keep total provisioning (general plus specific provisioning) in relation to total loans constant over the cycle. This approach—referred to as "dynamic provisioning"—has desirable features and, to the extent to which general provisions are included by many countries in Tier I capital, would amount to varying regulatory capital over the cycle. How the proposal would work in practice would depend on the particular features of the provisioning rule adopted. At least, in principle, the approach would have the desirable feature of building up general loss reserves during boom periods when bad loans are made, thereby creating a larger cushion for downturns, when bad loans appear. Another approach to dynamic provisioning would be to provide greater discretion for supervisors to vary provisioning and related requirements over the cycle. Within the region, Singapore; and Hong Kong, China in particular, have adopted what could be characterized as discretionary approaches in so far as they allow some counter cyclicality in items such as loan loss provisions and loan to value ratios, among others.

Each approach is intended to mitigate somewhat the current procyclicality of financial systems. Considerable further work is needed, however, before they can become operational. There are several significant issues requiring further exploration:

- First, there is the question of policy assignment and, in particular, the appropriate balance between monetary and macroprudential policies in seeking to mitigate procylicality and financial imbalances. In practice, both monetary policy and strengthened macroprudential oversight could lean against the wind during boom periods, and national authorities will need to decide which is the main instrument used in this connection. In some countries, such as the US, there have been concerns that monetary policy may be too blunt an instrument to deal with financial imbalances and may become overburdened should it absorb financial stability objectives in addition to its inflation and growth objectives. Conversely, the European Central Bank (ECB) appears to favor a larger role for monetary policy to lean against the wind during financial booms.

- Second, the links between strengthening macroprudential surveillance, on the one hand, and the current differences between micro- and macro-based surveillance systems, on the other hand, require resolution. The issues arise because paying greater attention to macroprudential policies over the business cycle could, in principle, take place at either the micro- or macroprudential level. To the extent to which this is the case, current distinctions between the macro- and micro-prudential approaches could become blurred and some overlap of functions might occur. Attempts to strengthen macroprudential surveillance will need to address these and related issues.

Emerging East Asian economies have a strong interest in the current international work program to strengthen macroprudential surveillance. Moreover, insofar as conclusions are reached on the desirability of particular approaches to help mitigate the procyclicality of financial systems, these are likely to be reflected in the various standards and codes promulgated by international standard-setters. In addition, countries in the region could usefully share their own experiences with macroprudential surveillance and the approaches that are used to help mitigate procyclicality and improve the understanding of the complex interactions across institutions, markets and financial instruments.

Prudential regulation and supervision should also take into account risks associated with boom-bust cycles at the macro level. The role of credit rating agencies is also important in providing more *ex-ante* credit information.

- A potentially important proposal to mitigate such procyclicality is allowing regulatory capital ratios to vary to offset some of the procyclicality of financial systems. Various approaches can be taken to adopt a more counter-cyclical approach. One approach, discussed by the Bank of England, is to adopt a formal system of dynamic provisioning, under which general provisioning would rise during boom periods in such a way as to ensure that overall provisioning (specific and general provisioning) does not decline.

- While such rules-based approaches can help mitigate procyclicality, more discretionary approaches can also be adopted. In the past, several economies undertook discretionary tightening of financial regulations during boom periods while relaxing these policies somewhat during the contraction phase. Efforts to reduce the procyclicality of financial systems will need to address issues of "rules versus discretion" and the particular instruments that can best contribute to reducing procyclicality.

Reinforcing International Cooperation in Regulation:

- Asian economies should strengthen the existing ASEAN+3 framework by sharing more information, harmonizing prudential indicators, increasing coordination on conducting early warning system analysis, and discussing more openly national and regional policy interventions. To help monitor potential financial vulnerabilities and develop a plan of action in response to the immediate challenges of a financial crisis —also by engaging with the private sector— an "Asian Financial Stability Dialogue" among ministries of finance, central banks, as well as market regulators and supervisors can be created. Such dialogue would be important to promote longer-term financial market development and establish standards for governance and transparency and improve, in turn, investors' confidence.

- Also, greater attention needs to be paid to ensuring consistency in regulation across national markets and improving the coordination and cooperation across financial market regulators. In outlining these objectives, the G20 has opened the door to a review both of the structure of financial regulation within countries as well as the scope for improvements in coordination between national regulators. One important issue concerns the merits of adopting the new integrated regulator model (of either the single or twin peak structure) in which all financial regulators are effectively under a single roof. Another issue concerns the scope for avoiding regulatory gaps in systems in which regulation will continue to be divided along functional or institutional lines. Especially in the case of mature financial systems in which the lines between different institutions and activities are becoming blurred, there are significant challenges ensuring that all institutions and activities are appropriately supervised and that no gaps emerge.

Accelerating Reforms to Strengthen Financial Systems:

- The region must continue to reform its financial systems to enhance resilience. Although the crisis continues to unfold, the region's policy makers should take this opportunity to formulate a longer-term reform agenda and step up efforts to reshape financial systems. While significant progress has been made since the 1997/98 crisis, more work can be done to strengthen financial systems, to reduce vulnerabilities, and to enhance market efficiency. New initiatives could include deeper and more substantial reforms in areas of prudential regulation and supervision, transparency and information disclosure, risk management practices in the financial sector, and corporate governance.

Broadening and Deepening Financial Markets to Enhance Resilience:

- Broadening and deepening financial markets—in particular local currency bond markets—remain an important long-term goal for more efficient and resilient domestic financial systems. The development of liquid and well-functioning local currency bond markets offers an alternative financing source to bank loans, provides long-term domestic currency funding for investment, and helps foster regional financial stability. A broad range of reforms are required to develop well-integrated and functioning Asian bond markets, such as (i) improving the legal and regulatory frameworks to ensure transparency and investor protection (ii) removing impediments to market entry and investment, particularly those on capital and exchange controls; (iii) broadening and diversifying the investor base; (iv) strengthening capacity of regulators; and (v) improving related infrastructure, such as clearing and settlement, credit guarantee and data collection. For example, at the regional level, the new medium-term roadmap under the Asia Bond Markets Initiative aims to address many of these issues.

Appendix

Chronology of a Crisis

Date	Event
22 Jun 07	Bear Stearns halts redemptions for investors in High-Grade Structured Credit Strategies Enhanced Leverage Fund and High-Grade Structured Credit Fund.
August 07	Discovery of subprime mortgage backed securities in portfolios of banks and hedge funds around the globe sparks worldwide credit crunch.
August 07	US Federal Reserve injects about $100 billion into money supply for banks to borrow at low rates.
10 Aug 07	For the first time since 11 September 2001, central banks coordinate efforts to increase liquidity. US Federal Reserve injects $43 billion; European Central Bank $214.6 billion, and the Bank of Japan $8.4 billion ($ equivalents). Australian, Canadian central banks also intervene.
13 Sept 07	Britain's Northern Rock applies to Bank of England for emergency funds.
03 Mar 08	HSBC reports $17.2 billion subprime-related loss.
18 Mar 08	Lehman Brothers and Goldman Sachs report sub-prime-related losses.
13 Mar 08	Investment firm Carlyle Capital defaults on debts.
17 Mar 08	JPMorgan Chase buys investment bank Bear Stearns for $2 per share.
18 Mar 08	US Fed makes funds available to banks and other institutions and cuts the federal funds rate 75 basis points to 2.25%. It also increases the size of its dollar swap lines together with the ECB and Swiss National Bank.
April–May 08	UBS, Deutsche Bank, Merrill Lynch, Citigroup, Royal Bank of Scotland, MBIA, Blackstone, HSBC and Barclays report more sub-prime-related losses and write-downs.
07 Sept 08	US government seizes mortgage lenders Fannie Mae and Freddie Mac, which account for half of outstanding mortgages.
15 Sept 08	Investment bank Lehman Brothers declares bankruptcy.
15 Sept 08	Bank of America takes over Merrill Lynch for $50 billion

Date	Event
15 Sept 08	Standard and Poor's downgrades Britain's biggest mortgage lender, HBOS, causing its shares to plunge in a multi-session decline.
17 Sept 08	US government bails out AIG for $85 billion.
18 Sept 08	Lloyds TSB takes over HBOS in a £12 billion deal.
21 Sept 08	US Fed approves Morgan Stanley and Goldman Sachs application to become bank holding companies, ending their investment bank status.
26 Sept 08	Federal Deposit Insurance seizes Washington Mutual, the biggest US savings and loan, and sells its banking assets to JP Morgan for $1.9 billion.
29 Sept 08	Iceland's government takes over Glitnir, its third largest bank.
29 Sept 08	Citigroup buys Wachovia, the fourth largest US bank, in a rescue deal backed by US authorities.
29 Sept 08	US House of Representatives votes down $700 billion bail-out plan.
30 Sept 08	Belgian, French and Luxembourg governments provide €6.4 billion to keep Dexia, the Belgian-French municipal lender afloat.
01 Oct 08	US Senate passes revised bail-out bill, followed two days later by the House of Representatives. President George Bush signs the "TARP" (Troubled Asset Relief Program) into law.
08 Oct 08	The Bank of England, US Fed, ECB, Bank of Canada, Swiss National Bank and Sweden's Riksbank cut key interest rates by a half point.
14 Oct 08	Japan injects 2 trillion yen into money markets.
09 Oct 08	OMX Nordic Exchange Iceland temporarily suspends trading, citing "unusual market conditions". Russia's MICEX Index also suspends trading through 10 October after 14% plunge.
11 Oct 08	Central bankers and leaders from the G7 agree to urgent, coordinated action to address the crisis.

Date	Event
13 Oct 08	EU economies unveil bailout packages totaling over $2 trillion dollars.
17 Oct 08	Asian stocks rise as governments step up efforts to counter the global credit-market crisis in the form of bank guarantees.
17 Oct 08	Bank of Korea says it will trade directly with banks in the swap market to boost foreign currency liquidity.
19 Oct 08	The Netherlands bails out ING with a €10 billion rescue plan.
20 Oct 08	Belgium rescues Ethias, an insurance company, with a €1.5 billion capital injection.
21 Oct 08	Germany's Bayern LB applies for funds from the German rescue program.
24 Oct 08	EU and Asian states hold pre-Washington Summit in Beijing to discuss coordinated efforts to contain the financial crisis.
26 Oct 08	IMF offers lines of credit, including $16.5 billion to Ukraine and $25 billion to Hungary.
01 Nov 08	Japan unveils fiscal stimulus of $51 billion, Korea of $11 billion.
09 Nov 08	Norway agrees to lend Iceland €500 million.
09 Nov 08	PRC announces stimulus package that could amount to RMB4 trillion ($586 billion) to rebuild market confidence and unleash domestic demand.
10 Nov 08	AIG rescue package amended and increased to $150 billion.
10 Nov 08	Fitch downgrades Bulgaria, Hungary, Kazakhstan, and Romania and revises the long-term foreign currency ratings of Korea, Mexico, Russia, and South Africa from stable to negative.
12 Nov 08	German government and Bundesbank extend €50 billion lifeline to Hypo Real Estate, the second largest commercial property lender. (A smaller deal reached in September was withdrawn in October.)
15 Nov 08	G20 developed and emerging nations, in Washington, agree to enhance cooperation to revive economic growth and move quickly on financial reforms.

Date	Event
15 Nov 08	IMF approves $7.6 billion bailout to help Pakistan prevent default on its debt.
15 Nov 08	Eurozone officially slips into recession after EU figures show 0.2% Q3 contraction.
20 Nov 08	IMF approves a $2.1 billion loan for Iceland, after its banking system collapsed, the first IMF loan for a Western European nation since 1976.
24 Nov 08	US agrees to back $306 billion of troubled Citigroup assets and says Treasury to inject $20 billion liquidity into the banking giant.
25 Nov 08	US Fed commits another $800 billion to revive lending: says it will buy as much as $600 billion of debt issued or backed by government-chartered housing finance companies and will set up a $200 billion program to support consumer and small-business loans.
26 Nov 08	European Commission unveils €200 billion plan to stimulate spending and boost consumer confidence.
26 Nov 08	People's Bank of China cuts lending and deposit rates 108 basis points.
3 Dec 08	Bank of Korea says it will supply liquidity to the markets by paying interest on banks required reserves (in a one-time payment of 500 billion won [about $340 million]). Adds Korea Housing Finance Corp. to the list of bonds it will purchase.
4 Dec 08	ECB lowers policy rate 75 basis points to 2.50%—its biggest cut ever—while the Danish, Swedish, and UK central banks also cut rates.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two thirds of the world's poor. Nearly 1.7 billion people in the region live on $2 or less a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance. In 2007, it approved $10.1 billion of loans, $673 million of grant projects, and technical assistance amounting to $243 million.

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