

Asia Economic Monitor

JULY 2011



Asian Development Bank

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Asia Economic Monitor

JULY 2011

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Abbreviations and Acronyms

ADB	Asian Development Bank	NIE	newly industrialized economy
ADO	Asian Development Outlook	OECD	Organisation for Economic Co-operation and Development
ARCH	Autoregressive Conditional Heteroskedasticity	OPEC	Organization of the Petroleum Exporting Countries
ASEAN	Association of Southeast Asian Nations	OREI	Office of Regional Economic Integration
ASEAN+3	ASEAN plus People's Republic of China, Japan, and Republic of Korea	PCOMP	Philippine Composite Index
ASEAN-4	Indonesia, Malaysia, Philippines, and Thailand	PRC	People's Republic of China
BI	Bank Indonesia	PMI	purchasing managers index
BIS	Bank for International Settlements	QE2	second round of quantitative easing
CPI	Consumer Price Index	QE3	third round of quantitative easing
DOLS	dynamic ordinary least squares	q-o-q	quarter-on-quarter
EMBI	Emerging Markets Bond Index	repo	reverse repurchase
G3	US, eurozone, Japan	RMSE	root mean square error
G20	Group of 20	saar	seasonally adjusted annualized rate
GDP	gross domestic product	SET	Stock Exchange of Thailand
HSI	Hang Seng Index	STI	Straits Times Index
IMF	International Monetary Fund	TED	treasury bill and eurodollar futures contract
JCI	Jakarta Composite Index	TWSE	Taipei, China's stock exchange
KLCI	Kuala Lumpur Composite Index	US	United States
KOSPI	Korean Stock Price Index	VNINDEX	Ho Chi Minh Stock Index
Lao PDR	Lao People's Democratic Republic	y-o-y	year-on-year
M2	broad money		
MSCI	Morgan Stanley Capital International		
m-o-m	month-on-month		

Note: Unless otherwise indicated "\$" refers to US dollars

Emerging East Asia— **A Regional Economic Update**

Highlights

Economic Performance

- Growth across emerging East Asia moderated in the first half of 2011 as authorities wrestled with rising inflation; domestic demand remains robust albeit with moderating investment as NIEs drawdown inventory.
- Inflation continued to rise across much of the region, driven by higher commodity prices and strong economic recovery.
- Balance of payments surpluses narrowed on moderating capital inflows, even as strong exports boosted current accounts.
- Emerging East Asia's stock markets were mixed in the first half as the region's growth moderated and monetary policies tightened.
- Most of the region's currencies continued to gain against the US dollar, but depreciated against a basket of trading-partner currencies.
- Bond yield curves mostly flattened as monetary authorities raised policy rates.
- Authorities across the region shifted focus to combating inflation, raising policy rates to counter price pressures.
- Strong fiscal balances in emerging East Asia and low foreign debt keep financial vulnerability low, while growth in bank lending slows in response to tightening monetary policies.

Outlook and Risks

- The external economic environment continues to weaken with an anemic US recovery, Japan's post earthquake contraction, and continuing uncertainty over some of Europe's sovereign debt.
- A weaker external environment plus tightening monetary and fiscal conditions in the region will likely moderate growth; aggregate GDP is expected to rise 7.9% in 2011 and 7.7% in 2012.

- The economic outlook is subject to four major risks: (i) rising inflation leading to wage-price spirals; (ii) a weaker than expected recovery in Japan and unresolved debt problems in the US and eurozone; (iii) increasing financial market volatility; and (iv) destabilizing capital flows.

Policy Issues

- With robust growth moderating only slightly, many emerging East Asian economies face the challenge of controlling inflation and managing capital inflows in a difficult external environment.
- Persistent and volatile changes in commodity prices are a challenge to inflation management; monetary policy will likely continue to tighten despite slow recovery in advanced economies.
- Exchange rates can help tackle inflation; with faster appreciation also contributing to rebalancing the sources of growth toward greater domestic and regional demand.
- Effectively managing capital flows remains a challenge; maximizing growth benefits while minimizing effects of volatile liquidity.
- Macroprudential supervision and financial regulation can be strengthened to help reinforce the region's financial stability; regional policy cooperation and advance policy coordination can ensure more balanced and sustained economic growth.

Managing Commodity Price Volatility and Inflation in Emerging East Asia

- Over the past 12 months, headline inflation in emerging East Asia has trended upward despite some moderation since the second quarter; sharp increases in commodity prices—especially food and energy—account for most of the rising inflation.
- A pragmatic approach to a range of policies may help policymakers manage the inflation impact of persistent and volatile changes in commodity prices.
- Using trends in global food and energy prices to project headline inflation may help define monetary policy in headline terms—making it easier to communicate inflation targets or objectives to the public.

- A more flexible monetary approach may be needed in response to potentially persistent and volatile commodity-driven inflation.
- Greater exchange rate flexibility can help mitigate the effects of global commodity price surges on domestic prices.
- Policymakers could use structural and fiscal policies to boost supply and increase economic flexibility when responding to commodity price changes.
- Market-based commodity price stabilization mechanisms and participating in commodity financial markets may help mitigate commodity price volatility.
- Greater cooperation to ensure (i) adequate trade in food and energy, (ii) effective commodity market regulation, and (iii) appropriate macroeconomic policy can help manage commodity price volatility and inflation.

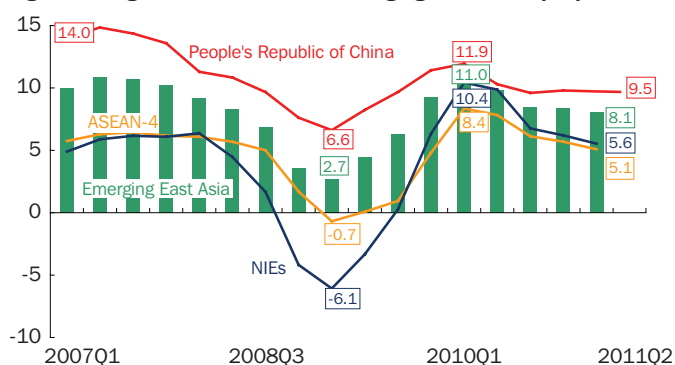
Economic Performance

Growth and Inflation

Growth across emerging East Asia moderated in the first half of 2011 as authorities wrestled with rising inflation.

Economic growth in emerging East Asia continued to ease in the first quarter of 2011, due to an inventory drawdown among the four newly industrialized economies (NIEs),¹ which led to slower investment growth. Tightening monetary policies combined with the withdrawal of fiscal stimulus may also have contributed to the growth moderation. Aggregate growth in gross domestic product (GDP) for the 10 largest economies in emerging East Asia² moderated to 8.1% year-on-year³ in the first quarter of 2011, down from the 8.4% expansion in the fourth quarter of 2010 (**Figure 1**). Growth in the People's Republic of China (PRC) remained the strongest in the region, expanding 9.5% in the second quarter of 2011. In the four middle-income economies of the Association of the Southeast Asian Nations (ASEAN-4),⁴ GDP growth slowed to 5.1% in the first quarter from 5.7% in the last quarter of 2010. Similarly, economic growth in the NIEs eased to 5.6% in the first quarter from 6.2% in the final quarter of 2010. Leading indicators—exports, industrial production and retail sales—are also

Figure 1: Regional GDP Growth¹—Emerging East Asia² (y-o-y, %)



ASEAN-4 = Indonesia, Malaysia, Philippines, and Thailand; GDP = gross domestic product; NIEs = Hong Kong, China; Republic of Korea; Singapore; and Taipei, China; y-o-y = year-on-year.

¹Weighted by gross national income (atlas method, current \$).

²Includes ASEAN-4, NIEs, Viet Nam, and People's Republic of China.

Source: OREI staff calculations based on national sources.

¹Hong Kong, China; Republic of Korea; Singapore; and Taipei, China.

²The 10 largest emerging East Asian economies are the People's Republic of China; Hong Kong, China; Indonesia; Republic of Korea; Malaysia; Philippines; Singapore; Taipei, China; Thailand; and Viet Nam.

³All growth figures are year-on-year (y-o-y) unless otherwise indicated.

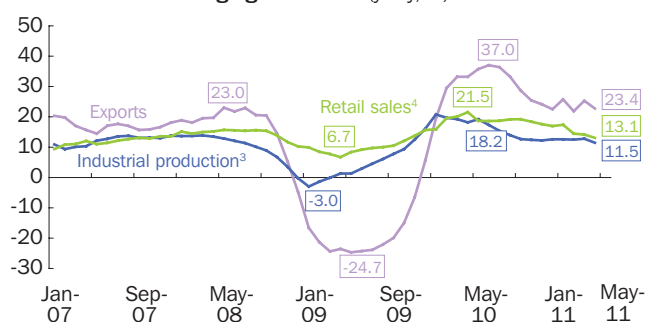
⁴Indonesia, Malaysia, Philippines, and Thailand.

moderating, suggesting that growth will continue to ease in the second quarter (**Figure 2**).

While the contribution of consumption to growth has remained relatively stable, investment's contribution declined significantly.

In the first quarter, domestic demand continued to contribute to growth in most of ASEAN-4 and the NIEs (**Figure 3**). However, investment's contribution to growth dropped substantially, given the steep reduction in inventories in the NIEs. There was a sharp slowdown in fixed investment in the NIEs, contracting 0.2% in the first quarter of 2011 after an increase of 6.3% in the

Figure 2: Merchandise Export, Industrial Production, and Retail Sales Growth¹—Emerging East Asia² (y-o-y, %)



y-o-y = year-on-year.

Note: Exports in \$ value; industrial production and retail sales in local currency.

¹3-month moving average. Data on industrial production and retail sales until Apr 2011.

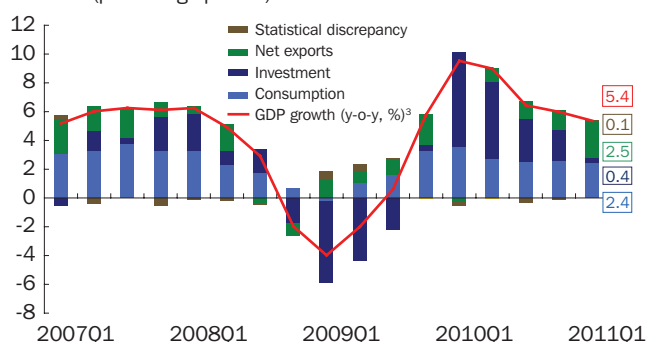
²Includes People's Republic of China; NIEs (Hong Kong, China; Republic of Korea; Singapore; and Taipei, China); and ASEAN-4 (Indonesia, Malaysia, Philippines, and Thailand); and Viet Nam.

³Excludes Hong Kong, China for which data unavailable.

⁴Excludes Malaysia and Philippines for which data unavailable.

Source: OREI staff calculations based on CEIC data.

Figure 3: Contributions to GDP Growth—Emerging East Asia ex PRC¹ (percentage points²)



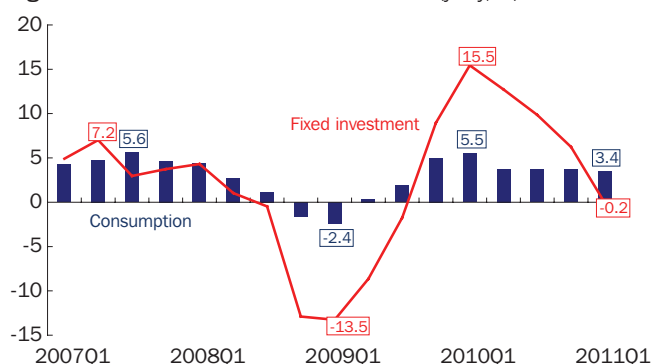
GDP = gross domestic product, PRC = People's Republic of China, y-o-y = year-on-year.

¹Refers to ASEAN-4 (Indonesia, Malaysia, Philippines, and Thailand) plus NIEs (Hong Kong, China; Republic of Korea; Singapore; and Taipei, China).

²Based on y-o-y changes.

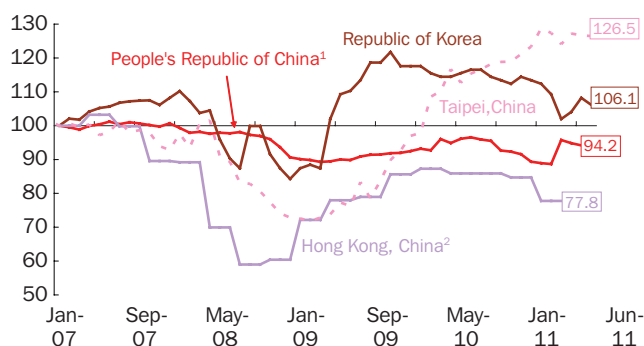
³For Singapore, uses revised 2011Q1 GDP growth while GDP components refer to preliminary data.

Source: OREI staff calculations based on CEIC data.

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

NIEs = newly industrialized economies (Hong Kong, China; Republic of Korea; Singapore; and Taipei, China); y-o-y = year-on-year.

Source: OREI staff calculations based on CEIC data.

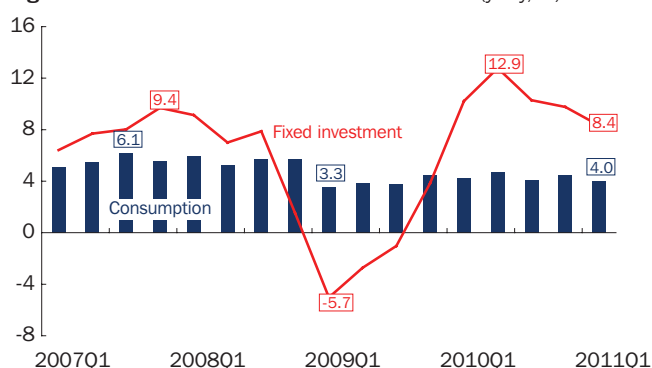
Figure 5a: Consumer Confidence Indexes—PRC and NIEs (January 2007 = 100)

NIEs = newly industrialized economies, PRC = People's Republic of China.

¹Latest data refer to May.

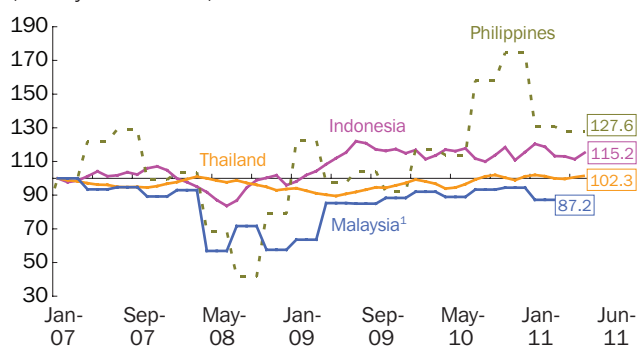
²Latest data are 2011Q1.

Source: Bloomberg and CEIC.

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

ASEAN-4 = Indonesia, Malaysia, Philippines, and Thailand, y-o-y = year-on-year.

Source: OREI staff calculations based on CEIC data.

Figure 5b: Consumer Confidence Indexes—ASEAN-4 (January 2007 = 100)

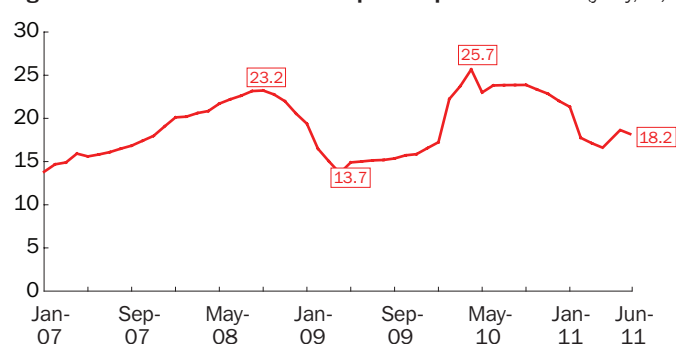
¹Latest data are 2011Q1.

Source: Bloomberg and CEIC.

last quarter of 2010 (**Figure 4a**). In ASEAN-4, fixed investment growth moderated to 8.4% in the first quarter of 2011 (**Figure 4b**). Consumption growth in both the NIEs and ASEAN-4 was steady as consumer confidence remained generally stable (**Figures 5a, 5b**). In the PRC, consumption growth showed signs of slowing as growth in retail sales moderated (**Figure 6**).

Despite tightening monetary policy, the PRC shows continued strong growth momentum.

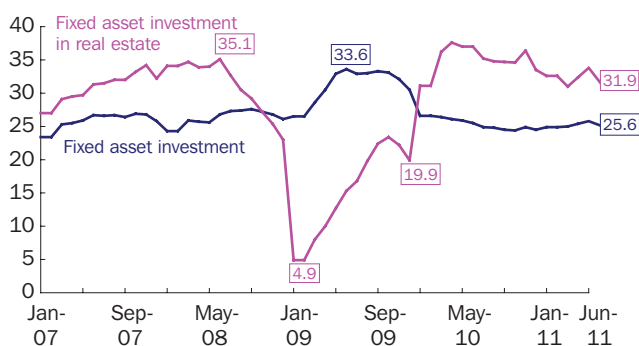
Growth in the PRC remained a robust 9.5% in the second quarter of 2011, marginally down from the 9.7% growth in the first quarter. Consumption and investment helped fuel the robust performance. Fixed asset investment remained high at 25.6% in June, little affected by tightening monetary policy so far (**Figure 7**). Industrial output growth in June remained stable at 13.9%.

Figure 6: Retail Sales Growth¹—People's Republic of China (y-o-y, %)

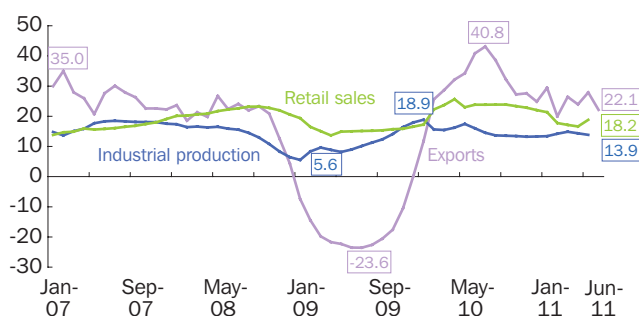
y-o-y = year-on-year.

¹3-month moving average.

Source: OREI staff calculations based on CEIC data.

Figure 7: Fixed Asset Investment Growth—People's Republic of China (nominal, year-to-date, y-o-y, %)

y-o-y = year-on-year.
Source: CEIC.

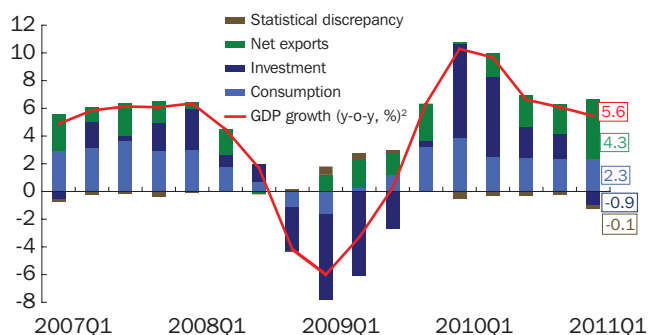
Figure 8: Merchandise Export, Industrial Production, and Retail Sales Growth¹—People's Republic of China (y-o-y, %)

y-o-y = year-on-year.
Note: Exports in \$ value; industrial production and retail sales in local currency.
¹3-month moving average.
Source: OREI staff calculations based on CEIC data.

contrast, export growth eased to 17.9% in June as external demand weakened, and imports moderated to 19.0% amid signs of slowing domestic demand (**Figure 8**).

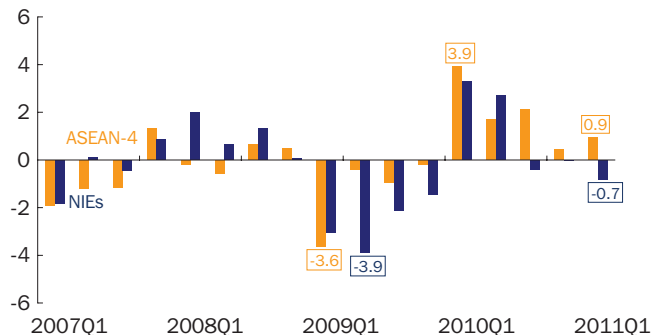
NIEs economic growth slowed as a drop in investment offset gains from higher net exports.

In the first quarter of 2011, aggregate growth in the NIEs slipped to 5.6% as investment declined—mainly due to a reduction in inventories (**Figures 9, 10**). Exports remained strong but moderated somewhat in recent months due to weaker external environment (**Figure 11**). Singapore's growth slowed sharply in the second quarter of 2011, growing by just 0.5% compared with 9.3% in the first quarter. The slowdown was largely due to declines in biomedical and electronics products. GDP in the Republic of Korea (Korea) grew by 4.2% in the first quarter of 2011, supported by strong exports.

Figure 9: Contributions to GDP Growth—NIEs (percentage points¹)

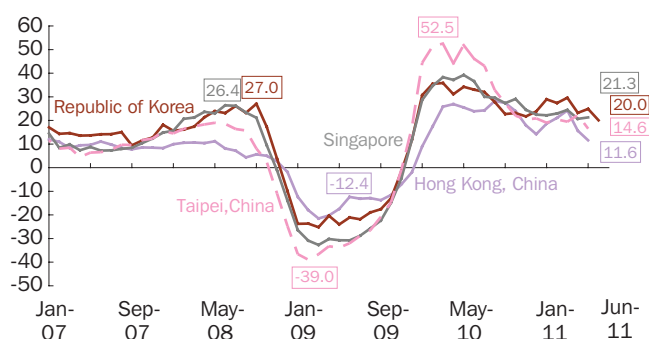
GDP = gross domestic product; NIEs = newly industrialized economies (Hong Kong, China; Republic of Korea; Singapore; and Taipei, China); y-o-y = year-on-year.
¹Based on y-o-y changes.
²For Singapore, uses 2011Q1 GDP growth while GDP components refer to preliminary data.

Source: OREI staff calculations based on CEIC data.

Figure 10: Contribution of Changes in Inventories to GDP Growth—ASEAN-4 and NIEs (percentage points¹)

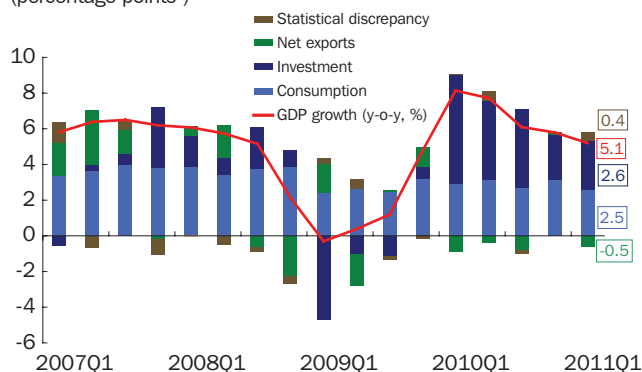
ASEAN-4 = Indonesia, Malaysia, Philippines, and Thailand; GDP = gross domestic product; NIEs = Hong Kong, China; Republic of Korea; Singapore; and Taipei, China.
¹Based on year-on-year changes.

Source: OREI staff calculations based on CEIC data.

Figure 11: Merchandise Export Growth¹—NIEs (y-o-y, %)

NIE = newly industrialized economy; y-o-y = year-on-year.
¹3-month moving average of \$ value. Data for Hong Kong, China and Singapore until May 2011.
Source: OREI staff calculations based on CEIC data.

Figure 12: Contributions to GDP Growth—ASEAN-4
(percentage points¹)



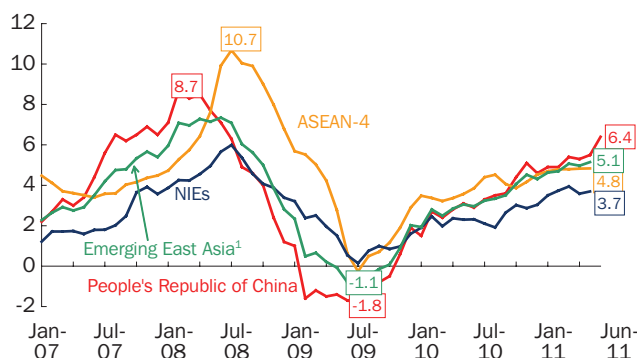
ASEAN-4 = Indonesia, Malaysia, Philippines, and Thailand; GDP = gross domestic product;

y-o-y = year-on-year.

¹Based on y-o-y changes.

Source: OREI staff calculations based on CEIC data.

Figure 13: Headline Inflation (y-o-y, %)



ASEAN-4 = Indonesia, Malaysia, Philippines, and Thailand; NIEs = newly industrialized economies (Hong Kong, China; Republic of Korea; Singapore; and Taipei, China); y-o-y = year-on-year.

¹Refers to ASEAN-4, NIEs, People's Republic of China, and Viet Nam. Weighted using gross national income (atlas method, current \$).

Source: OREI staff calculations based on CEIC data.

Following strong growth of 7.1% in the final quarter of 2010, Taipei, China's economic growth eased to 6.5% in the first quarter as inventory drawdowns offset stronger exports.

ASEAN-4 economic growth moderated on weaker demand—both domestic and external.

ASEAN-4 economic growth eased to 5.1% in the first quarter of 2011 from 5.7% in the previous quarter. In contrast to strong export growth in the NIEs, ASEAN-4 growth was dragged down by a negative contribution from net exports (Figure 12). Indonesia had the highest growth among ASEAN-4 economies, expanding 6.5% in

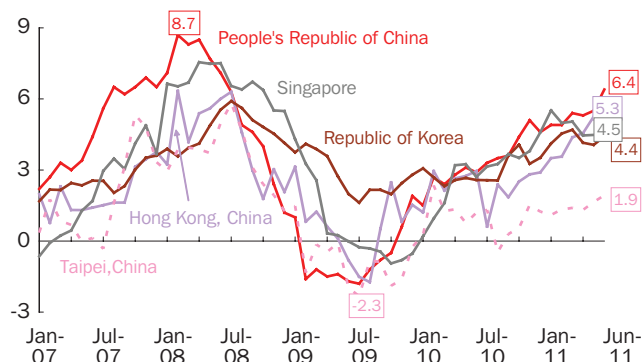
the first quarter of 2011, down slightly from 6.9% growth in the fourth quarter of 2010. Less dependent on exports, growth was driven mostly by domestic demand despite its moderation. Economic growth in the Philippines moderated to 4.9% in the first quarter of 2011 from 6.1% in the last quarter of 2010, due to lower government spending and weaker trade. Similarly, Malaysia's growth moderated to 4.6% in the first quarter of 2011 from 4.8% the previous quarter, the result of smaller contributions of net exports and investment. Growth in Thailand moderated to 3.0% in the first quarter of 2011, the fourth consecutive quarter of decelerating growth. The slower growth was due to weaker consumption and government spending.

Viet Nam's economy decelerated, while growth in other ASEAN economies was mixed.

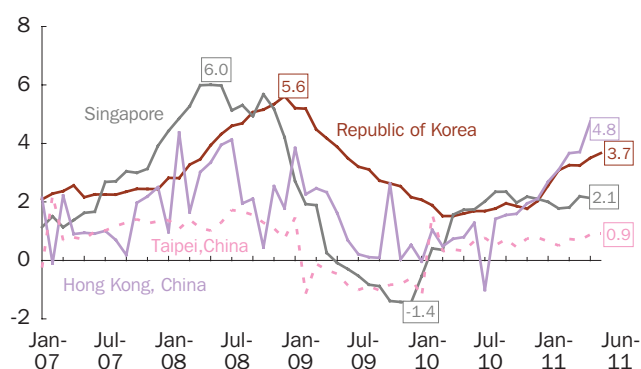
Viet Nam's economy expanded 5.7% in the second quarter of 2011, above the 5.4% first quarter growth, supported by increased industrial and construction output. However, growth has moderated from last year's 6.8% as monetary and fiscal policies were tightened to cool the economy. Cambodia's GDP grew 6.3% in 2010, up from 0.1% in 2009 on increased garment exports and higher tourism earnings. In the Lao People's Democratic Republic (Lao PDR), economic growth increased to 7.5% in 2010 from 7.3% in 2009, driven by hydropower and mining. Brunei Darussalam's economy expanded 2.0% in 2010 after declining 1.8% in 2009 on higher oil and gas production. Myanmar's growth continues to improve, expanding 5.3% in 2010 from 5.1% in 2009 on higher investment and increased agricultural productivity.

Inflation continued to rise across much of the region, driven by higher commodity prices and the strong economic recovery.

Headline inflation rose across emerging East Asia. In May, prices were up 5.1%, driven mainly by higher inflation in PRC, Viet Nam, and Indonesia (Figures 13, 14a, 14b). Viet Nam recorded the highest inflation rate in the region, up 20.8%, in June (Figure 14c). Higher global commodity prices drove food prices up across the region. With food a large portion of the consumption basket in most economies, this pushed headline inflation upward. Core inflation has also been increasing across much of the region (Figures 15a, 15b, 15c). Robust economic growth following last year's strong rebound contributed to the upward pressure on the region's core inflation.

Figure 14a: Headline Inflation—PRC and NIEs (y-o-y, %)


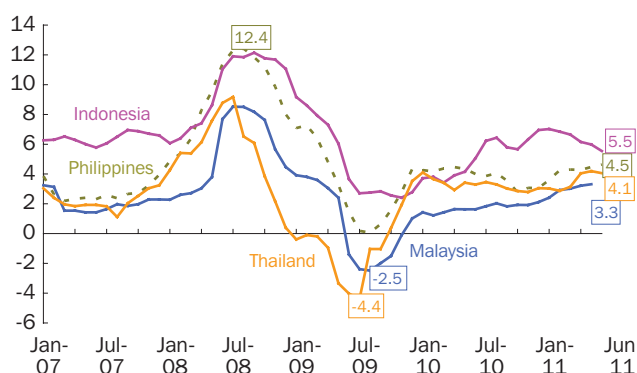
NIE = newly industrialized economy, PRC = People's Republic of China, y-o-y = year-on-year.
Source: OREI staff calculations based on CEIC data.

Figure 15a: Core Inflation—NIEs (y-o-y, %)


NIEs = newly industrialized economy; y-o-y = year-on-year.

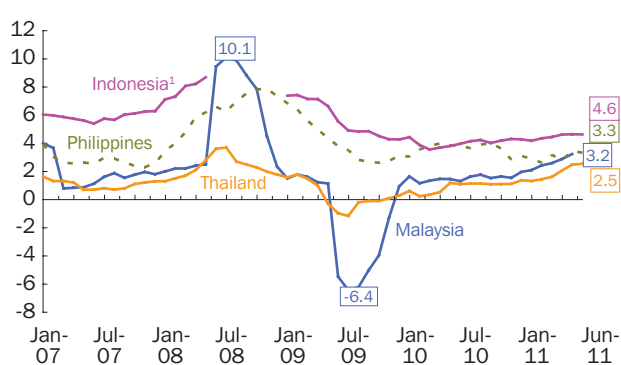
Note: Official figures, except for Hong Kong, China (excluding food and utilities) and Singapore (excluding food and private transport).

Source: OREI staff calculations based on CEIC data.

Figure 14b: Headline Inflation—ASEAN-4 (y-o-y, %)


y-o-y = year-on-year.

Source: OREI staff calculations based on CEIC data.

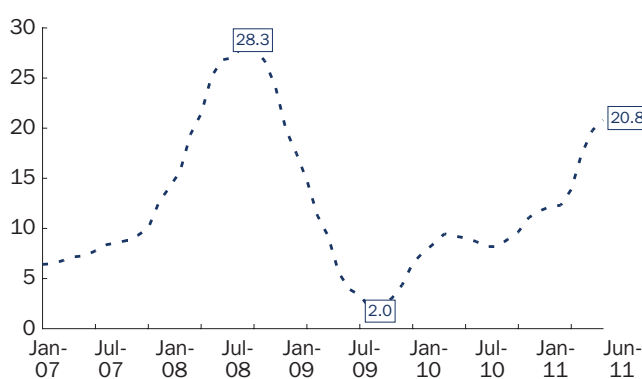
Figure 15b: Core Inflation—ASEAN-4 (y-o-y, %)


y-o-y = year-on-year.

Note: Official figures, except for Malaysia (excluding food, fuel, and utilities).

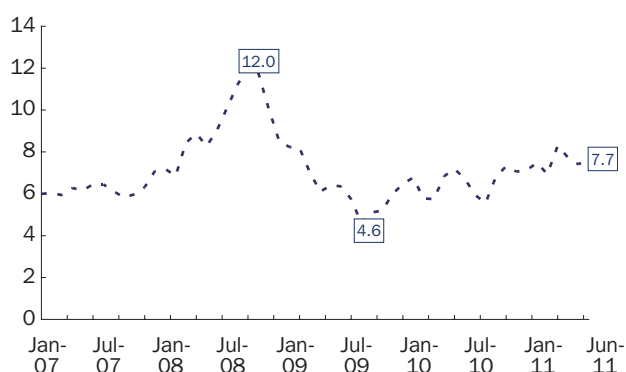
¹Series break due to unavailability of data.

Source: OREI staff calculations based on CEIC data

Figure 14c: Headline Inflation—Viet Nam (y-o-y, %)


y-o-y = year-on-year.

Source: OREI staff calculations based on CEIC data.

Figure 15c: Core Inflation¹—Viet Nam (y-o-y, %)


y-o-y = year-on-year.

¹Excluding food and transport.

Source: OREI staff calculations based on CEIC data.

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

	2007H1	2007H2	2008H1	2008H2	2009H1	2009H2	2010H1	2010H2	2011Q1
Current Account	5.6	6.8	4.6	3.1	7.3	5.4	3.9	3.8	4.9
Net goods balance	6.9	7.8	5.7	4.7	7.4	6.6	5.4	5.0	5.4
Net services	-0.4	-0.2	-0.3	-0.8	0.1	-0.2	-0.1	0.0	0.6
Net income	-2.8	-2.6	-2.4	-2.5	-2.1	-2.5	-2.7	-2.6	-2.3
Net transfers	1.9	1.8	1.7	1.7	1.9	1.5	1.3	1.3	1.2
Capital and Financial Account	1.2	-2.2	2.3	-6.5	-4.5	0.2	1.3	4.6	1.6
Capital account	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Net direct investment	1.0	0.5	0.4	-0.2	0.3	-0.5	1.1	0.0	-0.3
Net portfolio investment	4.2	-2.2	0.8	-5.6	-1.4	1.7	2.3	3.3	3.0
Net other investment ¹	-4.1	-0.5	1.1	-0.8	-3.5	-1.0	-2.1	1.2	-1.1
Net errors & omissions	-0.3	-0.8	0.4	-0.6	0.4	-0.9	-2.0	-1.4	-0.6
Overall Balance	6.5	3.8	7.3	-4.1	3.2	4.7	3.2	7.0	5.9

ASEAN-4 = Indonesia, Malaysia, Philippines, and Thailand; GDP = gross domestic product.

¹Includes financial derivatives.

Source: *International Financial Statistics*, International Monetary Fund; and CEIC.

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

	2007H1	2007H2	2008H1	2008H2	2009H1	2009H2	2010H1	2010H2	2011Q1
Current Account	6.9	7.4	4.6	5.5	9.2	7.0	6.5	7.3	6.6
Net goods balance	4.8	5.5	1.9	1.3	4.8	4.0	3.1	4.5	2.5
Net services	1.9	2.3	2.7	3.4	3.2	3.2	3.0	3.6	3.8
Net income	0.8	0.3	0.7	1.2	1.6	0.4	1.1	0.0	1.1
Net transfers	-0.7	-0.7	-0.7	-0.5	-0.5	-0.7	-0.7	-0.8	-0.9
Capital and Financial Account	-5.4	-5.4	-1.2	-7.0	1.0	7.3	1.6	-2.8	-2.7
Capital account	-0.2	0.0	0.0	0.2	0.3	0.3	0.2	0.3	0.3
Net direct investment	-0.4	-2.1	-1.4	1.1	-1.7	-2.3	-0.1	-1.6	1.8
Net portfolio investment	-5.1	-4.2	-2.9	-5.3	-2.5	-0.1	-3.0	-3.8	-3.7
Net other investment ¹	0.3	0.9	3.2	-3.0	5.0	9.4	4.4	2.3	-1.1
Net errors & omissions	0.6	0.8	-0.5	0.3	0.5	0.1	-0.3	0.3	-0.9
Overall Balance	2.2	2.8	2.9	-1.1	10.7	14.4	7.9	4.8	3.0

NIEs = Hong Kong, China; Republic of Korea; Singapore; and Taipei, China; GDP = gross domestic product.

¹Includes financial derivatives.

Source: *International Financial Statistics*, International Monetary Fund; and CEIC.

Balance of Payments

Balance of payments surpluses narrowed on moderating capital inflows, even as strong exports boosted current accounts.

In the first quarter of the year, the region's economies continued with overall balance of payments surpluses (**Tables 1a, 1b, 1c**). The NIEs had an overall balance of payments surplus of 3.0% of GDP in the first quarter

of 2011, below the 4.8% surplus in the second half of 2010. A deficit in the capital and financial accounts and a smaller current account surplus contributed to the decline. The overall balance of payments in ASEAN-4 also saw a smaller surplus over the same period as a smaller capital and financial account surplus offset improvement in the current account. Overall balance of payments surpluses allowed most emerging East Asian economies to continue accumulating foreign exchange reserves (**Table 2**).

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

	2007H1	2007H2	2008H1	2008H2	2009H1	2009H2	2010H1	2010H2
Current Account	10.8	9.6	9.6	8.7	6.2	4.5	4.0	6.1
Net goods balance	9.0	9.0	6.7	9.0	5.5	4.6	3.5	4.9
Net services	-0.2	-0.2	-0.2	-0.3	-0.8	-0.5	-0.5	-0.3
Net income	0.9	-0.3	1.9	-0.8	0.8	-0.3	0.2	0.8
Net transfers	1.2	1.1	1.2	0.9	0.7	0.7	0.8	0.7
Capital and Financial Account	6.0	0.3	3.6	-1.0	2.8	4.2	3.7	4.0
Capital account	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Net direct investment	3.4	4.6	2.0	3.2	0.7	1.9	2.4	1.9
Net portfolio investment	-0.3	1.2	1.0	0.9	0.9	0.7	-0.3	0.9
Net other investment ¹	2.8	-5.6	0.5	-5.2	1.1	1.6	1.4	1.1
Net errors & omissions	0.9	-0.1	0.9	0.1	-0.4	-1.2	-0.7	-1.3
Overall Balance	17.7	9.7	14.1	7.8	8.6	7.5	7.0	8.8

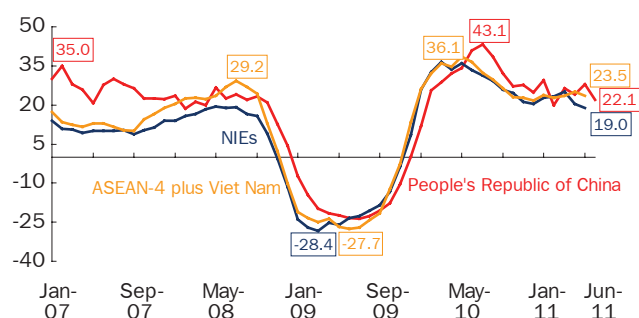
GDP = gross domestic product.

¹Includes financial derivatives.Source: *International Financial Statistics*, International Monetary Fund; and CEIC.**Table 2: Total Reserves** (excluding gold)

	Value (\$ billion)				% Change (y-o-y)				% Change (m-o-m)			
	Sep-10	Dec-10	Mar-11	Jun-11	Sep-10	Dec-10	Mar-11	Jun-11	Mar-11	Apr-11	May-11	Jun-11
Brunei Darussalam	1.5	1.6	1.7	–	14.3	15.2	29.8	–	2.3	–	–	–
Cambodia	3.2	3.3	3.3	–	12.5	14.2	10.0	–	0.5	–	–	–
People's Republic of China	2666.9	2866.1	3067.2	–	16.5	18.6	24.5	–	1.8	–	–	–
Hong Kong, China	266.0	268.6	272.5	275.8 ⁵	17.3	5.0	5.3	7.7 ⁵	0.0	1.6	-0.4	–
Indonesia	83.5	92.9	102.4	116.1	39.2	46.2	47.9	58.2	6.3	7.7	3.9	1.4
Republic of Korea	289.7	291.5	298.5	304.4	14.0	8.0	9.7	11.0	0.3	2.9	-0.7	-0.2
Lao People's Democratic Republic	0.6	0.8	–	–	-16.4	13.3	–	–	–	–	–	–
Malaysia	99.2	104.9	112.2	132.5	4.7	9.9	19.3	42.0	3.7	14.4	2.2	1.1
Myanmar	–	–	–	–	–	–	–	–	–	–	–	–
Philippines	46.4	55.4	58.9	61.4	23.6	42.8	48.6	46.7	3.5	3.4	0.6	0.2
Singapore	214.7	225.8	234.2	242.3	17.9	20.2	18.8	21.2	1.4	3.6	-1.1	1.0
Taipei, China	380.5	382.0	392.6	400.3	14.5	9.7	10.6	10.5	0.5	1.8	-0.2	0.4
Thailand	159.0	167.5	176.5	178.8	23.2	23.7	25.1	24.7	0.9	4.4	-2.3	-0.7
Viet Nam	14.1	12.5	12.2	–	-24.8	-24.2	-11.8	–	2.1	–	–	–
Emerging East Asia	4225.1¹	4472.7¹	4732.3²	1711.6³	16.4¹	16.7¹	21.1²	19.2³	1.6²	3.8³	-0.2³	0.4⁴
Japan	1077.4	1061.5	1080.6	1100.8	4.8	3.8	6.4	8.9	2.3	1.6	0.4	-0.1
East Asia	5302.6¹	5534.2¹	5812.9²	2813.3³	13.9¹	14.0¹	18.0²	14.9³	1.7²	2.9³	0.0³	0.2⁴

m-o-m = month-on-month, y-o-y = year-on-year, – = data unavailable.

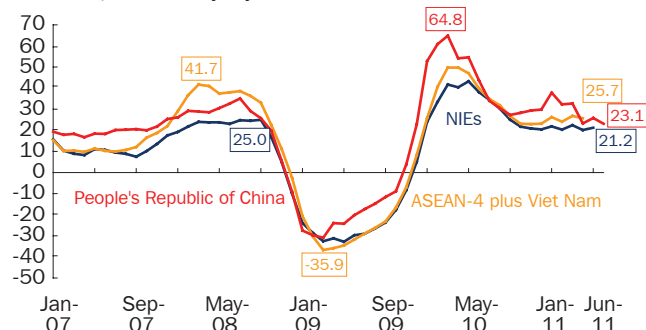
¹Excludes Myanmar as data unavailable.²Excludes Lao People's Democratic Republic and Myanmar as data unavailable.³Excludes Brunei Darussalam, Cambodia, People's Republic of China, Lao People's Democratic Republic, Myanmar, and Viet Nam as data unavailable.⁴Excludes Brunei Darussalam; Cambodia; People's Republic of China; Hong Kong, China; Lao People's Democratic Republic; Myanmar; and Viet Nam as data unavailable.⁵Data are for most recent month in which data are available.Source: *International Financial Statistics*, International Monetary Fund; CEIC; and national sources.

Figure 16: Merchandise Export Growth¹—PRC, ASEAN-4 plus Viet Nam, and NIEs (y-o-y, %)

ASEAN-4 = Indonesia, Malaysia, Philippines, and Thailand; NIEs = Hong Kong, China; Republic of Korea; Singapore; and Taipei, China; PRC = People's Republic of China; y-o-y = year-on-year.

¹3-month moving average of \$ value. Data for ASEAN-4 plus Viet Nam and NIEs until May 2011.

Source: OREI staff calculations based on CEIC data.

Figure 17: Merchandise Import Growth¹—PRC, ASEAN-4 plus Viet Nam, and NIEs (y-o-y, %)

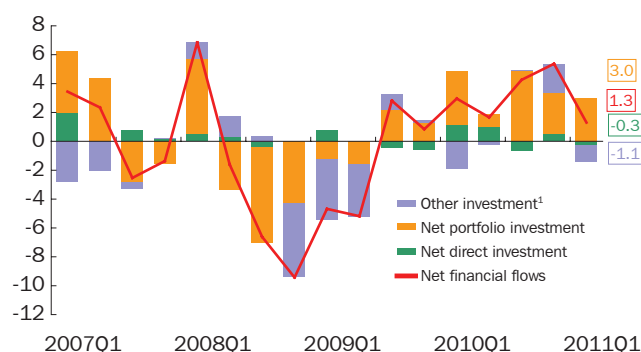
ASEAN-4 = Indonesia, Malaysia, Philippines, and Thailand; NIEs = Hong Kong, China; Republic of Korea; Singapore; and Taipei, China; PRC = People's Republic of China; y-o-y = year-on-year.

¹3-month moving average of \$ value. Data for ASEAN-4 plus Viet Nam until Apr 2011 and NIEs until May 2011.

Source: OREI staff calculations based on CEIC data.

Current account balances across the region were in surplus on strong exports.

The current account surplus in ASEAN-4 grew to 4.9% of GDP in the first quarter of the year from 3.8% the second half of 2010. Higher surpluses in trade and services contributed to the improvement. In the NIEs, the services balance improved but trade balance was lower, resulting in a smaller current account balance of 6.6% in the first quarter of 2011 (**Figures 16, 17**). The PRC had a trade surplus of \$22 billion in June up from \$13 billion in May. The PRC's cumulative trade surplus was nearly \$45 billion for the first 6 months of 2011, compared with \$127 billion in the second half of last year.

Figure 18: Net Financial Flows—ASEAN-4 (% of GDP)

ASEAN-4 = Indonesia, Malaysia, Philippines, and Thailand.

¹"Other investment" includes financial derivatives.

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

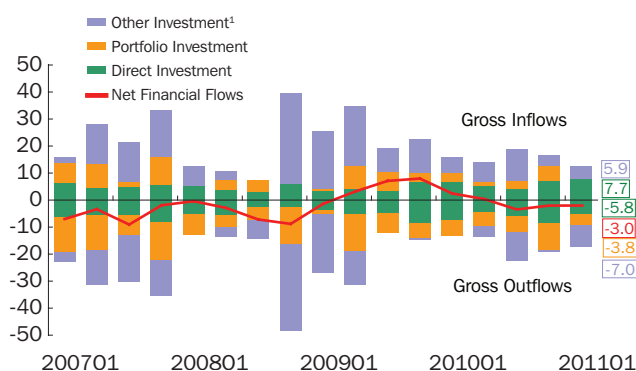
Capital inflows to the region are moderating as investor's risk appetite recedes.

Capital inflows slowed in the first quarter of 2011 amid signs that investors' risk appetite is waning. The European debt crisis elevated the uncertainty in the global financial market, likely contributing to the reduced risk appetite. ASEAN-4 economies recorded smaller surpluses in capital and financial accounts mainly due to smaller net portfolio investment inflows and outflows of net "other investments" (**Figure 18**). The NIEs showed continued deficits in their capital and financial accounts in the first quarter of the year compared with the second half of 2010. Net outflows of portfolio investments and smaller net outflows of other investments offset the resumption of net foreign direct investment inflows (**Figure 19**).

Financial Markets and Exchange Rates

Emerging East Asia's stock markets were mixed in the first half as the region's growth moderated and monetary policies tightened.

In the first half of 2011 stock markets in the region turned in mixed performances (**Figure 20**). The best performer was the Indonesian stock market which gained 7.4%. Viet Nam's stock market lost nearly 11.2% in value, the biggest decline in the region. Despite the recent weakness, emerging East Asia's equity markets remain above pre-crisis levels (**Figures 21a, 21b, 21c**). The Dow Jones Industrial Average and FTSE 100 have advanced so far this year but the Nikkei 225 declined.

Figure 19: Financial Account Flows—NIEs (% of GDP)

GDP = gross domestic product, NIEs = Hong Kong, China; Republic of Korea; Singapore; and Taipei, China.

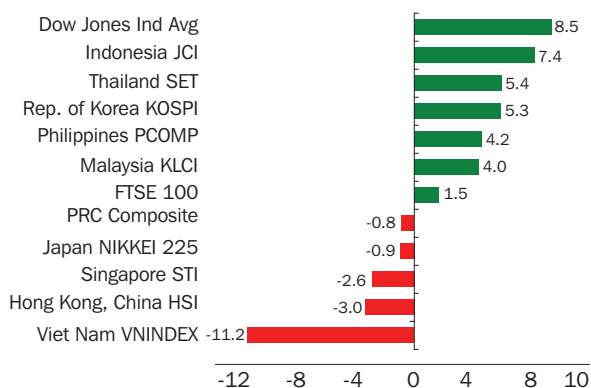
Data for Hong Kong, China until 2010Q4.

¹“Other investment” includes financial derivatives.

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

Figure 20: Growth of Stock Price Indexes

(3 Jan 2011 to 8 Jul 2011, %)



PRC = People's Republic of China.

Source: OREI staff calculations based on Bloomberg and Reuters data.

Most of the region's currencies continued to gain against the US dollar, but depreciated against a basket of trading-partner currencies.

Most of the region's currencies appreciated against the United States (US) dollar in the first half of 2011, continuing the trend from last year (**Figure 22**). The biggest gainer was the Korean won which appreciated 6.4% against the US dollar. The only currency depreciating significantly against the US dollar was the Vietnamese dong, which was devalued 9.3% in February due to continued high current account deficits and low foreign reserves. Against a basket of trading-partner currencies, most of the region's currencies depreciated in both nominal and real terms in the first 5 months of the year (**Figures 23, 24**). This was mainly due to the

Figure 21a: Composite Stock Price Indexes¹—PRC

(2 Jan 2007 = 100, local index)



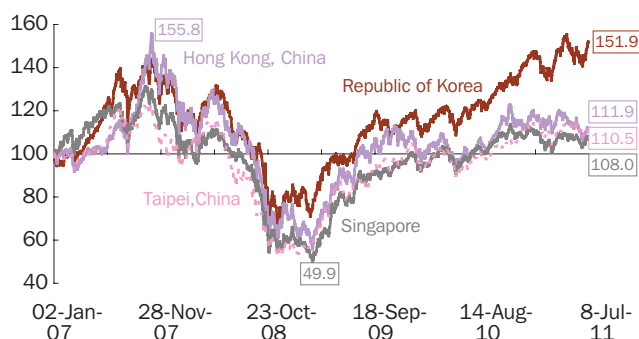
PRC = People's Republic of China

¹Daily closing stock price indexes of combined Shanghai and Shenzhen composites, weighted by respective market capitalizations.

Source: OREI staff calculations based on Reuters and Bloomberg data.

Figure 21b: Composite Stock Price Indexes¹—NIEs

(2 Jan 2007 = 100, local index)



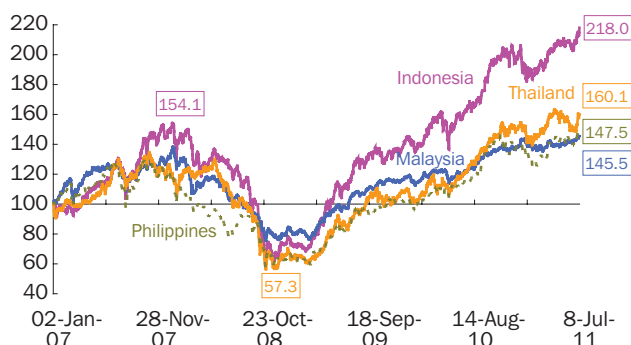
NIE = newly industrialized economy.

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

Source: OREI staff calculations based on Reuters data.

Figure 21c: Composite Stock Price Indexes¹—ASEAN-4

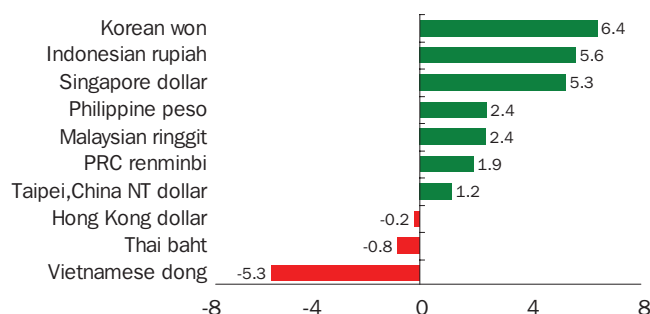
(2 Jan 2007 = 100, local index)



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

Source: OREI staff calculations based on Reuters data.

Figure 22: Change in Exchange Rate against US Dollar¹
(3 Jan 2011 to 8 Jul 2011, %)



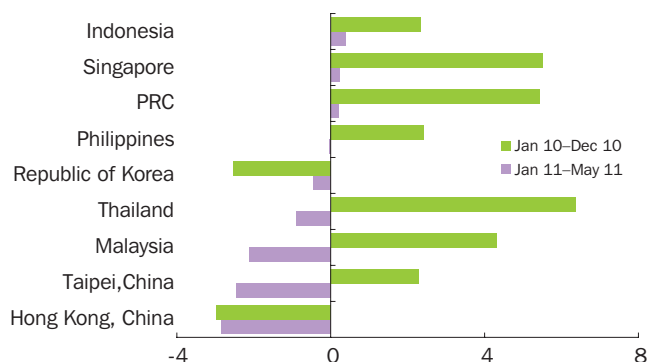
PRC = People's Republic of China.

Positive values indicate appreciation; negative values indicate depreciation.

¹Latest closing 8 Jul 2011, based on local currency value of the \$.

Source: OREI staff calculations based on Reuters data.

Figure 24: Change in Real Effective Exchange Rate¹ (%)



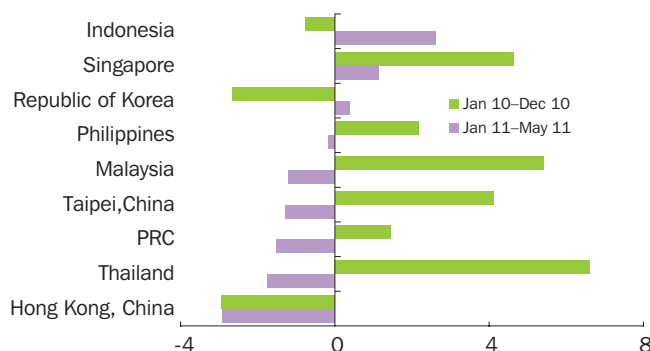
PRC = People's Republic of China.

Positive values indicate appreciation; negative values indicate depreciation.

¹Consumer price index-based.

Source: OREI staff calculations using data from Bank for International Settlements.

Figure 23: Change in Nominal Effective Exchange Rate (%)



PRC = People's Republic of China.

Positive values indicate appreciation; negative values indicate depreciation.

Source: OREI staff calculations using data from Bank for International Settlements.

strengthening of the euro against the region's currencies. Indonesia had the largest appreciation in terms of both nominal and real effective exchange rates, while the Hong Kong dollar depreciated most.

Bond yield curves flattened in some economies as monetary authorities raised policy rates.

Reflecting tightening monetary policies, interest rates—particularly for the shorter maturities—increased, resulting in a flattening of bond yield curves in some emerging East Asian markets (**Figures 25a, 25b, 25c, 25d, 25e, 25f**). In Korea, Malaysia, and Thailand, authorities raised short-term policy rates. As a result, short-term yields in these markets rose more than long-term yields, resulting in a flattening of yield curves. In the PRC, despite the increase in policy rates, bond yield curves remained basically unchanged. The spreads

between the region's bond yields and US Treasuries have risen slightly this year, suggesting some decline in investor risk appetite (**Figure 26**).

Monetary and Fiscal Policy

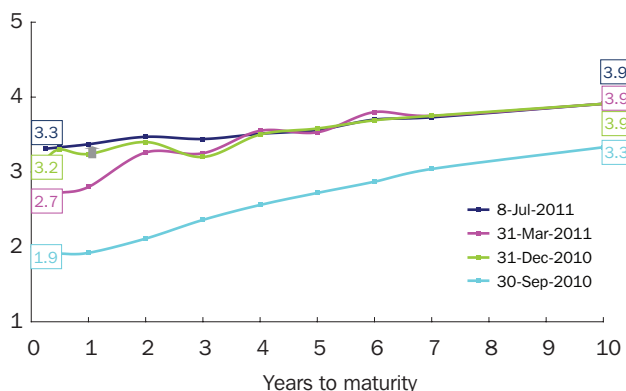
Authorities across the region shifted focus to combating inflation, raising policy rates to counter price pressures and further reining in fiscal stimulus.

With most economies having closed or exceeded output gaps, authorities across the region have begun normalizing monetary and fiscal policies (**Table 3**). The focus for most governments has shifted to fighting inflation. As the region consolidates economic recovery, most economies are scaling back fiscal stimulus and reducing budget deficits. Nevertheless, the continued weak recovery in advanced economies—combined with uncertainties surrounding Europe's debt crisis—means that many economies are adopting a cautious approach to any further tightening.

Most economies raised policy rates to counter rising inflationary pressures.

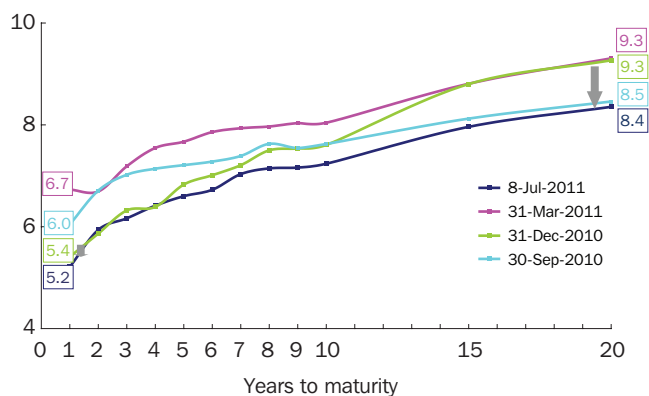
The PRC continues to tighten monetary policy and raised policy rates three times so far this year, bringing its 1-year lending and deposit rates to 6.56% and 3.50%, respectively. The PRC has also raised its required reserve ratio for banks 6 times in 2011 to a record high of 21.5% in June for the largest banks. Among the NIEs, both Korea and Taipei, China raised policy rates thrice this year—to 3.25% and 1.88%, respectively (**Figure 27a**). The Monetary Authority of Singapore signaled a tighter

Figure 25a: Benchmark Yields—People's Republic of China
(% per annum)



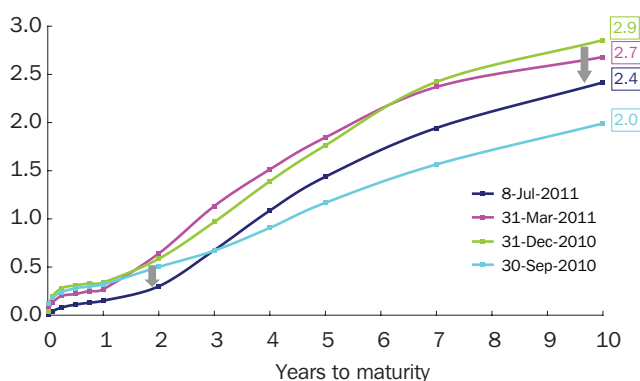
Source: Bloomberg.

Figure 25d: Benchmark Yields—Indonesia (% per annum)



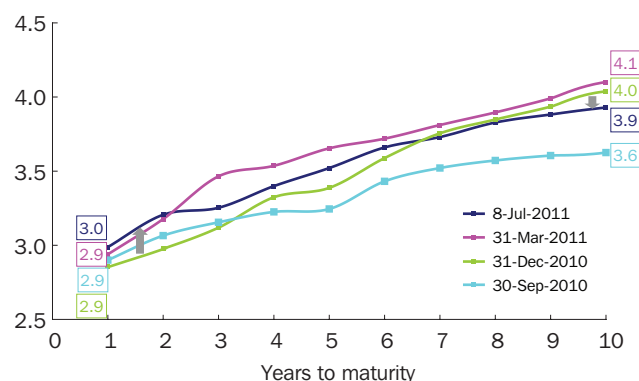
Source: Bloomberg.

Figure 25b: Benchmark Yields—Hong Kong, China (% per annum)



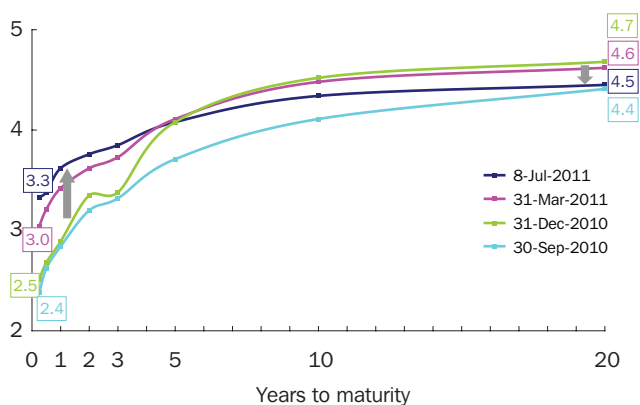
Source: Bloomberg.

Figure 25e: Benchmark Yields—Malaysia (% per annum)



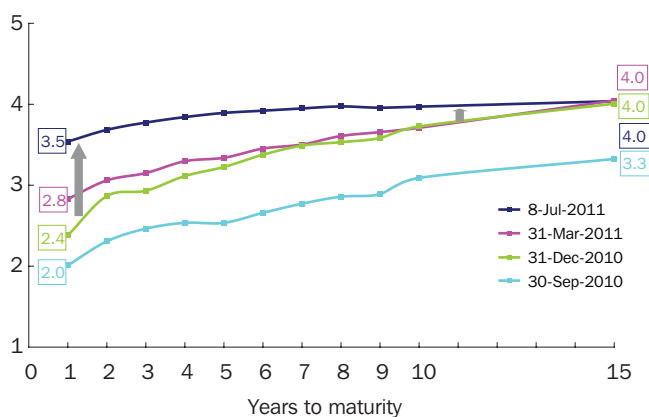
Source: Bloomberg.

Figure 25c: Benchmark Yields—Republic of Korea (% per annum)

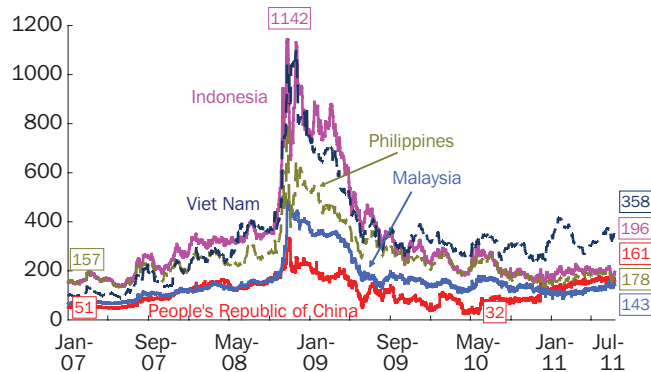


Source: Bloomberg.

Figure 25f: Benchmark Yields—Thailand (% per annum)



Source: Bloomberg.

Figure 26: JP Morgan EMBI Sovereign Stripped Spreads
(basis points)

Source: Bloomberg.

Table 3: Output Gap¹ (%)

Economy	Measure A ¹			Measure B ²		
	2010 Q3	2010 Q4	2011 Q1	2010 Q3	2010 Q4	2011 Q1
People's Republic of China	0.1	0.4	0.4	0.4	0.3	0.3
Hong Kong, China	-1.4	-0.9	0.9	0.6	0.5	0.5
Indonesia	-0.4	0.1	-0.1	-0.1	0.0	0.0
Republic of Korea	-0.2	-0.6	-0.3	0.5	0.1	-0.1
Malaysia	-1.4	-0.7	-0.3	0.7	0.0	-0.3
Philippines	0.0	-0.7	0.0	1.0	0.6	0.1
Singapore	-0.3	-0.9	2.7	3.1	2.1	1.0
Taipei, China	0.4	-0.5	2.7	2.3	1.3	0.4
Thailand	-1.2	-0.8	0.2	1.1	0.2	-0.4
Viet Nam	-1.5	-0.1	-2.2	-2.0	-3.2	-2.8

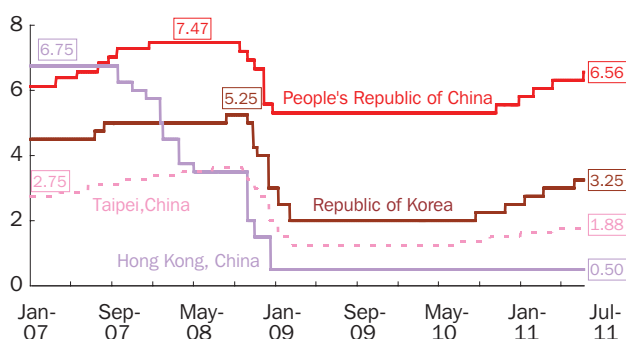
Note: Output gap is computed as the percentage deviation of actual from trend real gross domestic product (GDP). A positive value denotes actual output is above trend. Data are seasonally adjusted real GDP series from 1999 to 2011 and extended to 2012 using Consensus Economics forecasts, except for People's Republic of China (PRC); Indonesia; Malaysia; and Viet Nam; where original series are seasonally adjusted using Census X12.

¹Output gap is calculated using the Hodrick-Prescott filter.

²Output gap is calculated using the Baxter-King band-pass filter.

Source: OREI staff calculations based on data from CEIC; *International Financial Statistics*, International Monetary Fund; and Oxford Economics for PRC data only.

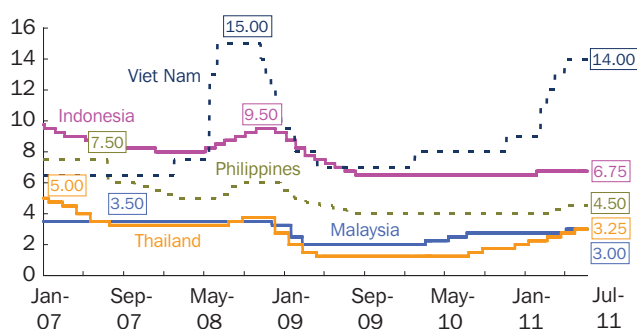
monetary stance by readjusting its exchange rate policy band upward. Hong Kong, China and Singapore introduced administrative measures to cool lending to the property sector. Most ASEAN economies have also tightened their monetary stance (**Figure 27b**). Viet Nam has aggressively raised its refinancing rate four times thus far this year to 14%, as it tries to contain high inflation. However, it decided to cut the interest rates it charges for loans in open market operations by 100 basis points to 14% in July. Thailand has raised policy rates five times, to

Figure 27a: Policy Rates¹—PRC and NIEs (% per annum)

NIE = newly industrialized economy, PRC = People's Republic of China.

¹One-year lending rate (People's Republic of China), Hong Kong base rate (Hong Kong, China), Korea base rate (Republic of Korea), and discount rate (Taipei, China).

Source: Bloomberg and Datastream.

Figure 27b: Policy Rates¹—ASEAN-4 plus Viet Nam
(% per annum)

¹Bank Indonesia rate (Indonesia); overnight policy rate (Malaysia); reverse repurchase (repo) rate (Philippines); 1-day repo rate (Thailand); and refinancing rate (Viet Nam).

Source: Bloomberg, Datastream, and State Bank of Viet Nam.

3.25%, to control inflation—now above its 2011 target. Indonesia, Malaysia, and Philippines also raised policy rates this year in response to rising inflationary pressures.

Fiscal stimulus is being withdrawn as the region's economic recovery matures.

While fiscal deficits in many economies peaked in 2009 during the global financial crisis, some have stabilized as authorities rolled back some fiscal stimulus measures (**Table 4**). Viet Nam is planning to reduce its fiscal deficit sharply from 8.0% of GDP—the region's highest in 2010—to 5.4% in 2011. It plans to cut government expenditure, with government agencies asked to reduce spending by 10%. Similarly, the Philippines and Taipei, China are also targeting a reduction in fiscal deficits. However, Thailand's deficit is expected to widen to 4.0% of GDP in 2011 due to increased government spending. Most other economies are roughly keeping 2011 budget deficits at last year's level. While the need

Table 4: Fiscal Balance of Central Government (% of GDP)

	2000–2004 Average	2005	2006	2007	2008	2009	2010	2011 ²
Cambodia	-5.7	-2.5	-2.7	-2.9	-2.8	-6.4	-6.0	-6.2
China, People's Rep. of	-2.2	-1.2	-0.8	0.6	-0.4	-2.9	-2.1	-2.0
Hong Kong, China ¹	-2.4	1.0	4.0	7.7	0.1	1.6	4.1	-0.5
Indonesia	-1.5	-0.5	-0.9	-1.3	-0.1	-1.6	-0.6	-2.1
Korea, Republic of	-1.3	-2.5	-2.6	0.4	-2.0	-5.1	-1.1	-2.0
Malaysia	-5.0	-3.6	-3.3	-3.2	-4.8	-7.0	-5.6	-5.4
Philippines	-4.5	-2.7	-1.1	-0.2	-0.9	-3.9	-3.7	-3.2
Singapore ¹	-0.1	0.7	0.0	2.9	0.1	-0.3	-0.1	0.0
Taipei, China ¹	-2.5	-1.6	-0.7	-0.1	-0.9	-3.5	-3.0	-2.4
Thailand ¹	-1.2	0.2	0.1	-1.1	-0.3	-4.8	-2.1	-4.0
Viet Nam ³	-4.9	-3.6	-1.2	-4.6	-3.1	-10.6	-8.0	-5.4

Figures as of 13 July 2011.

¹Fiscal year.

²2011 figures are Asian Development Bank forecasts; budget estimates and government targets of respective economies.

³State budget balance for 2000–2004. Figures for 2005–2010 are from the *Asian Development Outlook 2011*, Asian Development Bank.

Source: National sources; *Asian Development Outlook* (various issues), Asian Development Bank; *Article IV Consultation—Staff Reports*, International Monetary Fund; and CEIC.

for fiscal stimulus has receded, rising inflation has added pressure on authorities to increase subsidies and income transfers to reduce the impact of higher prices. Indonesia has lifted import duties and postponed the phase-out of fuel subsidies amid high food and fuel prices. While fiscal deficits have led to some increase in government borrowings, public debt levels in the region remain manageable (**Table 5**).

Financial Vulnerability

Strong fiscal balances and low foreign debt keep financial vulnerability in emerging East Asia low.

The region's financial vulnerability remains low as it continued to have healthy fiscal and external positions (**Tables 6a, 6b**). Rating agencies Standard and Poor's upgraded Indonesia from BB to BB+ and Moody's upgraded the Philippines from Ba3 to Ba2 (**Figures 28a, 28b, 28c, 28d**). Public sector debt in the region has remained generally low and is not a cause for concern. External positions in the region have also stayed strong with most countries sporting healthy current account surpluses or small current account deficits.

The exceptions are Cambodia and Lao PDR with high current account deficits of 11% and 9%, respectively. Most economies also retain ample foreign reserves to cover several months of imports. Only Lao PDR and Viet Nam—where foreign reserves cover only 2.6 months and 1.6 months of imports, respectively—are causing some concern.

The region's banking systems remain stable with strong bank capital and profitability combined with few nonperforming loans.

Banks across the region continue to have strong capital cushions with risk-weighted capital adequacy ratios well above 10% (**Table 7**). Banking system profitability has also improved, backed by the strong economic growth in the region (**Tables 8, 9**). The low interest rate environment also helped to boost bank profits. Nonperforming loans have remained low and are not expected to increase despite the region's moderating economic growth.

Table 5: Public and External Debt (% of GDP)

	2000–2004 Average	2004	2005	2006	2007	2008	2009	2010
Public Sector Debt								
People's Republic of China	19.3	18.5	17.6	16.2	19.6	17.0	17.7	36.0 ^{p,4}
Hong Kong, China	0.7	2.4	2.2	1.8	1.5	1.3	3.4	4.7
Indonesia ¹	70.8	55.8	46.3	39.0	35.1	33.2	28.6	27.0 ^p
Republic of Korea ¹	20.4	23.7	27.6	30.1	29.7	29.0	32.5	31.9
Lao People's Democratic Rep.	77.6	88.2	79.7	64.6	60.7	55.2	57.2 ^e	60.9 ^p
Malaysia ²	42.1	45.7	43.8	42.2	41.5	41.4	53.3	53.1
Philippines ³	88.7	95.4	82.2	73.3	63.1	64.3	65.3	61.9
Singapore	96.8	100.7	95.8	89.6	87.9	93.4	110.0	105.8
Taipei, China ¹	27.6	29.6	30.2	29.6	28.8	30.0	33.1	33.5
Thailand	52.9	48.0	46.4	40.3	37.4	38.2	43.9	42.4
Viet Nam	38.5	42.4	44.5	42.9	45.6	43.9	49.0	51.3 ^e
External Debt								
Brunei Darussalam	9.6	8.7	7.7	7.0	7.5	7.9	11.8	13.7 ^e
Cambodia	27.2	25.7	24.6	21.5	23.1	19.7	22.0	17.9 ^e
People's Republic of China	8.3	8.0	7.9	7.1	6.8	5.2	4.4	6.3
Hong Kong, China	128.9	138.6	141.6	153.6	173.1	176.1	184.5	234.3
Indonesia	57.5	42.5	40.5	29.2	26.9	27.0	18.4	17.0
Republic of Korea	22.3	20.3	19.1	23.1	26.7	26.4	34.4	28.7
Lao People's Democratic Rep.	64.9	59.9	62.7	55.1	58.1	48.9	41.0	39.7 ^e
Malaysia	43.2	44.4	44.7	41.5	39.4	28.9	31.6	28.3
Myanmar	59.5	52.4	42.7	35.7	24.6	18.2	4.1	3.9 ^e
Philippines	78.0	76.9	73.9	60.1	50.3	42.4	38.4	38.4
Singapore	266.6	270.9	261.4	238.3	264.3	265.1	248.1	237.5
Taipei, China	14.1	24.6	22.2	18.3	19.4	15.7	14.8	20.4
Thailand	38.3	26.3	24.8	22.3	17.0	14.3	13.8	15.6
Viet Nam	29.3	33.2	31.7	31.4	35.5	40.2	27.9	33.3

e = estimate, GDP = gross domestic product, p = projection.

¹Central government debt.²Federal government debt.³National government debt.⁴Includes contingent liabilities equivalent to 16.8% of GDP.Source: *Article IV Consultation—Staff Reports*, International Monetary Fund; CEIC (Public Debt); and Joint External Debt Hub database (External Debt).

Table 6a: Assessment of Vulnerability (%)

	Inflation Rate (latest available)	Fiscal Balance/GDP (2010) ¹	Public Sector Debt/GDP ² (2010) ³	Loans/Deposits of Banks ⁴ (latest available)	Bank Lending Growth ⁵ (y-o-y, latest available)
Brunei Darussalam	0.9 (Dec10)	8.0	–	54.8 (Mar11)	0.6 (Mar11)
Cambodia	5.2 (Apr11)	-6.0	–	78.7 (Apr11)	23.9 (Apr11)
People's Republic of China	6.4 (Jun11)	-2.1	36.0	72.4 (Apr11)	17.1 (May11)
Hong Kong, China	5.6 (Jun11)	4.1	4.7	60.2 (Mar11)	32.4 (May11)
Indonesia	5.5 (Jun11)	-0.6	27.0	86.6 (Apr11)	23.0 (Apr11)
Republic of Korea	4.4 (Jun11)	-1.1	31.9	118.0 (Mar11)	5.4 (Apr11)
Lao People's Democratic Republic	9.8 (May11)	-4.9	60.9	48.8 (Dec08)	71.6 (Dec08)
Malaysia	3.5 (Jun11)	-5.6	53.1	93.4 (Apr11)	13.8 (May11)
Myanmar	8.4 (Apr11)	–	–	35.5 (Feb11)	–
Philippines	4.6 (Jun11)	-3.7	61.9	59.9 (Feb11)	14.2 (Apr11)
Singapore	4.5 (May11)	-0.1	105.8	82.7 (Apr11)	21.2 (May11)
Taipei, China	1.9 (Jun11)	-3.0	33.5	63.0 (May11)	7.8 (May11)
Thailand	4.1 (Jun11)	-2.1	42.4	94.9 (Apr11)	15.5 (May11)
Viet Nam	22.2 (Jul11)	-8.0	51.3	105.9 (Mar11)	33.5 (Mar11)

GDP = gross domestic product, y-o-y = year-on-year, – = unavailable.

¹Latest International Monetary Fund *Article IV Consultation*—reports estimates of overall primary balance (excludes interest and investment income) for Brunei Darussalam and overall balance (including grants) for Lao People's Democratic Republic (Lao PDR). Data for Brunei Darussalam is calendar year. Data for Hong Kong, China; Lao PDR; Singapore; Taipei, China; and Thailand are fiscal year.

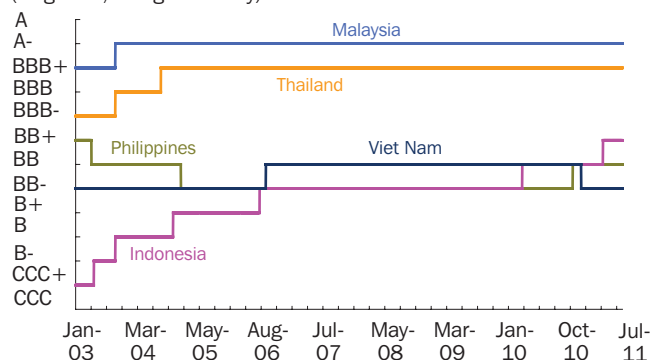
²Central government debt for Indonesia and Republic of Korea; and Taipei, China; federal government debt for Malaysia; and national government debt for the Philippines.

³Data are projections for People's Republic of China, Indonesia, and Lao PDR from IMF *Article IV Consultation* reports. Ratio for Viet Nam uses GDP estimate from *World Economic Outlook*, IMF.

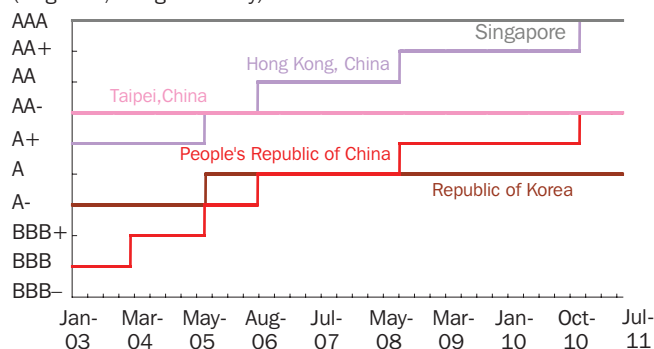
⁴Loans to private sector and non-financial institutions; and deposits (demand, time, savings, foreign currency, bond, and money market instruments—where available) of banking institutions, deposit money banks, and other depository corporations of each economy.

⁵Data for Brunei Darussalam and Cambodia refer to claims on private sector and other financial corporations of other depository corporations; People's Republic of China refer to financial institution loans; Hong Kong, China to domestic credit; Indonesia to commercial bank loans; Malaysia to commercial bank loans and advances; Philippines to commercial and universal bank loans net of reverse repurchase arrangements; Republic of Korea to loans of commercial and specialized banks; Singapore to loans and advances of domestic banking units; Thailand to commercial bank loans; Taipei, China to domestic banks loans and advances; and Viet Nam to claims on the rest of the economy of banking institutions.

Source: OREI Staff calculations using data from CEIC; national sources; *Asian Development Outlook 2011*, Asian Development Bank; *Joint External Debt Hub*, BIS-IMF-OECD-WB; *International Financial Statistics*, *Direction of Trade Statistics*, *World Economic Outlook* and *Article IV Consultation—Staff Reports*, International Monetary Fund.

Figure 28a: S&P Sovereign Ratings—ASEAN-4 plus Viet Nam
(long-term, foreign currency)

Source: Bloomberg.

Figure 28b: S&P Sovereign Ratings—PRC and NIEs
(long-term, foreign currency)

NIE = newly industrialized economy, PRC = People's Republic of China.

Source: Bloomberg.

Table 6b: Assessment of Vulnerability (%)

	Current Acct./ GDP (latest available)		External Debt/GDP¹ (2010)	Short-Term External Debt/ Reserves (2010)²	Broad Money³/ Foreign Reserves (latest available)	Foreign Reserves (number of months of imports) ⁴	Foreign Liabilities/ Foreign Assets⁵ (latest available)
Brunei Darussalam	42.6	(2010)	13.7	43.1	6.2 (Nov10)	6.3 (Mar10)	2.7 (Mar11)
Cambodia	-11.0	(2010)	17.9	6.1	1.5 (Mar11)	3.9 (Mar11)	40.4 (Apr11)
China, People's Rep. of	6.1	(H210)	6.3	10.1	3.8 (Mar11)	23.7 (Mar11)	36.7 (Apr11)
Hong Kong, China	9.0	(Q111)	234.3	59.6	2.8 (Mar11)	7.2 (May11)	73.7 (Mar11)
Indonesia	1.0	(Q111)	17.0	46.9	2.6 (Apr11)	9.1 (Jun11)	103.4 (May11)
Korea, Republic of	1.0	(Q111)	28.7	57.1	2.8 (Mar11)	7.6 (Jun11)	227.6 (Mar11)
Lao People's Democratic Republic	-9.0	(2010)	39.7	8.9	2.2 (Dec08)	2.6 (Dec10)	46.8 (Dec08)
Malaysia	14.9	(Q111)	28.3	28.6	2.9 (Apr11)	9.0 (Jun11)	97.7 (Apr11)
Myanmar	-2.2	(2010)	3.9	10.5	–	4.5 (Jun07)	–
Philippines	1.8	(Q111)	38.4	32.3	2.3 (Dec10)	12.5 (Jun11)	95.6 (Apr11)
Singapore	21.8	(Q111)	237.5	70.2	1.4 (Apr11)	8.6 (Jun11)	93.1 (Apr11)
Taipei, China	9.3	(Q111)	20.4	20.2	2.7 (May11)	17.6 (Jun11)	72.3 (May11)
Thailand	7.6	(Q111)	15.6	9.7	2.3 (Apr11)	10.6 (Jun11)	143.9 (Apr11)
Viet Nam	-4.0	(2010)	33.3	62.2	8.8 (Oct10)	1.6 (Mar11)	109.8 (Mar11)

GDP = gross domestic product, y-o-y = year-on-year, – = unavailable.

¹Data are estimates for Brunei Darussalam, Cambodia, Lao People's Democratic Republic, and Myanmar.

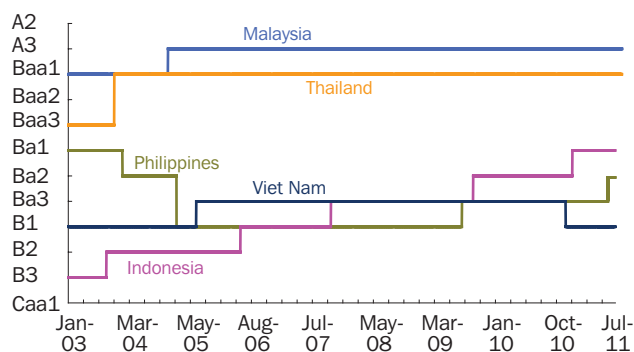
²Short-term external debt includes loans and credits due and debt securities due within a year as defined in the Joint External Debt Hub. Total reserves data for Myanmar as of Jun 2007.

³Data for Brunei Darussalam, Cambodia, Indonesia, Malaysia, Philippines, and Thailand refer to broad money. Data for People's Republic of China; Hong Kong, China; Republic of Korea; Lao People's Democratic Republic; Singapore; and Viet Nam refer to money plus quasi-money. Data for Taipei, China refer to end of period M2.

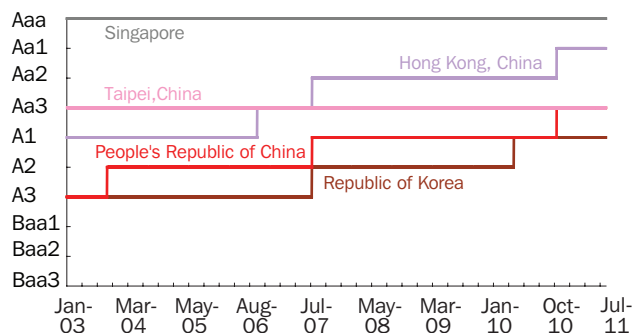
⁴Refers to reserves minus gold over a 12-month moving average of imports (cost of insurance, freight). Latest month when data is available. Import data may be earlier, the same, or later than period indicated.

⁵Foreign liabilities and assets of banking institutions, deposit money banks, and other depository corporations.

Source: OREI Staff calculations using data from CEIC; national sources; *Asian Development Outlook 2011*, Asian Development Bank; *Joint External Debt Hub*, BIS-IMF-OECD-WB; *International Financial Statistics*, *Direction of Trade Statistics*, *World Economic Outlook* and *Article IV Consultation—Staff Reports*, International Monetary Fund.

Figure 28c: Moody's Sovereign Ratings—ASEAN-4 plus Viet Nam
(long-term, foreign currency)

Source: Bloomberg.

Figure 28d: Moody's Sovereign Ratings—PRC and NIEs
(long-term, foreign currency)

NIE = newly industrialized economy, PRC = People's Republic of China.

Source: Bloomberg.

Table 7: Risk-Weighted Capital Adequacy Ratios¹ (% of risk-weighted assets)

Economy	2000–2004 Average	2005	2006	2007	2008	2009	2010 ²	2011 ³
China, People's Rep. of	-2.3 ⁴	2.5	4.9	8.4	12.0	11.4	12.2	–
Hong Kong, China	16.1	14.8	14.9	13.4	14.7	16.8	15.9	16.0
Indonesia	18.7	19.3	21.3	19.3	16.8	17.4	17.2	17.6
Korea, Republic of	10.7	12.4	12.3	12.0	12.7	14.6	14.7	14.4
Malaysia	13.4	13.6	13.1	12.8	12.2	14.9	14.4	14.0
Philippines	17.0	17.7	18.5	15.9	15.7	16.0	16.5	–
Singapore	17.7	15.8	15.4	13.5	14.7	17.3	18.6	–
Taipei, China	10.5	10.3	10.1	10.6	10.8	11.6	12.0	12.1
Thailand	13.2	14.2	14.5	15.4	14.1	16.1	16.2	15.7

– = unavailable.

¹Based on official risk-adjusted capital adequacy ratios and applied to commercial banks for most economies except Hong Kong, China (covers authorized institutions) and the Philippines (covers universal and commercial banks). Data for the Philippines is on a consolidated, not solo, basis.

²Data for Philippines is as of Jun 2010. 2010 data for Indonesia includes operational risk capital charges.

³Data for Malaysia and Thailand as of May 2011; Hong Kong, China; Indonesia; Republic of Korea; and Taipei, China as of Mar 2011.

⁴Average of 2000 and 2002–2004 figures. Figure for 2000 is ratio for state commercial banks.

Source: National sources and *Global Financial Stability Report April 2011*, International Monetary Fund.

Table 8: Rate of Return on Commercial Bank Equity (% per annum)

Economy	2000–2004 Average	2005	2006	2007	2008	2009	2010 ¹	2011 ²
China, People's Rep. of ³	–	15.1	14.9	16.7	17.1	16.2	17.5	–
Hong Kong, China ⁴	14.9	16.7	16.7	21.3	13.0	14.4	14.2	–
Indonesia	20.3 ⁵	23.1	27.1	27.8	23.9	26.3	26.1	–
Korea, Republic of	7.2	20.3	15.6	16.2	9.1	6.6	7.7	–
Malaysia	16.2	15.7	16.9	19.2	17.6	13.4	16.3	–
Philippines	5.9	9.5	11.5	11.8	7.2	11.4	12.7	13.0
Singapore	9.6	11.2	13.7	12.9	10.7	10.8	12.3	–
Taipei, China	4.1	4.4	-7.3	2.6	-0.7	4.3	8.6	10.0
Thailand	13.3	16.5	10.2	2.8	12.2	10.4	12.1	12.4

– = unavailable.

¹Data for Singapore as of Sep 2010.

²2011 data as of March.

³Total banking industry, except for 2006, which refers to four listed state-owned banks.

⁴Post-tax profit to shareholders' funds of locally-incorporated licensed banks.

⁵Average over a four-year period 2000–2004 that excludes 2003 when data was not available.

Source: National sources and *Global Financial Stability Report April 2011*, International Monetary Fund.

Growth in bank lending should slow as monetary policies tighten across the region, reducing the risk of property bubbles.

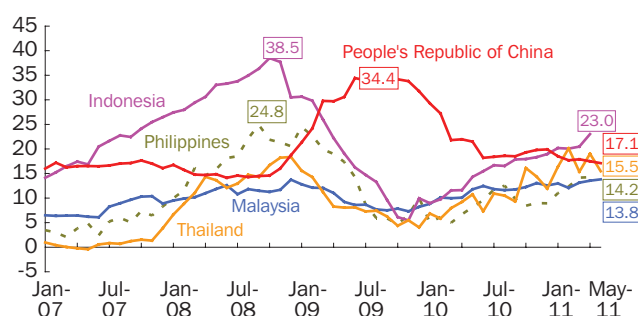
With growth in the region moderating and interest rates rising, bank credit growth is slowing in some economies (**Figures 29a, 29b**). This should help reduce the risk of the property market overheating. Bank lending growth in

the PRC fell to 17.1% in May 2011, as authorities rein in last year's large credit expansion. Credit growth in Hong Kong, China has also moderated in recent months, albeit still at a relatively fast pace. In contrast, bank lending growth of Indonesia and Singapore accelerated to 23% in April 2011 and 21.2% in May 2011, respectively. There are concerns that the fast rate of credit expansion in Singapore and Hong Kong, China may be fueling the double-digit rise in local housing prices (**Figure 30a**).

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

Economy	2000–2004 Average	2005	2006	2007	2008	2009	2010 ¹	2011 ²
China, People's Rep. of	0.2	0.6	0.9	0.9	1.0	0.9	1.0	–
Hong Kong, China ³	1.2	1.7	1.8	1.9	1.8	1.5	1.3	1.2
Indonesia	2.2	2.6	2.6	2.8	2.3	2.6	2.9	3.1
Korea, Republic of	0.4	1.2	1.1	1.1	0.6	0.4	0.5	–
Malaysia	1.3	1.3	1.3	1.5	1.5	1.3	1.5	–
Philippines	0.8	1.1	1.3	1.4	0.8	1.2	1.4	1.5
Singapore	1.1	1.2	1.4	1.3	1.0	1.1	1.2	–
Taipei, China	0.3	0.3	-0.4	0.1	-0.1	0.3	0.5	0.6
Thailand	0.7	1.3	0.8	0.2	1.0	0.9	1.0	1.1

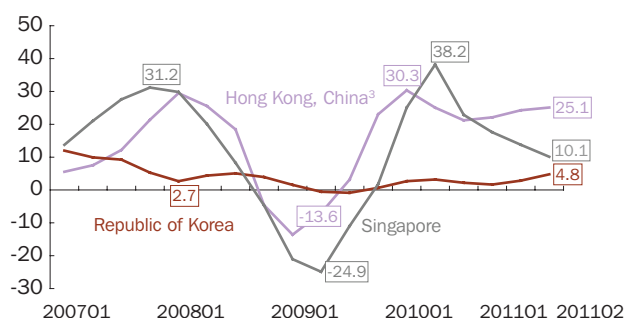
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¹Data for Singapore as of Sep 2010.²2011 data as of March.³Net interest margin of retail banks. Year-to-date annualized.Source: National sources and *Global Financial Stability Report April 2011*, International Monetary Fund.**Figure 29a: Bank Lending Growth¹—ASEAN-4 and PRC (y-o-y, %)**

PRC = People's Republic of China, y-o-y = year-on-year.

¹Data for PRC refer to financial institution loans; Malaysia to commercial bank loans and advances; Philippines to commercial and universal bank loans net of reverse repurchase arrangements; and Indonesia and Thailand to commercial bank loans. Data for Indonesia and Philippines as of Apr 2011.

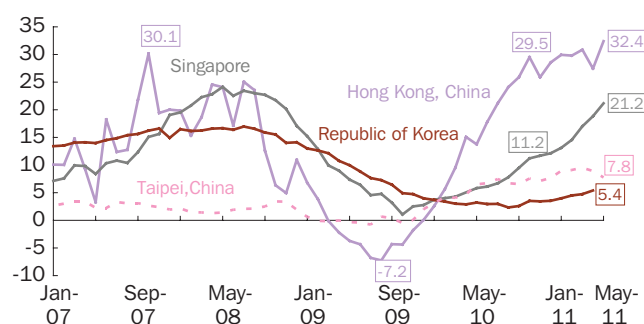
Source: OREI staff calculations based on CEIC data.

Figure 30a: Growth of Housing Prices¹—NIEs (y-o-y, %)²

NIE = newly industrialized economy, y-o-y = year-on-year.

¹Data for Hong Kong, China; and Singapore data refer to residential property price index; Republic of Korea to housing price index.²3-month average for Hong Kong, China; and Republic of Korea.³2011Q2 is average of April and May data.

Source: OREI staff calculations based on CEIC data.

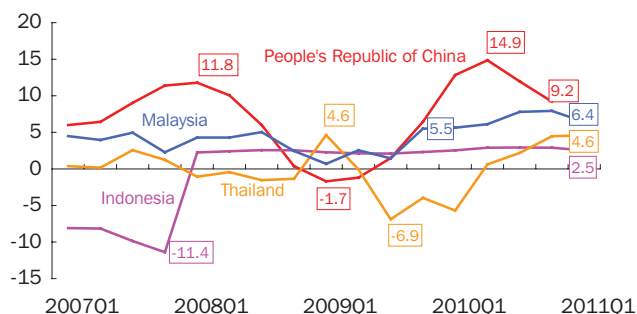
Figure 29b: Bank Lending Growth¹—NIEs (y-o-y, %)

NIE = newly industrialized economy, y-o-y = year-on-year.

¹Data for Hong Kong, China refer to authorized institutions' loans and advances; Republic of Korea to commercial and specialized bank loans; Singapore to domestic banking unit loans and advances; and Taipei, China to domestic bank loans and advances. Data for Republic of Korea as of Apr 2011.

Source: OREI staff calculations based on CEIC and Bank of Korea data.

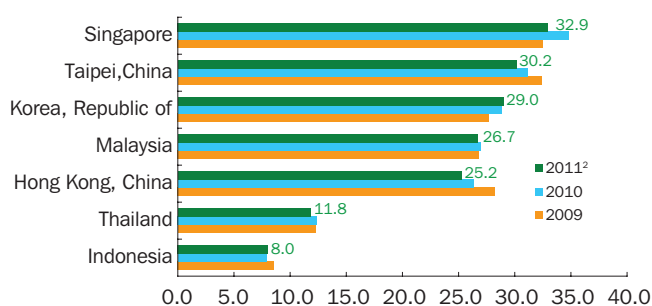
In response, Hong Kong, China introduced a series of measures to ensure prudent mortgage underwriting standards of banks, including lowering the loan-to-value ratios of mortgage loans, tightening debt-servicing ratio requirement and requiring banks to stress-test the repayment ability of mortgage borrowers. On the other hand, Singapore reduced loan-to-value limits for housing loans. These measures have thus far succeeded in reducing the share of housing and mortgage-related loans (**Figure 31**). For other economies in the region, rising interest rates and the moderation in economic growth have cooled housing price inflation (**Figure 30b**).

Figure 30b: Growth of House Prices¹—PRC, Indonesia, Malaysia, Thailand (y-o-y, %)

PRC = People's Republic of China, y-o-y = year-on-year.

¹PRC data refer to sales price index for residential buildings; Indonesia residential property price index; Malaysia house price index; and Thailand housing price index. Data for People's Republic of China as of 2010Q4.

Source: OREI staff calculations based on CEIC data.

Figure 31: Housing and Mortgage-Related Loans¹—Selected Economies (% of total loans)

¹Data for Hong Kong, China are loans for the purchase of flats (under various schemes) and of other residential properties as percent of loans and advances for use in Hong Kong, China; for Indonesia, property loans for house and apartment ownership as percent of outstanding loans in rupiah and foreign currency of commercial and rural banks; for Republic of Korea, residential mortgage loans over total loans of commercial and specialized banks; for Malaysia, loans for purchase of residential property as percent of total loans of the banking system; for Singapore, housing and bridging loans as percent of total loans and advances of domestic banking units; and for Thailand, personal consumption credits for land for housing construction, provide for dwelling, and purchase of real estate for others as percent of total credits of all commercial banks.

²Latest 2011 data as of May except for Hong Kong, China and Thailand which are as of March, and Republic of Korea as of April.

Source: OREI staff calculations using data from People's Bank of China, Hong Kong Monetary Authority, Bank Indonesia, Bank Negara Malaysia, Bangko Sentral ng Pilipinas (Philippines), Monetary Authority of Singapore, Bank of Thailand, and CEIC.

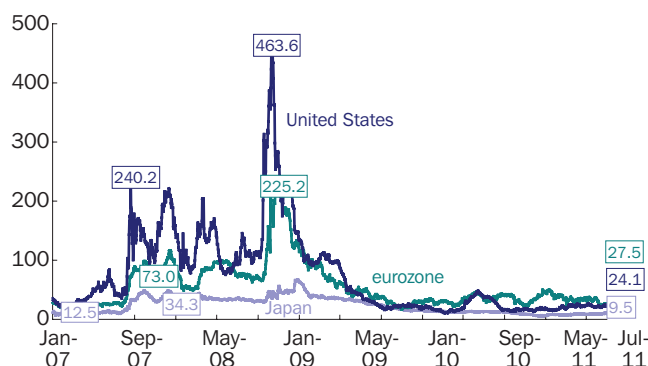
Economic Outlook, Risks, and Policy Issues

External Economic Environment

The external economic environment continues to weaken with an anemic US recovery, Japan's post-earthquake contraction, and continuing uncertainty over some of Europe's sovereign debt.

The recovery in the advanced economies showed signs of faltering in the first half of 2011. Economic growth in the US slowed and the Japanese economy shrunk in the first quarter; but the eurozone GDP growth improved. Leading indicators suggest that the recovery remained weak in the second quarter. In the US, a poor housing market and high unemployment are a drag on growth. The earthquake in Japan caused substantial disruptions to the economy. And concerns over a possible Greek default continued to dent business and consumer confidence and slow the eurozone recovery. The International Monetary

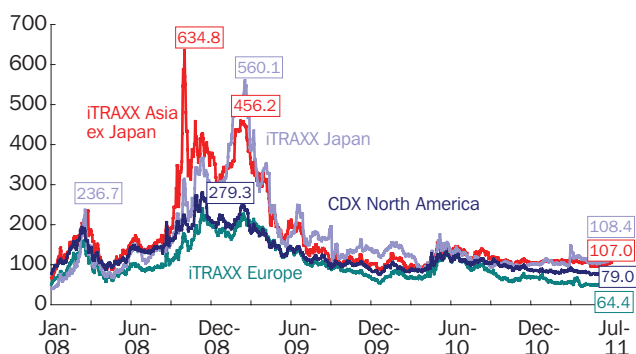
Figure 32: TED Spreads¹—G3



¹Difference between the 3-month LIBOR (London Interbank Offered Rate) and 3-month government debt (e.g. Treasury bills).

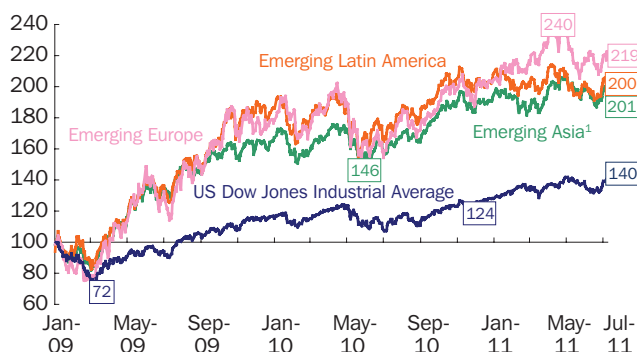
Source: OREI staff calculations based on Bloomberg and Datastream data.

Figure 33: Credit Default Swap Indexes
(investment grade, senior 5-year)



Source: Bloomberg.

Figure 34: MSCI Indexes (2 Jan 2009 = 100)



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

Source: Morgan Stanley Capital International (MSCI) Barra and Datastream.

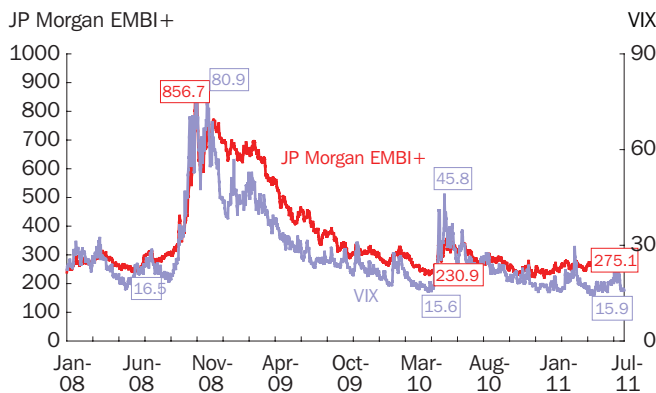
Fund (IMF) forecasts GDP in advanced economies to grow 2.2% in 2011 and 2.6% in 2012, compared with an estimated 3.0% expansion in 2010.

Global financial markets have remained stable despite eurozone and US debt problems and conflicts in the Middle East.

Global financial markets have been little affected by the political turmoil in the Middle East, continued concerns over a possible sovereign bond default by Greece and the debate over raising the debt limit in the US. The TED spread—the difference between interbank rates and Treasury bill rates—has generally remained stable. While the TED spread for the eurozone has remained above that in the US, the difference between the two narrowed in June (Figure 32). Credit default swaps—insurance against bond defaults—are stable given calm corporate bond markets (Figure 33). Global equity markets retreated in recent months, giving up some of their large 2010 gains (Figure 34). The VIX Index—a measure of US stock market volatility—has settled after a sharp spike following the Japanese earthquake. Meanwhile, emerging market bond yields have been edging upward (Figure 35). Spreads between 10- and 2-year bond yields in Europe and the US are narrowing while those in Japan have remained essentially the same (Figure 36).

US growth is struggling to gain traction amid continued weakness in housing and job creation.

Economic growth in the US slowed in the first quarter of 2011 to 1.8% on a quarter-on-quarter (q-o-q) seasonally adjusted annualized rate (saar), compared with 3.1% (q-o-q, saar) growth in the fourth quarter of 2010. The slower growth was due to weaker private

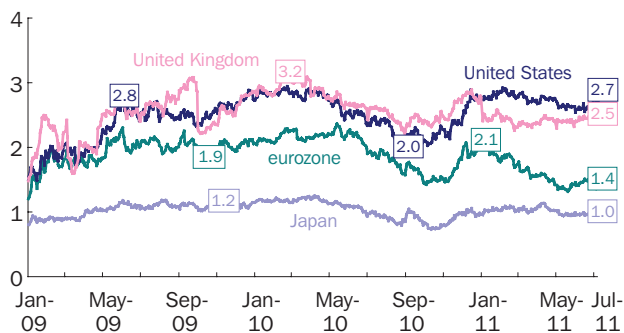
Figure 35: Equity Market Volatility and Bond Spreads

VIX = Chicago Board Options Exchange Volatility Index; JPM EMBI+ = JP Morgan Emerging Markets Bonds Indices Plus.
Source: Bloomberg.

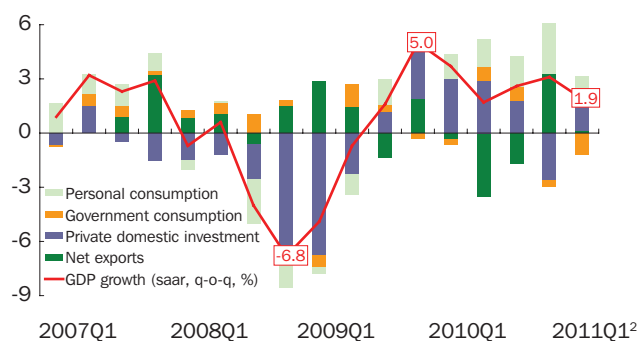
consumption and government spending (**Figure 37**). Housing continues to be weak with existing home sales and private housing starts still in a slump (**Figure 38**). Home prices also remain in the doldrums (**Figure 39**). The second round of quantitative easing (QE2) ended in June and a third round is not expected, leading to a less accommodative monetary stance for the second half of 2011. On the fiscal front, high public debt will force the government to cut expenditures and constrain growth. Leading indicators suggest continued modest growth. While business confidence is rising, consumer confidence has been slipping (**Figure 40**). The employment outlook remains bleak with only 18,000 new jobs created in June and unemployment staying stubbornly high at 9.2% (**Figure 41**). Manufacturing—while still growing—is moderating with industrial production growth down to 3.4% in May (**Figure 42**). As a result, growth in the US is forecast at 2.8% in 2011 and 2.6% in 2012.

The eurozone recovery has accelerated but is threatened by uncertainties over the debt burden in several countries.

GDP growth in the eurozone rose to 3.4% (q-o-q, saar) in the first quarter of 2011 from 1.0% the last quarter of 2010. Higher government spending and investment contributed to the improved performance (**Figure 43**). Export growth remained robust, growing 17.5% in April (**Figure 44**). Leading indicators suggest that economic growth will likely moderate in the months ahead. Business and consumer confidence have been slipping recently, possibly on growing worries about debt sustainability in several European countries and weak household balance sheets (**Figure 45**). The weaker confidence can also be seen in the slower industrial

Figure 36: 10-year and 2-year Government Bond Yield Spreads (% per annum)

Source: Datastream.

Figure 37: Contributions to GDP Growth—US (percentage points¹)

GDP = gross domestic product, q-o-q = quarter-on-quarter, saar = seasonally adjusted annualized rate.

¹Based on saar, q-o-q changes.

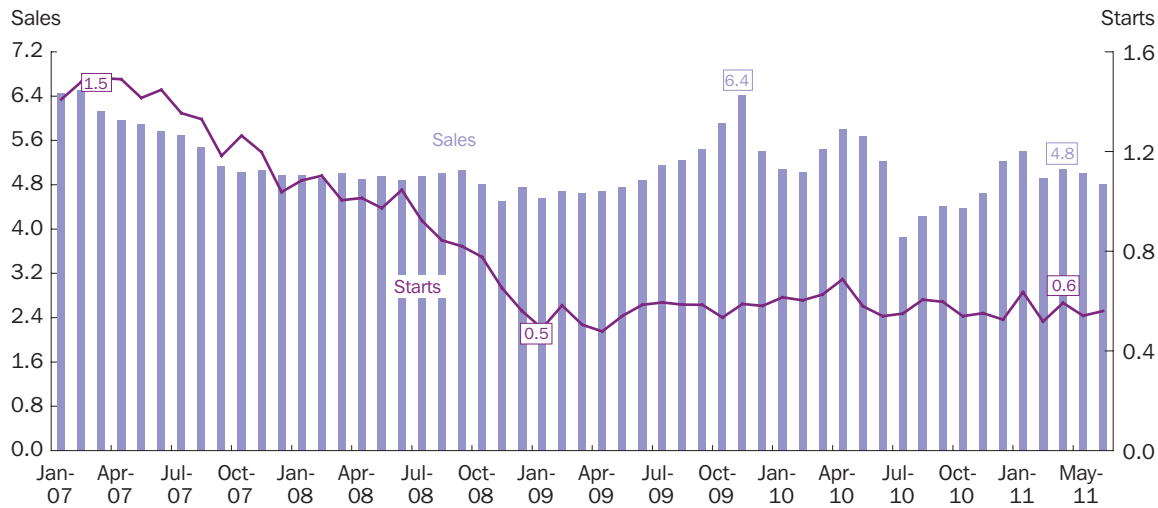
²Third estimate as of 24 Jun 2011.

Source: US Bureau of Economic Analysis.

production and retail sales growth (**Figure 46**). Scrutiny over sustainability of public debt will likely reduce fiscal space across much of the eurozone. Higher inflation has prompted the European Central Bank to raise interest rates by 25 basis points in July, reducing growth prospects. Together, this suggests economic growth in the eurozone will be a modest 1.6% in 2011 and 2012.

Japan's economy is in recession as result of disruptions caused by the March earthquake, a rising yen, and persistent deflationary pressures.

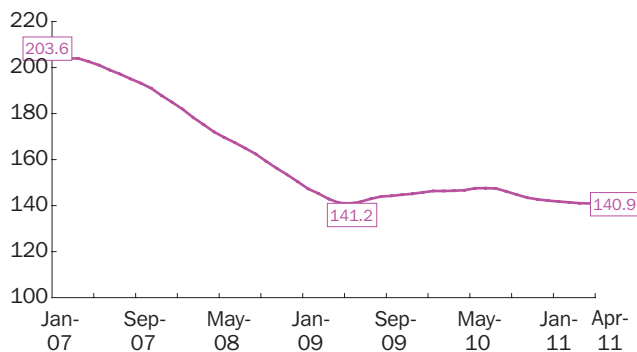
Japan's GDP continued to contract, shrinking 3.5% (q-o-q, saar) in the first quarter of 2011, following a 2.9% decline (q-o-q, saar) the last quarter of 2010. The aftereffects of the March earthquake, tsunami, and

Figure 38: Private Housing Starts¹ and Existing Home Sales²—US (million units)

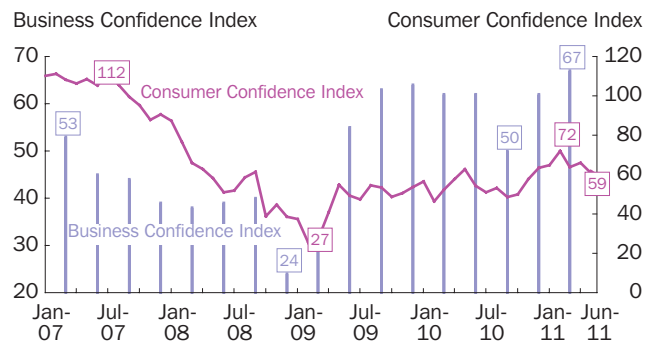
US = United States.

¹Seasonally adjusted levels.²Seasonally adjusted and annualized.

Source: CEIC.

Figure 39: Standard and Poor's/Case-Shiller Home Price Index¹—US (seasonally adjusted)¹20-city composite index.

Source: Standard and Poor's.

Figure 40: Business and Consumer Confidence Indexes—US

US = United States.

Note: Consumer confidence (1985 = 100). A business confidence index above 50 means there are more positive than negative responses. Consumer confidence index is monthly; business confidence index is quarterly.

Source: Datastream.

nuclear disaster is taking its toll on the economy. Private consumption and investment both fell (**Figure 47**). The destruction of productive assets, interruptions in electricity supply, and disruptions to regional and national supply chains—particularly in automobiles and electronics—will continue to hurt growth in the short term. Exports have been on a downward trend, growing by only 8.1% in April. The persistent strength of the yen should continue to hamper exports. Industrial production has fallen sharply in the earthquake aftermath, declining 8.2% in April (**Figure 48**). Business and consumer

confidence worsened, suggesting domestic demand will unlikely recover quickly (**Figure 49**). However, the massive cleanup and reconstruction effort needed may boost the economy toward the end of the year. As a result, the Japanese economy is expected to contract by 0.5%⁵ in 2011 and rebound to grow by 3.2%⁶ in 2012.

^{5,6}Tentative figures that may be revised in the *Asian Development Outlook 2011 Update*.

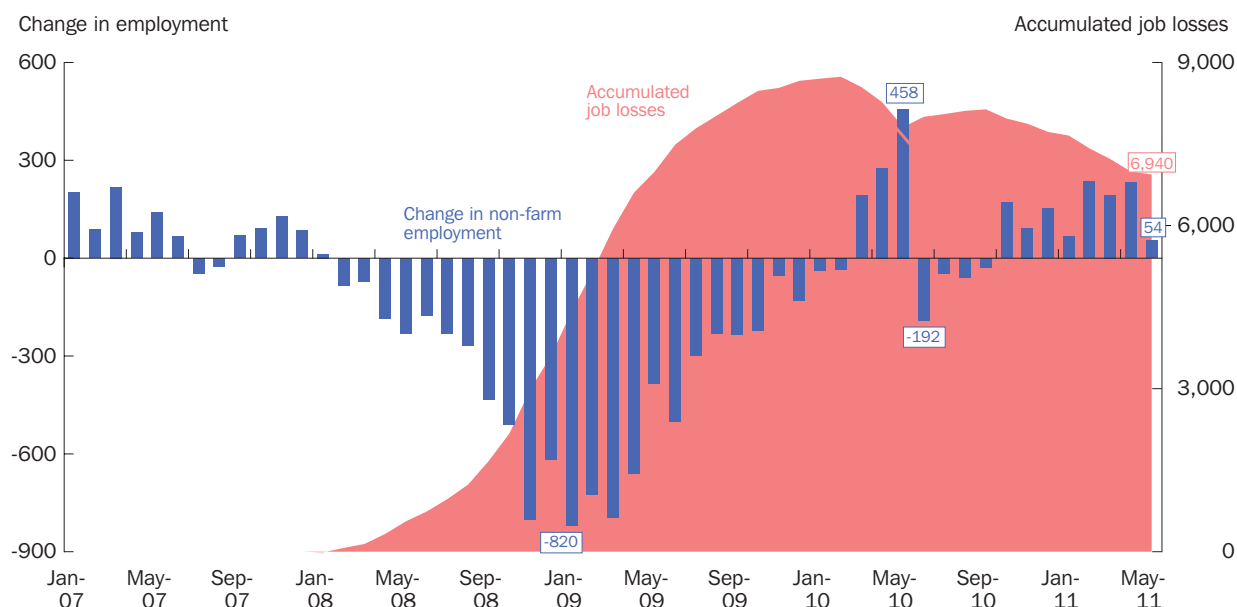
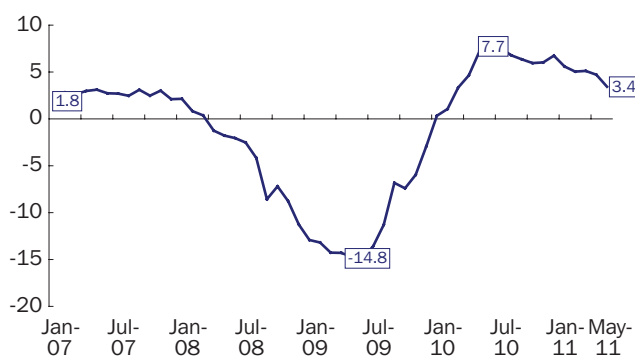
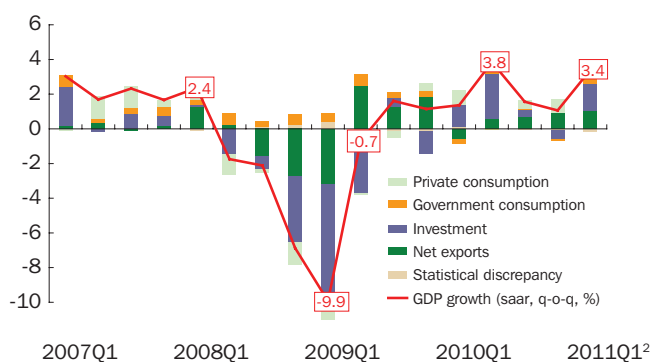
Figure 41: Change in Non-Farm Employment and Accumulated Job Losses¹ (in thousands)

Figure 42: Growth of Industrial Production—US (y-o-y, %)

Figure 44: Export Growth¹—eurozone² (y-o-y, %)

Figure 43: Contributions to GDP Growth—eurozone (percentage points)


GDP = gross domestic product, q-o-q = quarter-on-quarter, saar = seasonally adjusted annualized rate.

¹Based on saar, q-o-q changes.

²Third estimate as of 8 Jul 2011.

Source: Eurostat.

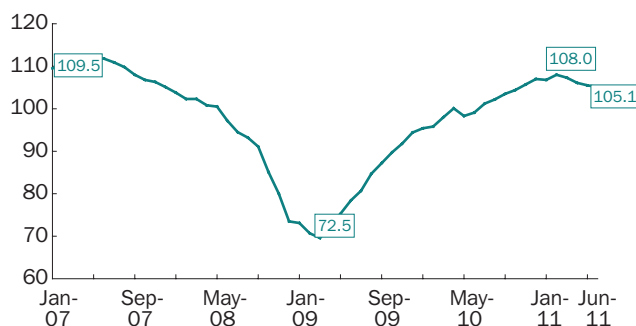
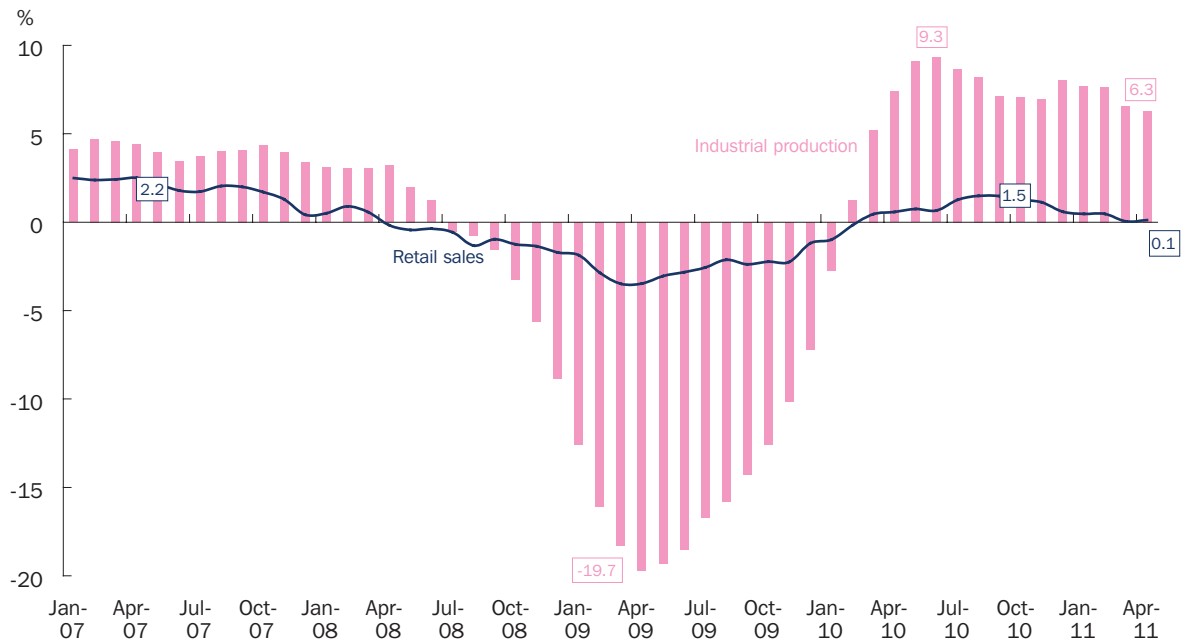
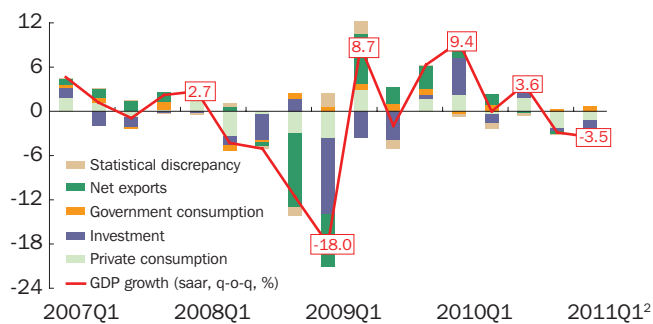
Figure 45: Economic Sentiment Indicator¹—eurozone²


Figure 46: Retail Sales and Industrial Production¹—eurozone

¹Working-day adjusted, year-on-year growth rate of 3-month moving averages.
Source: OREI staff calculations based on CEIC data.

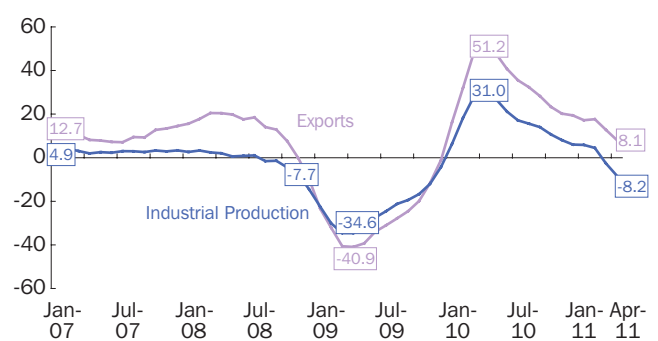
Figure 47: Contributions to GDP Growth—Japan (percentage points¹)

GDP = gross domestic product, q-o-q = quarter-on-quarter, saar = seasonally adjusted annualized rate.

¹Based on saar, q-o-q changes.

²Second preliminary estimates.

Source: Cabinet Office, Government of Japan.

Figure 48: Merchandise Export and Industrial Production Growth¹—Japan (y-o-y, %)

y-o-y = year-on-year.

Note: Exports in \$ value; industrial production in local currency.

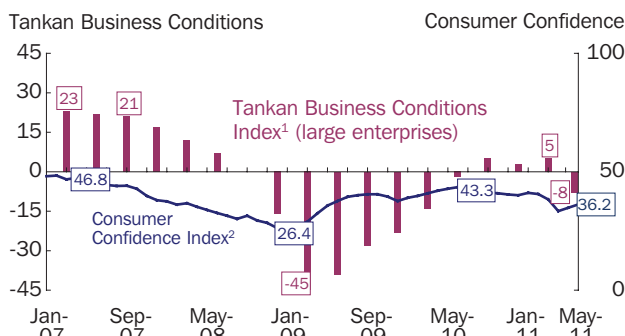
¹3-month moving average.

Source: OREI staff calculations based on CEIC data.

World trade growth has returned to trend after the strong rebound last year.

World trade growth is stabilizing after last year's strong rebound. Imports from advanced, emerging, and developing economies began moderating toward the end of 2010, returning to long-term trend (**Figure 50**). Trade volumes have also moderated, according to estimates from the CPB Netherlands Bureau for Economic Policy

Figure 49: Business and Consumer Sentiment Indexes—Japan



¹Quarterly survey. A positive figure indicates higher percentage of companies reporting favorable business conditions from those reporting unfavorable conditions.

²Monthly survey. A figure above 50 indicates positive consumer sentiment, while a number below 50 indicates negative consumer sentiment.

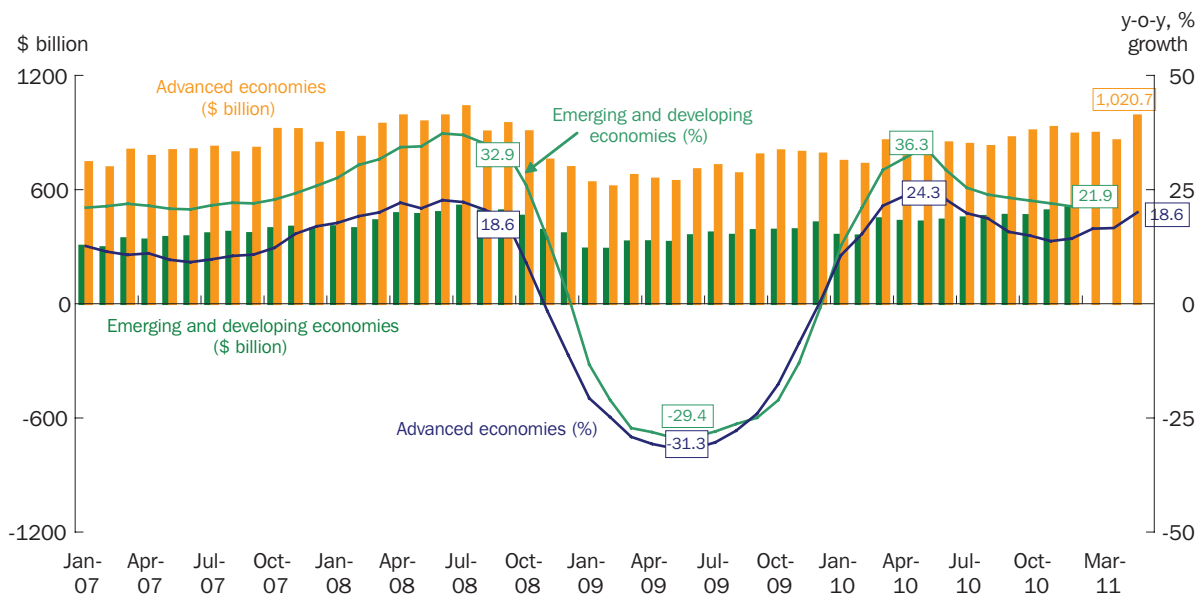
Source: Datastream.

Analysis (**Figure 51**). Nevertheless, the strong 2010 rebound meant that trade volumes surpassed pre-crisis levels by the end of the year. A slowdown in electronics trade is expected as the earthquake in Japan shut down plants producing several key components. New information technology orders in the G3⁷ rose 1.0% in April, and computer and software sales in the G3 decreased by 2.0% in April (**Figures 52, 53**).

Inflation is beginning to rise in advanced economies; but continued excess capacity and weak economic conditions may limit the price effect.

In the US and eurozone, inflation is picking up. But the weak economic outlook suggests that further increases will be limited (**Figure 54**). Excess capacity in the US, while shrinking, remains above pre-crisis levels (**Figure 55**). High unemployment in the eurozone and US is also expected to dampen wage pressures (**Figure 56**). Implied inflationary expectations—estimated as the difference between the 10-year bond yield and 10-year inflation-linked bond yield—have remained stable and below current inflation rates. Japan saw a small recent uptick in inflation, but deflationary

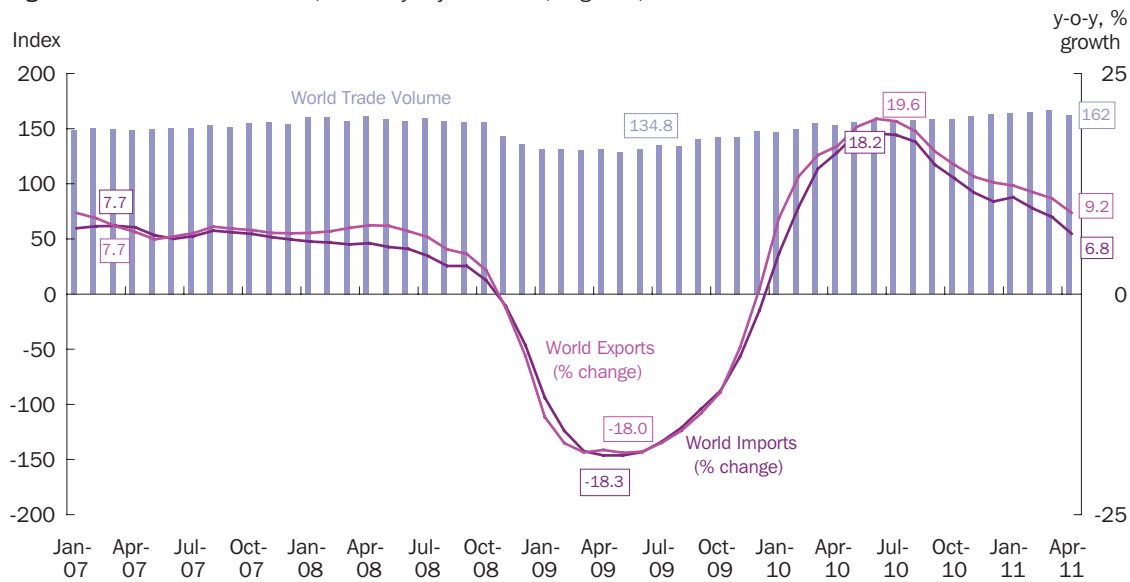
Figure 50: Imports—Advanced Economies; Emerging and Developing Economies¹



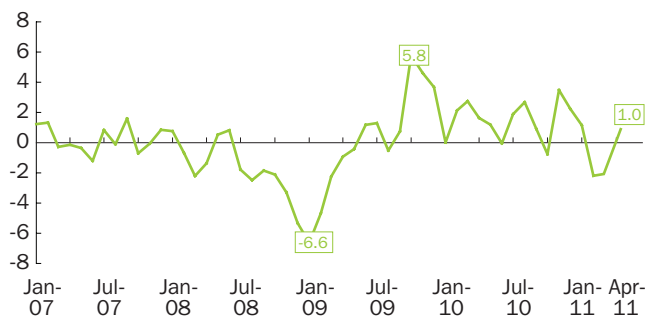
¹Year-on-year (y-o-y) growth rates of 3-month moving averages. Data for emerging and developing economies until Dec 2010.

Source: International Financial Statistics, International Monetary Fund.

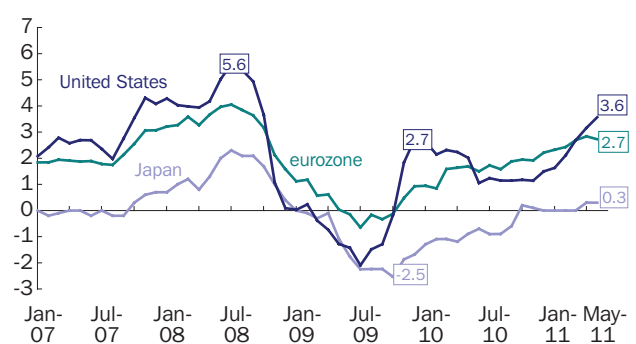
⁷The G3 comprises the eurozone, Japan, and US.

Figure 51: World Trade Volume (seasonally-adjusted index, % growth)¹

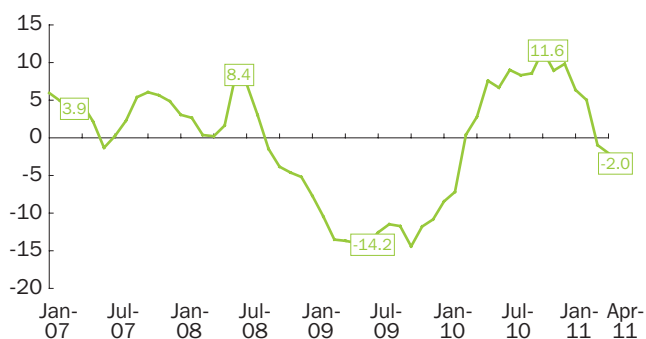
¹Year-on-year (y-o-y) growth rates of 3-month moving average.
Source: CPB Netherlands Bureau for Economic Policy Analysis.

Figure 52: Growth of New Information Technology Orders—G3¹ (seasonally adjusted, m-o-m, %)²

m-o-m = month-on-month.
¹eurozone, Japan, and United States.
²3-month moving average
Source: OREI staff calculations based on national sources.

Figure 54: Headline Inflation—eurozone¹, Japan, and United States (y-o-y, %)

y-o-y = year-on-year.
¹Refers to Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, and Spain.
Source: OREI staff calculations based on CEIC data.

Figure 53: Computer and Software Sales—G3¹ (y-o-y, %)

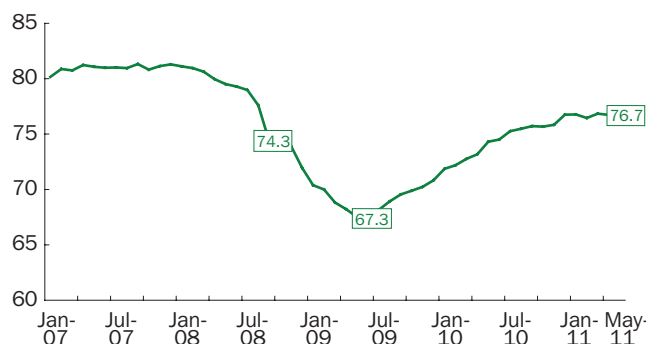
¹3-month moving average of year-on-year (y-o-y) growth in sales values. G3 refers to eurozone, Japan, and US.
Source: Datastream and Eurostat.

pressures are likely to be strong after two straight quarters of economic contraction.

Commodity prices have retreated somewhat in recent months on weaker growth in the world economy.

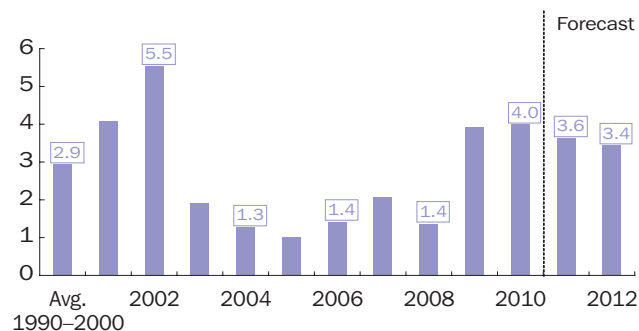
The strong run-up in commodity prices has recently moderated as world economic growth eases. After political tensions in North Africa and the Middle East drove crude oil prices up, they retrenched to about \$114 per barrel in early July (**Figure 57**). Ample spare capacity for 2011 and 2012 in the Organization of the

Figure 55: Capacity Utilization Rate—US



Source: Board of Governors of the US Federal Reserve System.

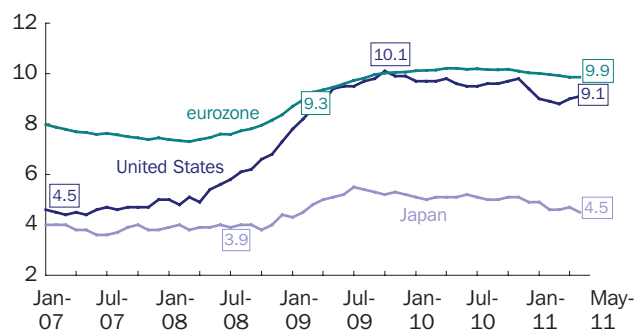
Figure 58: OPEC Spare Capacity (million barrels per day)



OPEC = Organization of the Petroleum Exporting Countries.

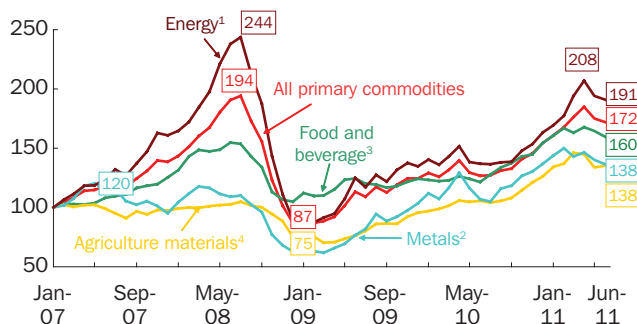
Source: *Short-Term Energy and Summer Fuels Outlook (Jun 2011)*, US Energy Information Administration.

Figure 56: Unemployment Rate—eurozone¹, Japan, and US
(seasonally adjusted, % of labor force)



¹eurozone includes Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, and Spain.
Source: US Bureau of Labor Statistics, European Central Bank, and CEIC.

Figure 59: Primary Commodity Price Index (Jan 2007 = 100)



¹Crude oil, natural gas, coal.

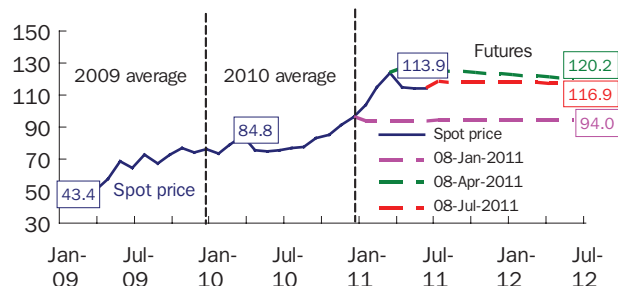
²Copper, aluminum, iron ore, tin, nickel, zinc, lead, uranium.

³Cereal, vegetable oils, meat, seafood, sugar, bananas, oranges, coffee, tea, cocoa.

⁴Timber, cotton, wool, rubber, hides.

Source: OREI staff calculations based on data from *IMF Primary Commodity Prices*, International Monetary Fund.

Figure 57: Brent Spot¹ and Futures Prices (USD per barrel)



¹Monthly average of daily spot prices. Data as of 08 Jul 2011.

Source: Datastream.

Petroleum Exporting Countries (OPEC) and the weaker economic outlook will likely help limit further oil price hikes (**Figure 58**). However, uncertainty over Libya and the uncertain future of nuclear power generation following the Fukushima disaster may add upward pressure on oil prices. Other commodity prices have also given up some earlier gains as the global economy moderates and supply conditions improve (**Figure 59**).

Regional Economic Outlook for 2011

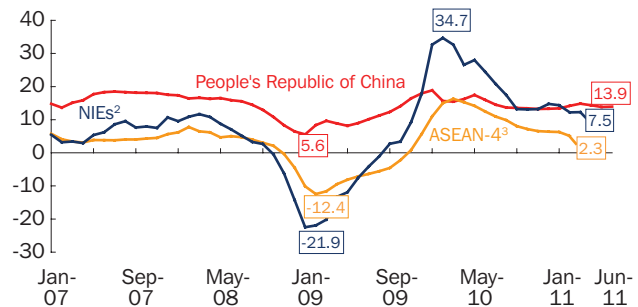
A weaker external environment plus tightening monetary and fiscal conditions in emerging East Asia will likely moderate growth; aggregate GDP is expected to rise 7.9% in 2011 and 7.7% in 2012.

Winding down fiscal and monetary stimulus across the region—coupled with the modest growth outlook for G3 economies—will contribute to slower economic growth in emerging East Asia. Disruptions in regional supply chains due to the earthquake in Japan should also affect the region's growth. Export growth is expected to continue moderating in line with the weaker external environment. This will affect the more trade-dependent economies in the region—particularly the NIEs. Other leading indicators—such as industrial production, purchasing managers index, and retail sales—are also slowing (**Figures 60, 61, 62**). So far this year, the region's stock markets have given up some of their 2010 gains. Aggregate growth in emerging East Asia is expected to be 7.9% in 2011 and 7.7% in 2012 (**Table 10**).

Growth momentum in the PRC is expected to moderate as tighter monetary policy takes hold.

The strong first half growth in the PRC suggests that various measures taken to tighten monetary policy have yet to impact the economy. But the weak external environment and tighter monetary stance is expected to help growth moderate to more sustainable levels in the months ahead. Authorities are expected to keep tightening monetary policy and rolling back fiscal stimulus to counter rising inflation and economic overheating. Export growth—which eased to 17.9% in June—should continue to moderate in 2011 in line with global trade. Leading indicators suggest weaker growth momentum ahead. Industrial output and retail sales growth have slowed to 13.9% and 18.2%, respectively, in June. The purchasing managers index dropped to 50.1 in June, bringing it close to 50, below which signifies a contraction in manufacturing output. GDP growth is expected to ease to 9.6% in 2011, further moderating to 9.2% in 2012.

Figure 60: Industrial Production Growth¹—PRC, ASEAN-4, and NIEs (y-o-y, %)



ASEAN-4 = Indonesia, Malaysia, Philippines, and Thailand; NIEs = newly industrialized economies (Hong Kong, China; Republic of Korea; Singapore; and Taipei, China); PRC = People's Republic of China; y-o-y = year-on-year.

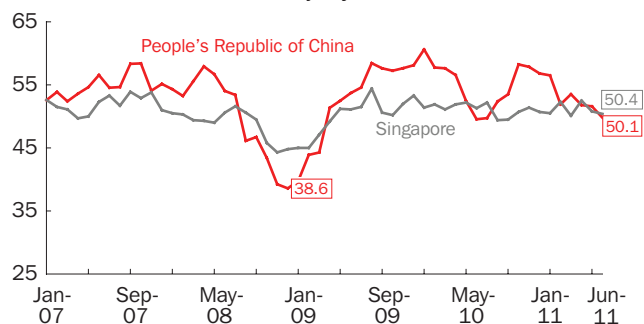
¹3-month moving average.

²Excludes Hong Kong, China as data unavailable. Data until May 2011.

³Data until Apr 2011.

Source: OREI staff calculations based on CEIC data.

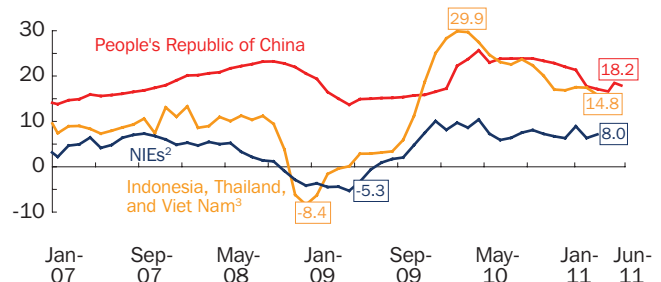
Figure 61: Manufacturing Purchasing Managers Indexes (PMI)—Selected Economies (seasonally adjusted)



Note: PMI above (below) 50 indicates that manufacturing activity is expanding (contracting).

Source: Bloomberg, CEIC, and Datastream.

Figure 62: Retail Sales Growth¹—PRC, NIEs, and Selected ASEAN Economies (y-o-y, %)



NIEs = newly industrialized economies (Hong Kong, China; Republic of Korea; Singapore; and Taipei, China); PRC = People's Republic of China; y-o-y = year-on-year.

¹3-month moving average.

²Data until May 2011.

³Data until Apr 2011.

Source: OREI staff calculations based on CEIC data.

Emerging East Asia—A Regional Economic Update

Table 10: Annual GDP Growth (y-o-y, %)

	2000– 2007 Average	2004	2005	2006	2007	2008	2009	2010	2011Q1	2011Q2	ADO Forecasts ⁶		Expected revision to 2011 forecast
											2011	2012	
Developing Asia^e	7.7	7.9	8.4	9.4	10.1	6.7	5.9	9.0	–	–	7.8	7.7	
Emerging East Asia^{1,2}	7.8	8.0	8.2	9.4	10.4	6.8	5.8	9.3	8.1	–	7.9	7.7	▼
ASEAN^{1,2,3}	5.5	6.5	5.7	6.1	6.6	4.3	1.3	7.9	–	–	5.5	5.7	▼
Brunei Darussalam ⁶	2.2	0.5	0.4	4.4	0.2	-1.9	-1.8	2.0	–	–	1.7	1.8	■
Cambodia ⁶	9.4	10.3	13.3	10.8	10.2	6.7	0.1	6.3	–	–	6.5	6.8	■
Indonesia ⁴	5.1	5.0	5.7	5.5	6.3	6.0	4.6	6.1	6.5	–	6.4	6.7	■
Lao PDR ⁶	6.7	7.0	6.8	8.1	7.9	7.2	7.3	7.5	–	–	7.7	7.8	■
Malaysia ⁵	5.6	6.8	5.3	5.8	6.5	4.8	-1.6	7.2	4.6	–	5.3	5.3	▼
Myanmar ^e	9.1	5.0	4.5	7.0	5.5	3.6	5.1	5.3	–	–	5.5	5.5	■
Philippines	4.9	6.7	4.8	5.2	6.6	4.2	1.1	7.6	4.9	–	5.0	5.3	■
Thailand	5.1	6.3	4.6	5.1	5.0	2.5	-2.3	7.8	3.0	–	4.5	4.8	▼
Viet Nam	7.6	7.8	8.4	8.2	8.5	6.3	5.3	6.8	5.4	5.7	6.1	6.7	▼
Newly Industrialized Economies¹	5.0	5.9	4.8	5.8	5.8	1.9	-0.7	8.2	5.6	–	4.8	4.7	■
Hong Kong, China	5.3	8.5	7.1	7.0	6.4	2.3	-2.7	7.0	7.2	–	5.0	4.7	■
Korea, Rep. of	5.2	4.6	4.0	5.2	5.1	2.3	0.3	6.2	4.2	–	4.6	4.6	■
Singapore ⁷	6.3	9.2	7.4	8.7	8.8	1.5	-0.8	14.5	9.3	0.5	5.5	4.8	■
Taipei, China	4.4	6.2	4.7	5.4	6.0	0.7	-1.9	10.9	6.5	–	4.8	5.0	■
China, People's Rep. of	10.5	10.1	11.3	12.7	14.2	9.6	9.2	10.3	9.7	9.5	9.6	9.2	▼
Japan	1.7	2.7	1.9	2.0	2.4	-1.2	-6.3	4.0	-1.0	–	-0.5⁹	3.2⁹	■
US⁸	2.6	3.6	3.1	2.7	1.9	0.0	-2.6	2.9	2.3	–	2.8	2.6	▼
eurozone	2.1	2.2	1.7	3.1	2.8	0.4	-4.1	1.8	2.5	–	1.6	1.6	▲

▲ = likely to be revised upward, ▼ = likely to be revised downward, ■ = likely to remain unchanged.

e = ADB estimates, ADO = Asian Development Outlook, GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic, US = United States, and y-o-y = year-on-year.
– = unavailable.

¹Aggregates weighted according to gross national income levels (atlas method, current \$) from the World Bank's *World Development Indicators*.

²Excludes Myanmar for all years as weights unavailable. Quarterly figures exclude Brunei Darussalam, Cambodia, Lao PDR, and Myanmar for which quarterly data not available.

³Includes Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Singapore, Thailand, and Viet Nam.

⁴GDP growth rates from 1999–2000 based on 1993 prices, growth rates from 2001 onward based on 2000 prices.

⁵Growth rates from 1999–2000 based on 1987 prices, growth rates from 2001 based on 2000 prices.

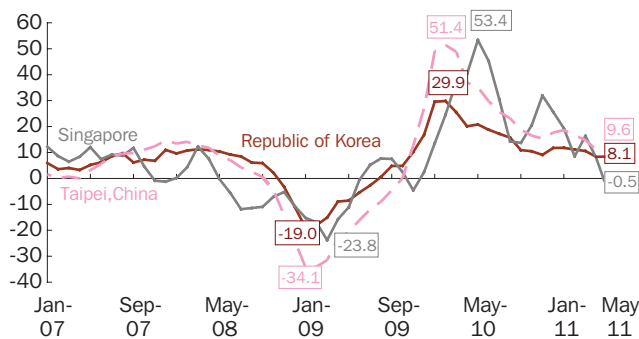
⁶Figures from *Asian Development Outlook 2011*, Asian Development Bank, published in April.

⁷2011Q2 refers to advance estimate released by Ministry of Trade and Industry.

⁸Seasonally adjusted.

⁹These are tentative figures that may be revised in the *Asian Development Outlook 2011 Update*.

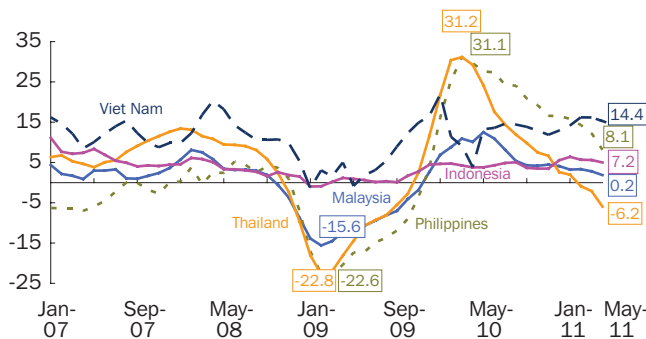
Source: *Asian Development Outlook 2011*, Asian Development Bank; Eurostat website (eurozone); Economic and Social Research Institute (Japan); Bureau of Economic Analysis (US); and CEIC.

Figure 63: Industrial Production Growth¹—NIEs² (y-o-y, %)

NIE = newly industrialized economy, y-o-y = year-on-year.

¹3-month moving average.²Does not include Hong Kong, China for which monthly data unavailable.

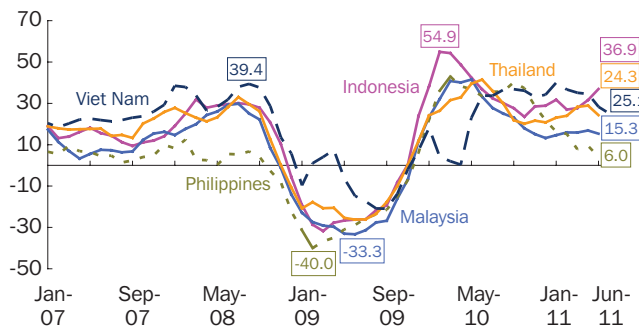
Source: OREI staff calculations based on CEIC data.

Figure 64: Industrial Production Growth¹—ASEAN-4 plus Viet Nam (y-o-y, %)

y-o-y = year-on-year.

¹3-month moving average. Data on the Philippines until Apr 2011.

Source: OREI staff calculations based on CEIC data.

Figure 65: Merchandise Export Growth¹—ASEAN-4 plus Viet Nam (\$ value, y-o-y, %)

y-o-y = year-on-year.

¹3-month moving average. Data on Indonesia, Malaysia, Philippines, and Thailand until May 2011.

Source: OREI staff calculations based on CEIC data.

After a strong 2010 rebound, economic growth in the NIEs should slow as global trade moderates.

Economic expansion in the NIEs should return to more sustainable long-term levels after rapid 2010 growth. The weaker external environment will slow export growth for the highly trade-dependent NIEs (see Figure 11). Export growth moderated to 19.0% in May. Industrial production growth has also moderated (**Figure 63**). Except for Hong Kong, China, consumer spending in the NIEs is weakening with slower retail sales growth. As a result, Singapore is expected to see GDP growth slow from last year's rapid pace to 5.5% in 2011 and 4.8% in 2012. Taipei, China's fast growth in 2010 is expected to decline to 4.8% in 2011 and 5.0% in 2012. Korea's economy is expected to moderate to 4.6% in both 2011 and 2012, while the economy in Hong Kong, China is forecast to grow 5.0% in 2011 and 4.7% in 2012.

The Indonesian economy is expected to pick up on strong domestic demand; while growth among the other ASEAN-4 economies is forecast to moderate.

Three of the four middle-income ASEAN economies should see economic growth slow somewhat this year given weaker external demand and the normalization of fiscal and monetary policies to counter rising inflation. The exception is Indonesia, where strong domestic demand is expected to drive growth above its 2010 pace—the economy is forecast to grow 6.4% in 2011 and 6.7% in 2012. Leading indicators suggest that growth will continue to moderate for other ASEAN-4 economies with industrial production and export growth easing (**Figures 64, 65**). In the Philippines, growth is expected to moderate to 5.0% in 2011, as authorities tighten fiscal and monetary conditions. Still, 2012 is expected to show a slight pickup in growth to 5.3%. Thailand, with its large automotive sector hit by supply chain disruptions from the earthquake in Japan, and which aggressively tightened its monetary stance, should see GDP growth slow to 4.5% in 2011 from 7.8% in 2010. Growth is expected to pick up to 4.8% in 2012. Malaysia, a relatively open ASEAN economy, is expected to be more affected by the weak external environment—its growth is forecast to moderate to 5.3% in both 2011 and 2012.

Slower economic growth is expected in Viet Nam with growth in smaller ASEAN economies mixed.

Growth in Viet Nam is expected to slow as authorities tighten monetary policy and cut government expenditures to bring inflation under control. Growth in the first half of 2011 slipped to 5.6% from 6.8% in 2010. For full year 2011, economic growth is forecast at 6.1%, with the economy in 2012 expected to expand 6.7%. Cambodia's economy should pick up this year—growing 6.5% and 6.8% in 2011 and 2012, respectively. Lao PDR is expected to see its economy improve on increased mining and hydroelectric investment. Strong gold and copper prices should also help boost mining. The Lao PDR economy is forecast to grow 7.7% in 2011 and 7.8% in 2012. Brunei Darussalam's economy is expected to moderate, growing by 1.7% in 2011 and 1.8% in 2012.

Inflationary pressures will likely be contained by tighter monetary policy, administrative measures, and stabilizing commodity prices.

While the strong 2010 economic recovery closed output gaps (see Table 3) and fueled inflationary pressures, the region's monetary authorities responded by tightening monetary policy. Its impact should be felt during the remainder of the year, helping contain inflationary pressures. Rising commodity prices also contributed to higher inflation in the region during the first half of the year. However, commodity price inflation is moderating with the weaker global economic outlook. This could reduce inflationary pressures in the months ahead. Various administrative measures introduced to reduce food price inflation could also help temper overall inflation (Table 11).

The balance of payments surplus across emerging East Asia should narrow yet remain positive on smaller trade surpluses and softer capital inflows.

The moderating trend in export growth should continue in the second half of 2011 as the external environment weakens. Current account surpluses are expected to narrow. Capital inflows should continue with emerging East Asia's strong growth and higher interest rates relative to those of the advanced economies. However, the rate of inflow is expected to moderate as the region's growth outlook softens and investor's risk appetite wanes. This means that capital and financial accounts should

show smaller surpluses. These surplus reductions are expected to lead to smaller overall balance of payments surpluses.

Risks to the Outlook

The economic outlook is subject to four major risks: (i) rising inflation leading to wage-price spirals; (ii) a weaker than expected recovery in Japan and unresolved debt problems in the US and eurozone; (iii) increasing financial market volatility; and (iv) destabilizing short-term capital flows.

Rapidly rising inflation risks a wage-price spiral that could derail the region's recent strong growth.

Inflation is accelerating across the region on strong domestic demand and surging commodity prices. Possibly the result of delayed monetary policy normalization, inflation in many economies has risen above 10-year averages (Table 12), either breaching or remaining near the upper end of central bank targets, government objectives, or official forecasts (Figure 66). With the region's economies recovering strongly in 2010 and continuing robust growth in 2011, output gaps have narrowed significantly or closed in many economies, thus contributing to rising inflation. Elevated food and commodity prices and robust domestic demand could push inflation higher yet. Asset prices are another worry, also rising quickly in many emerging East Asian economies. Continued short-term capital inflows add to already ample liquidity and exacerbate price pressures. Also, the heightened debate over nuclear energy in response to Japan's crisis could boost demand for alternative energy sources, including oil and gas, potentially increasing energy prices over the medium term. Higher-than-expected inflation could lead to wage-price spirals, threatening macroeconomic stability and constraining policy options.

Weaker than expected recovery in Japan, along with debt problems in the US and eurozone, could leave recovery in advanced economies much weaker than previously expected.

While the possibility of a double-dip in the US remains remote, both US and eurozone economies continue to struggle. High unemployment could remain for several years as those out of job lose skills—and unused factories and equipment deteriorate—decreasing potential

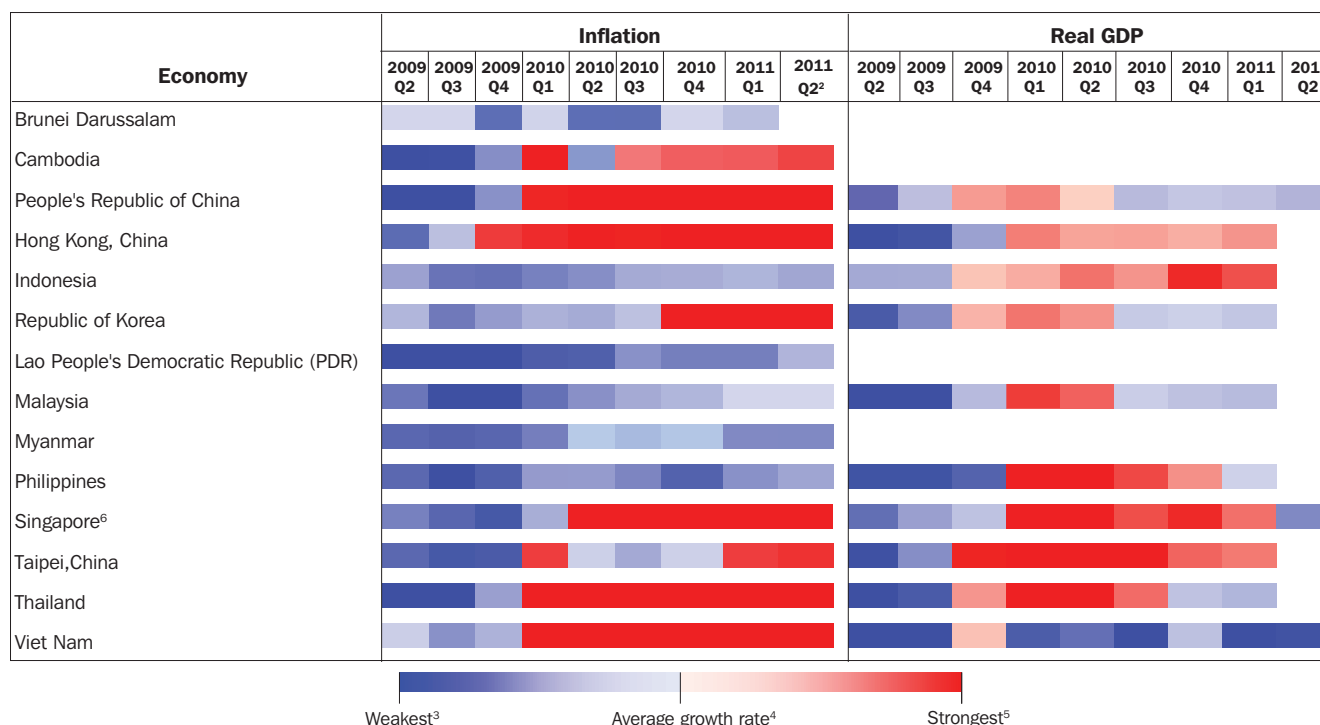
Table 11: Measures in Response to Rising Inflation 2011¹

Price or Quantity Controls and Competition Policies	Taxation and Trade Policies	Income Measures	Monetary and Financial Policies
PRC <ul style="list-style-type: none"> Corn purchases by biochemical and sweetener firms regulated Measures to raise pork production ordered Price increases postponed Companies that encourage hoarding fined Corporate pricing strategies monitored Korea <ul style="list-style-type: none"> Utility prices controlled Supply of rental homes in low income bracket expanded Barriers to entry in monopolistic service industries (such as healthcare, communications, culture and tourism, transportation, and education) lowered Lao PDR <ul style="list-style-type: none"> Funding to stockpile rice approved Prices of selected products controlled, including fuel, rice, and cement Decree on management of product prices and services fees enforced Soft loans for stockpiling imported goods and food production promoted Taipei, China <ul style="list-style-type: none"> Inspection and supervision of price control regulations enhanced Thailand <ul style="list-style-type: none"> Prices of selected products including pork and eggs controlled Diesel and cooking gas retail prices capped Viet Nam <ul style="list-style-type: none"> Prices of medicines and milk controlled 	PRC <ul style="list-style-type: none"> Tariff on fuels reduced Importation of corn raised Indonesia <ul style="list-style-type: none"> Import duties on 57 key commodities lifted until December 2011 (but duties on rice restored 1 April) Korea <ul style="list-style-type: none"> Import duties on grains and tariffs on smart phones reduced Tariffs on some food imports lowered or removed until 31 December 2011 Tariff quotas on some items extended until second half of 2011 Myanmar <ul style="list-style-type: none"> Rice exports banned Restrictions relaxed to allow greater freight tonnage on trucks Philippines <ul style="list-style-type: none"> Import duties on milling wheat reduced to zero for six months (subject to further review) Thailand <ul style="list-style-type: none"> Fuel excise tax reduced Viet Nam <ul style="list-style-type: none"> Import taxes on gasoline, diesel, fuel oil, and kerosene reduced 	Cambodia <ul style="list-style-type: none"> Conditional cash transfers and free healthcare for the poor planned Hong Kong, China <ul style="list-style-type: none"> Electricity charges subsidized for 12 months beginning July Waiver of two-months' rent for public housing tenants Allowance and cash hand-outs to eligible individuals announced Indonesia <ul style="list-style-type: none"> Cuts in fuel and electricity subsidies delayed Korea <ul style="list-style-type: none"> Loan support increased for low income households Malaysia <ul style="list-style-type: none"> Cuts in fuel subsidy delayed Philippines <ul style="list-style-type: none"> Rice subsidy program implemented (via cash for training and cash for work) Fuel subsidy implemented under the Public Transport Assistance Program Singapore <ul style="list-style-type: none"> One-off measures for eligible households, including increases in credit, grants for education and medical care, bonuses, and rebates; and removal of radio and television fees One-off measures for companies, such as income tax rebates and cash grants for small and medium enterprises Thailand <ul style="list-style-type: none"> Free public-transport and electricity for households maintained through the second half of 2011 Minimum daily wage and civil servant salaries raised Viet Nam <ul style="list-style-type: none"> Public sector wage, pension, and social insurance benefits raised 	PRC <ul style="list-style-type: none"> Key policy rates raised three times Renminbi appreciation allowed Bank reserve requirement ratio raised six times Indonesia <ul style="list-style-type: none"> Policy rate raised for the first time in 17 months Maturity of foreign asset holdings extended Minimum reserve requirement on foreign currency deposits raised twice Korea <ul style="list-style-type: none"> Policy rate raised three times Malaysia <ul style="list-style-type: none"> Policy rate raised for the first time in 10 months Philippines <ul style="list-style-type: none"> Key policy rates increased twice Reserve requirement on deposits and deposit substitutes raised Singapore <ul style="list-style-type: none"> Exchange rate policy band re-centered upward, allowing currency appreciation Taipei, China <ul style="list-style-type: none"> Discount rate raised twice Thailand <ul style="list-style-type: none"> Policy rate hiked five times Viet Nam <ul style="list-style-type: none"> Discount and refinancing rates raised twice and four times, respectively Reserve requirement on foreign currency deposits raised twice Growth of credit and total liquidity kept prudent

PRC = People's Republic of China, Korea = Republic of Korea, Lao PDR = Lao People's Democratic Republic.

¹As of 13 July 2011.

Source: Economic Intelligence Unit country reports, news articles, and government press releases.

Table 12: Recovery Map—Headline Inflation and Real GDP Growth¹

¹Based on quarterly average of monthly year-on-year (y-o-y) growth rates for inflation, and y-o-y growth of quarterly real GDP.

²Inflation data for 2011Q2 refer to April for Cambodia and Myanmar; and average of April and May for Hong Kong, China; Lao PDR; Malaysia; and Singapore.

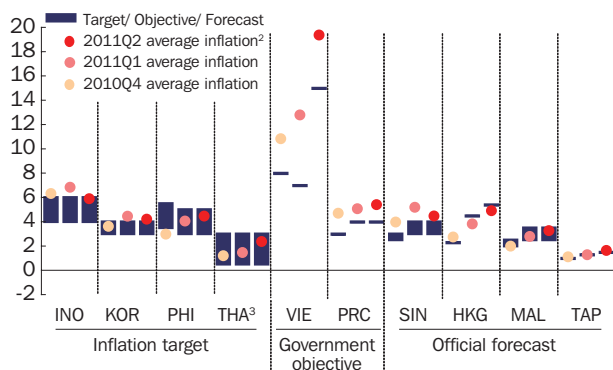
³Refers to the minimum value over 2000–2008 in each economy.

⁴Refers to average monthly (for inflation) or quarterly (real GDP) y-o-y growth rates for 2000–2008.

⁵Refers to maximum value over 2000–2008.

⁶Refers to advance estimate for 2011Q2.

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

Figure 66: Inflation Performance¹ (y-o-y, %)

y-o-y = year-on-year; INO = Indonesia; KOR = Republic of Korea; PHI = Philippines; THA = Thailand; VIE = Viet Nam; PRC = People's Republic of China; SIN = Singapore; HKG = Hong Kong, China; MAL = Malaysia; and TAP = Taipei, China.

¹Headline inflation against inflation target, government objective, or official forecast.

²April–June except HKG, MAL, and SIN.

³Core inflation.

Source: OREI staff calculations based on data from CEIC and national sources.

output. Productivity growth could also suffer as capital investment dropped significantly during the crisis and has yet to return to pre-crisis trends. The risk of a debt crisis and contagion continues in the eurozone. As several emerging East Asian economies—particularly the NIEs—hold significant overseas credit, any European debt restructuring could result in large fund repatriation from these economies. Japan is in recession following the March earthquake, and its economy could deteriorate further should power shortages continue. If the recovery in Japan, US, and eurozone falters, sluggish external demand could once again disrupt the region's exports.

There is significant potential for severe financial market volatility—arising from uncertainty over key economic trends and heightened market sensitivity to risk.

Global financial markets became jittery from April 2011, amid the slowdown of the US recovery and worries over a potential Greek default. After rising quickly over the

past year or so, the commodity market sell-off in early May could signal that the world economy—including emerging economies—is slowing, with the G3 recovery stalling. There are many policy uncertainties—such as the impact of turning off the QE2 spigot, the possibility of a QE3, US debt ceiling deadline, potential Greek sovereign debt restructuring, and the sustainability of PRC monetary tightening. Investors are skittish partly because of feared losses arising from these policy uncertainties. Markets swing between fears of both upside and downside risk, which could become disruptive. Any sharp re-pricing of risk could raise the region's financing costs. At end-June, with sovereign spreads remaining low, there was little sign of risk re-pricing. To the extent that lower spreads reflect clear improvement in fundamentals, any deterioration should be limited. However, those economies that previously saw the most rapid spread compression over the past few years (such as Indonesia and the Philippines) could face a greater likelihood of an increasing risk premium.

Large and destabilizing capital flows could complicate the region's macroeconomic management and reduce growth prospects.

The two-speed global recovery—robust growth in emerging economies against weaker performance in advanced economies—suggests higher yields. And the anticipation of currency appreciation could continue to attract short-term capital flows to the region given ample global liquidity. While fund repatriation to Japan and continuing risks of a eurozone debt crisis might make investors more risk averse—thus slowing capital flows to emerging East Asian economies—rapid swings in risk appetite could increase capital flow volatility. Consequently, exchange rates in the region could become unstable due to large, volatile capital movements. And large capital flows could also destabilize the real economy, posing major challenges for macroeconomic managers. Capital flows could lead to undue credit expansion, with adverse macroeconomic consequences. Moreover, changes in risk sentiment could bring sudden capital flow reversals, damaging the region's growth prospects or exposing otherwise hidden vulnerabilities.

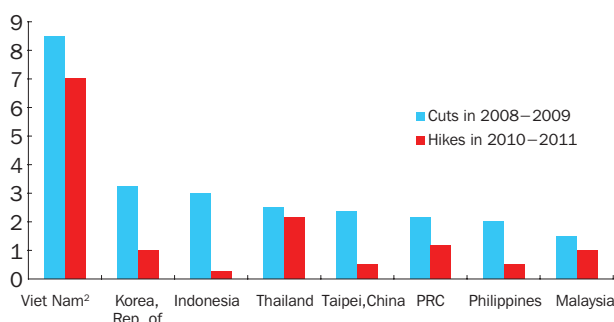
Policy Issues

With robust growth moderating only slightly, many emerging East Asian economies face the challenge of controlling inflation and managing capital inflows in a difficult external environment.

After slowing sharply in 2008 and 2009, emerging East Asia recovered strongly in 2010 and powered into 2011. Despite the weaker recovery in Japan, US and Europe, the region's strong economic growth, though moderating somewhat, should continue. This two-speed global recovery—robust growth in emerging economies against anemic recovery elsewhere—poses significant policy challenges. Inflationary pressures are rising in the region on strong domestic demand and high commodity prices, fueled by continuing capital inflows. Despite a weaker external environment, policymakers in the region still need to tackle rising inflationary pressures by using a range of policies—including monetary, fiscal, exchange rate, and structural.

Persistent and volatile changes in commodity prices are a challenge to inflation management; policymakers will likely be pragmatic in responding to pressures induced by commodity prices.

Significant hikes in commodity prices—particularly food and energy—have partially driven headline inflation in recent months in emerging East Asia. The region's policymakers appear to be adopting a “benign neglect” approach. While the traditional approach shows a reluctance to systematically tighten monetary policy in response to commodity-based inflation, those arguments in favor of the traditional approach may not apply to emerging East Asian economies this time around. As argued in the special section—***Managing Commodity Price Volatility and Inflation in Emerging East Asia (page 42)***—a broader set of policies is needed to manage rising prices due to commodity price inflation. Monetary policy, as a major aggregate demand management tool, needs to adapt to the new reality of potentially persistent and volatile rising commodity prices. Moreover, policymakers will likely pay greater attention to the roles of fiscal, financial, and structural policies in helping economies manage and adjust to commodity price inflation and volatility.

Figure 67: Policy Rate Movements¹ (percentage points)

PRC = People's Republic of China.

¹One-year lending rate (People's Republic of China); Bank of Indonesia Rate (Indonesia); Korea base rate (Republic of Korea); overnight policy rate (Malaysia); reverse repurchase (repo) rate (Philippines); discount rate (Taipei, China); one-day repo rate (Thailand); refinancing rate (Viet Nam).

²Policy rate hikes started on 1 Feb 2010.

Source: Bloomberg, Datastream, and State Bank of Viet Nam.

Monetary policy in some emerging Asian economies needs to continue to normalize as inflationary pressures persist—despite the poor economic performance in advanced economies.

In economies where recovery was robust or growth was largely unaffected by the crisis, spare capacity has evaporated and inflation is on the rise. Limited exchange rate flexibility in several of the region's economies exacerbates the situation as capital inflows have a more direct impact in fueling domestic liquidity. Many of the region's economies have already tightened monetary policy by raising policy rates and reserve requirements, among other measures (see Figures 27a, 27b). Yet, normalization has not moved as fast as either the recovery or rising inflation (**Figure 67**). This means inflation could accelerate further—at least in the short term—as supply shocks resulting from elevated oil prices and Japan's earthquake slow economic activity while simultaneously pushing prices upward. Therefore, economies with fast rising inflation may need to more quickly exit crisis-related stimulus. Policymakers should be careful not to over-react to the slowdown in advanced economies, as regional growth remains resilient and inflation a continuing problem. It is critical that authorities plan for the medium horizon, implement measures gradually, communicate clearly to the public, and coordinate to present unified, seamless policies.

Exchange rates can help tackle inflation; with faster appreciation also contributing to rebalancing the sources of growth toward greater domestic and regional demand.

Many East Asian currencies have appreciated against the US dollar and other major currencies. With the region's inflation rising faster than its trading partners, exchange rates are appreciating in real terms as well. Yet, several of the region's economies intervene in foreign exchange markets to slow appreciation, as seen through the rapid rise in foreign exchange reserves. Authorities could adopt a strategy allowing currencies to appreciate somewhat faster, while keeping tabs on interest rate hikes to avoid excessive “search-for-yield” capital inflows. This strategy would support domestic demand while dampening inflationary pressures and help global rebalancing. It would also add a lever to help manage capital flows and their domestic economic impact.

Effectively managing capital flows remains a challenge; maximizing growth benefits while minimizing effects of volatile liquidity.

Each country has its own optimum mix of monetary, fiscal, financial, and exchange rate policies. Under certain circumstances, capital controls can be part of a macroprudential regulatory and supervisory mix to even out effects of capital flows and to effectively safeguard macroeconomic and financial stability. Nonetheless, authorities should be wary of potential long-term and multilateral repercussions. Capital controls can damage an economy's appeal to foreign capital in the long run; and while capital controls can aid individual economies, their wider use could distort efficient allocation of capital, both globally and regionally. Any capital controls must be appropriate to the specific needs of each economy and its own evolving policy challenges. They should be well-targeted and temporary.

Emerging East Asia's financial development must be leveled up to achieve sustainable growth and to help better manage capital flows.

The primary role of finance is to efficiently channel savings into productive investment. Increasing access to finance can also spread investment and business opportunities beyond urban centers and large corporations—to rural areas and small and medium

enterprises—thus making growth more balanced, inclusive and sustainable. While there has been significant progress, financial sector development in the region lags behind advanced economies—even when compared with the region’s dynamic real sector (manufacturing). There are also wide disparities in financial depth across the region. This is worrying as the depth of the financial system has been shown to have a significant positive effect on growth. The region needs not only to develop deeper, more broad-based, and transparent financial markets, but also keep up with the evolving financial environment and innovation.

Macroprudential supervision can be developed and financial regulation strengthened to ensure the region’s financial stability.

A macroprudential approach to supervision and regulation examines trends in the economy and the financial system as a whole—those that can impact financial stability and trigger large-scale financial crises. With larger institutions, greater competition across market segments, and the growing importance of capital markets, interrelationships among individual institutions and their products and markets must be examined in the context of the risks that the largest institutions pose to the overall financial system. This means that macroprudential tools—capital requirements, provisioning, and leverage ratios—may need to be calibrated to address common exposures and joint failures, as well as pro-cyclicality. Policymakers in the region should improve and streamline financial regulatory and supervisory regimes in conjunction with global efforts. It is also critical for regulators to encourage and manage financial sector development while not stifling financial innovation.

There is a greater growing need for policy coordination among authorities, both regionally and globally.

National policies can have significant spillover effects—or externalities—on other countries. And countries may find unilateral adjustments of external imbalances too costly. That is the ultimate rationale for policy coordination. To reach a global or regional optimum requires externalities and adjustments be part of any decision-making process.

Policy coordination is one way of achieving this. Globally, the G20 stands for strong, sustainable and balanced global economic growth. A decade after its 1999 launch, the G20 was elevated as a steering committee to coordinate macroeconomic policy among major economies in response to the 2008/09 global economic crisis. Information-sharing, dialogue, and transparency have been the hallmark of successful policy coordination. The G20 should be no different if it is to help sustain regional and global growth.

Emerging East Asia should accelerate regional policy cooperation and advance policy coordination to ensure more balanced and sustained growth.

Broadly, there are three types of regional macroeconomic policy cooperation: (i) information sharing, (ii) regime setting, and (iii) policy coordination. Emerging East Asian policymakers already discuss national policies within the ASEAN+3 economic review and policy dialogue (ERPD) process and the upgraded Chiang Mai Initiative Multilateralization. The ASEAN+3 Macroeconomic Research Office (AMRO) has been established to provide regional surveillance. To limit the potential negative impact of exchange rate volatility on intra-regional trade **(Box 1)**, one further regime setting function could be exchange rate cooperation—the objective being to ensure *intra*-regional exchange rate stability amid *inter*-regional exchange rate flexibility.⁸ This could promote intra-regional trade and investment and help rebalance the region’s sources of growth. Exchange rate cooperation could begin informally, through dialogue and discussion among policymakers. This informative stage allows policymakers better understanding of potential spillover effects of national policies, allowing them an opportunity to explore joint policy actions to mitigate the effects of exchange rate volatility. This could evolve into deeper forms of cooperation in the long run.

⁸See “Exchange Rate Cooperation: Is East Asia Ready?” in the December 2010 edition of the *Asia Economic Monitor*, <http://www.aric.adb.org/asia-economic-monitor/>.

Box 1: Does Exchange Rate Volatility Hurt Trade?

The question whether exchange rate volatility harms trade has long been a preoccupation—not just with exporters and importers but also policymakers and economists. The breakdown of the Bretton-Woods system in 1973 heralded the beginning of floating exchange rates, which many feared would destabilize international trade and thus hurt economic growth. Even today, this view remains widespread in Asia, especially among authorities whose economies adopt an export-oriented growth model. Is this view empirically substantiated?

Interestingly, economic theories are divided.¹ The basic model (Clark 1973) argues that a risk-averse firm facing heightened exchange rate volatility will lower its export given the increased uncertainty of future profitability. Other models show that under different conditions, the negative relationship between exchange rate volatility and trade may not always hold. On one hand, having access to hedging or mature forward markets (Ethier 1973; Broll 1994) can mitigate the negative impact of volatility. On the other, there can be a positive effect when highly risk-averse firms increase exports in the face of higher exchange rate volatility—as when the income effect outweighs the substitution effect (De Grauwe 1988), or when the costs of entering and exiting export markets are high (Franke 1991).

These theoretical disparities have led to many empirical studies—which by and large remain inconclusive for good methodological reasons. Differences in country coverage, sample periods, model specifications, and

estimation techniques are obvious econometric factors that make it difficult to establish a systematic relationship. Still, it is surprising that after so much empirical work over the years, there is no consensus on the measure of exchange rate volatility. Various measures have been used—from the simplest to more sophisticated—variance or standard deviation of the level or percentage change of nominal or real exchange rate to autoregressive conditional heteroskedasticity (ARCH)/generalized ARCH of the exchange rate or forecasts of professional economists. Adding to the problem are the different levels of data disaggregation used, which inhibit easy cross-study comparisons. Some use aggregated trade data between one country to the rest of the world, while others use disaggregated data between two countries or disaggregated data by commodity or sector.

Nonetheless, studies using aggregated data on Asia lend more support to the “volatility-harms-trade” view. For example, using total export volume and a single equation time series method of cointegration and/or error correction model, Doroodian (1999) confirms the negative relationship between exchange rate volatility and exports in India, Malaysia, and the Republic of Korea (Korea); Doganlar (2002) finds the same in Indonesia, Malaysia, Pakistan, and Poon et al. (2005) finds a long-run negative relationship in three (Japan, Republic of Korea, and Singapore) of the East Asian countries they studied and a positive relationship in two others (Indonesia and Thailand).² More recent papers use panel data.

¹P. Clark. 1973. Uncertainty, Exchange, Risk, and the Level of International Trade. *Western Economic Journal*. 11(3). pp. 302-313; W. Ethier. 1973. International Trade and the Forward Exchange Market. *The American Economic Review*. 63(3). pp. 494-503; U. Broll. 1994. Foreign Production and Forward Markets. *Australian Economic Papers*. 33(62). pp. 1-6; P. De Grauwe. 1988. Exchange Rate Variability and the Slowdown in Growth of International Trade. *IMF Staff Papers*. 35. pp. 63-84; and G. Franke. 1991. Exchange Rate Volatility and International Trading Strategy. *Journal of International Money and Finance*. 10. pp. 292-307.

²K. Doroodian. 1999. Does Exchange Rate Volatility Deter International Trade in Developing Countries? *Journal of Asian Economics*. 10(3). pp. 465-474; M. Doganlar. 2002. Estimating the Impact of Exchange Rate Volatility on Exports: Evidence from Asian Countries. *Applied Economics Letters*. 9(13). pp. 859-863; and W.-C. Poon, C.-K. Choong and M.S. Habibullah. 2005. Exchange Rate Volatility and Exports for Selected East Asian Countries: Evidence from Error Correction Model. *ASEAN Economic Bulletin*. 22(2). pp. 144-159.

Benassy-Quere and Lahreche-Revil (2003)³ use bilateral total export volume between 11 Asian countries and 23 Organisation for Economic Co-operation and Development (OECD) importers in a gravity model setup. They found that intra-Asia exchange rate volatility has no discernible impact on exports. But a negative relationship still exists between Asia-OECD exchange rate volatility and exports. Chit (2008) and Chit et al. (2010) also use bilateral total export volume but employ a different panel model specification that reconfirms the negative relationship between exchange rate volatility and exports.⁴ The major difference between the two papers is the country coverage. Chit (2008) looks solely at bilateral exports among key Association of South East Asian Nations (ASEAN) and the People's Republic of China (PRC) Free Trade Area (ACFTA) members—PRC, Indonesia, Malaysia, Philippines, and Thailand. Chit et al. (2010) adds 13 industrialized economies to the earlier sample.

Studies on Asia using disaggregated data by product or sector also tend to favor the “volatility-harms-trade” view. Thorbecke (2008) and Hayakawa and Kimura (2009) both examine bilateral export volume by product.⁵ In

Thorbecke's case, the focus is electronic components, a key intermediate that goes into making final electronic goods in the region's production network. In Hayakawa and Kimura, finished machinery goods (final goods) and machinery parts (intermediate goods) are the focus. In terms of methodology, Thorbecke adopts a panel dynamic ordinary least squares (DOLS) estimation technique on five ASEAN countries plus PRC; Japan; Korea; and Taipei, China. By contrast, Hayakawa and Kimura use a gravity model on the same set of economies (except that Taipei, China is replaced by Hong Kong, China).⁶ Thorbecke's shows intra-Asian exchange rate volatility clearly harms exports of electronic components. Hayakawa and Kimura find the same for both finished machinery goods and machinery parts—with machinery parts more sensitive to volatility. Building on this, Tang (2011) also uses a panel DOLS estimation method but examines bilateral export volume at the sectoral level—primary goods, intermediate goods, equipment goods, and consumption goods—on a much bigger sample (all ASEAN economies plus PRC; Hong Kong, China; Japan; Korea; and Taipei, China). The results for all sectoral goods also show that higher volatility reduces bilateral exports.⁷

Given that intra-regional exchange rate volatility hurts intra-regional trade and that increasing intra-regional trade helps redress global payments imbalances, it follows that policymakers rightly care about volatility. As such, greater exchange rate cooperation and coordination between East Asian economies represents a policy option that deserves closer consideration.

³A. Benassy-Quere and A. Lahreche-Revil. 2003. Trade Linkages and Exchange Rates in Asia: The Role of [People's Republic of] China. *CEPII Working Paper*. No. 21. France: Centre d' Etudes Prospectives et d' Informations Internationales.

⁴The two studies estimate panel fixed and random effects on a specification motivated by inclusion of some gravity variables. See M.M. Chit. 2008. Exchange Rate Volatility and Exports: Evidence from the ASEAN–[People's Republic of] China Free Trade Area. *Journal of Chinese Economic and Business Studies*. 6(3). pp. 261–277; and M.M. Chit, M. Rizov and D. Willenbockel. 2010. Exchange Rate Volatility and Exports: New Empirical Evidence from the Emerging East Asian Economies. *The World Economy*. 33(2). pp. 239–263.

⁵See W. Thorbecke. 2008. The Effect of Exchange Rate Volatility on Fragmentation in East Asia: Evidence from the Electronics Industry. *Journal of the Japanese and International Economies*. 22. pp. 535–544; and K. Hayakawa and F. Kimura. 2009. The Effect of Exchange Rate Volatility on International Trade in East Asia. *Journal of the Japanese and International Economies*. 23(4). pp. 395–406.

⁶Actually, the authors examine a larger sample of 60 developing and developed economies. Because the interest here is on Asia, only the results for Asia are presented. That said, the overall results are not materially different from those presented here.

⁷H.C. Tang. 2011. Forthcoming. Intra-Asia Exchange Rate Volatility and Intra-Asia Trade: Evidence from the Sectoral Level. *ADB Working Paper Series on Regional Economic Integration*.

Managing Commodity Price Volatility and Inflation in Emerging East Asia

Since late 2009, headline inflation has been edging up in emerging East Asia, driven by strong economic growth and rising food and energy prices.

As emerging East Asian economies recovered quickly from the global crisis, both headline and core inflation started to rise (**Figure 68**).⁷ Yet, from mid-2010, as prices of commodities accelerated, headline inflation rose much faster than core inflation. From early 2010, authorities began to unwind the stimulus adopted in response to the global crisis. However, it has been more difficult to determine the appropriate monetary policy response because the higher inflation came mainly from commodity prices. Traditionally, central banks have been reluctant to tighten monetary policy when this happens. In addition, because higher commodity prices can reduce aggregate demand in net commodity-importing countries, authorities may worry that tightening monetary policy could excessively weaken growth.

Monetary authorities tend not to respond systematically to commodity-based surges in headline inflation.

In recent years, headline inflation increased to relatively high rates in the region without eliciting very large monetary policy responses. This was especially true during much of 2008 and in 2011, when surging commodity prices contributed to sharp increases in headline inflation—but did not impact core inflation, which authorities normally use when setting targets or adjusting policy. Thus, many central banks did not aggressively tighten monetary policy. However, the recent upturn in inflation in the region is increasingly driven by underlying demand pressures as output gaps close, as well as surging commodity prices. As a result, both core and headline inflation have been rising.

How can emerging East Asia respond to inflation driven by surging commodity prices?

The importance of this question is related not only to the recent sharp increases in commodity-based inflation

across the region, but also to the possibility that the global economy may be entering a “new normal” of large and sustained increases in commodity prices relative to manufactured goods and services. This special section examines potential monetary policy responses to commodity-price inflation. As monetary policy influences the overall inflation rate in the long run—and cannot deal with the sources or real consequences of relative commodity price hikes—the section also looks at how fiscal, financial, and structural policies can help manage large, rapid changes in commodity prices.

This section answers four questions:

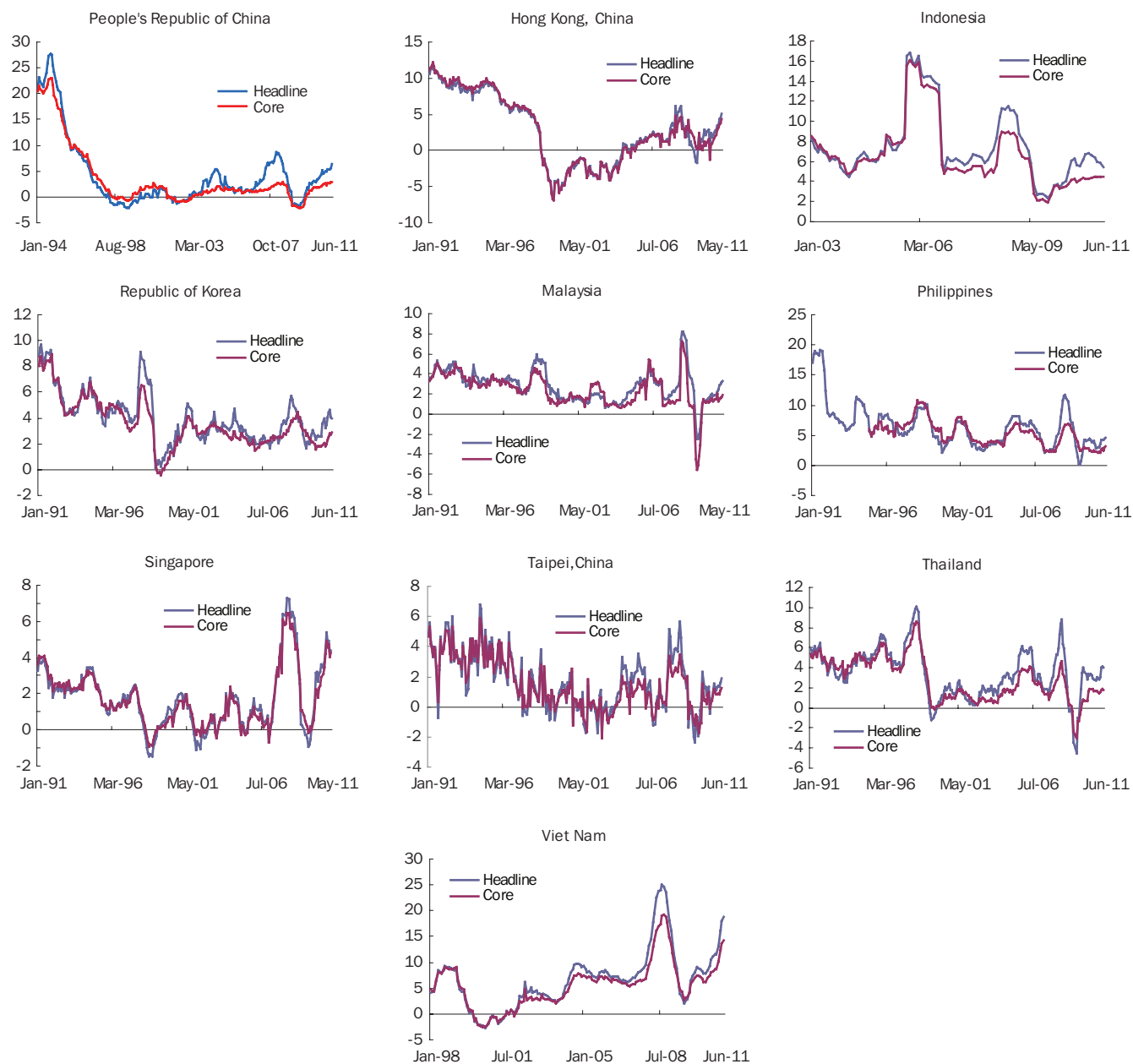
- 1) What is behind current inflation in the region—and are underlying inflationary pressures rising?
- 2) Should monetary policy respond to commodity-driven inflation?
- 3) What are the longer-term global trends for commodity prices?
- 4) How might monetary and other policies manage commodity price volatility and inflation?

Are Underlying Inflationary Pressures Rising in Emerging East Asia?

Over the past 12 months, headline inflation has trended upward despite some moderation since the second quarter.

Although not reaching the very high 2008 rates, inflation across the region has already surpassed several targets or objectives. Headline inflation moderated somewhat in the second quarter of 2011 (see Figures 14a, 14b, 14c), or is expected to peak in several economies as commodity prices began weakening in May. Although headline inflation in the region ranges from about 3%–6% on average, there are significant exceptions. Most notably, Viet Nam’s headline inflation increased sharply during the last 12 months, reaching 20% by end-June.

⁷In this section, headline inflation refers to the overall inflation rate as measured by consumer price indexes (CPIs). Core inflation refers to an inflation measure that excludes volatile food and energy prices, and is sometimes also referred to as underlying inflation.

Figure 68: Long-term Headline and Core¹ Inflation—Emerging East Asia (y-o-y, %)


y-o-y = year-on-year.

¹Excluding food and energy. Food excludes beverages and meals consumed outside home except for People's Republic of China. Energy refers to household facility (People's Republic of China); household electricity, gas, and other fuels, and fuel for transport equipment (Hong Kong, China; Republic of Korea; Malaysia; and Philippines); household fuel, electricity, and water (Indonesia); household fuel and utilities, and fuel for private transport (Singapore); household water, electricity, and gas supply, and oil for transport equipment (Taipei, China); and household and construction materials (Viet Nam).

Source: OREI staff calculations based on data from CEIC and national sources.

The sharp increases in commodity prices—especially food and energy—account for most of the rising inflation in the region.

Core inflation⁸—which strips out rapidly increasing and volatile food and energy prices—has also been increasing in much of the region following a relatively stable period. Core rates are especially large in Hong Kong, China and Indonesia, while they have remained relatively low in Taipei, China (see Figure 68). It has been trending up in ASEAN—close to 15% in Viet Nam.

On average, headline inflation tends to be above core inflation in most of the region's economies.

The descriptive statistics for headline inflation, core inflation, and food and energy inflation show that, in most economies, headline inflation has been higher than core inflation (**Table 13**). However, in some economies headline inflation fell slightly below core inflation during the global crisis in late 2008 and early 2009—when commodity prices plunged. Although the difference between headline and core inflation was generally small, the gap between the two widened sharply through much of 2008 (until the crisis hit) and during 2010/11. Over the entire sample period, and by decade, food and energy inflation has been slightly positive, on average, in many economies.

Food and energy inflation is generally more volatile than core inflation.

Across the region, as measured by the coefficient of variation, food and energy inflation is generally more volatile than core inflation. But the difference is not very large on average. In several economies, there is considerable volatility in core inflation—even without relatively volatile food and energy prices—which may be due to changing real estate rentals and exchange rates. Volatility of food and energy inflation has been somewhat higher since 2000 than in the 1990s.

The upward trend in the region's core inflation comes from demand pressures and possible increased spillover from rising food and energy prices.

Due to the region's V-shaped recovery from the 2008/09 slowdown, output gaps in the region have largely closed (see Table 3). In several economies—including the PRC—labor markets have tightened and wage growth accelerated. Moreover, demand pressure is increasing the risk of higher food and energy prices spilling over into core inflation, threatening a vicious wage-price spiral. There is also the risk that rising inflation pushes up inflationary expectations.

The region has responded to rising headline and core inflation by normalizing macroeconomic policy and adopting a variety of administrative measures.

Central banks in the region have continued to normalize fiscal and monetary policies, with fiscal stimulus being unwound and policy rates raised. Exchange rates have been allowed to appreciate to mitigate imported inflation. Some economies have also used a variety of administrative or tax-related measures to help cushion the effects of surges in commodity prices on domestic inflation (see Table 11). However, in these cases, underlying inflationary pressures may be even stronger than implied by the upward trend in inflation rates as demand pressures are not reflected in prices.

Should Monetary Policy Respond To Commodity-Driven Inflation?

In general, central banks have been reluctant to tighten monetary policy when inflation results mainly from commodity prices.

Many central banks in the region (and worldwide) are reluctant to tighten monetary policy when inflation largely emanates from commodity prices, even where inflation targets or objectives are based on headline inflation.⁹ As a result, they have sometimes missed inflation targets or objectives during periods of high

⁸This section uses a consistent measure of core inflation for the major economies in the region. In some cases, its value coincides with official estimates of core inflation. In other cases, they differ due to different official definitions of core inflation.

⁹A. Filardo and H. Genberg. 2010. Targeting Inflation in Asia and the Pacific: Lessons From the Recent Past. *BIS Paper*. No. 52. Switzerland: Bank for International Settlements.

Table 13: Descriptive Statistics¹ of Headline, Core², and Food and Energy Inflation

	People's Republic of China			Hong Kong, China			Republic of Korea			Singapore			Taipei, China		
	Headline	Core	F&E	Headline	Core	F&E	Headline	Core	F&E	Headline	Core	F&E	Headline	Core	F&E
Full series															
Mean	4.3	3.5	5.7	2.8	2.8	3.1	4.0	3.6	5.7	1.7	1.7	2.0	1.7	1.5	2.6
Standard Deviation	6.7	5.9	9.2	4.6	4.8	5.3	2.0	1.9	3.9	1.7	1.6	3.7	1.9	1.7	3.5
Coefficient of Variation	1.6	1.7	1.6	1.6	1.7	1.7	0.5	0.5	0.7	1.0	0.9	1.9	1.1	1.1	1.4
Before 2000															
Mean	8.4	8.3	8.4	6.2	6.5	4.2	5.3	4.8	7.2	1.8	1.8	1.2	2.7	2.7	2.7
Standard Deviation	9.8	8.0	13.3	4.4	4.6	3.5	2.2	2.2	4.6	1.3	1.2	2.4	1.8	1.5	3.3
Coefficient of Variation	1.2	1.0	1.6	0.7	0.7	0.8	0.4	0.5	0.6	0.7	0.7	2.0	0.7	0.6	1.2
After 2000															
Mean	2.1	1.0	4.2	0.2	-0.1	2.2	3.1	2.7	4.6	1.7	1.6	2.5	1.0	0.6	2.4
Standard Deviation	2.4	1.2	5.6	2.7	2.5	6.2	0.9	0.7	2.8	2.0	1.8	4.4	1.6	1.1	3.8
Coefficient of Variation	1.2	1.2	1.3	14.1	-29.4	2.9	0.3	0.3	0.6	1.2	1.1	1.7	1.6	1.8	1.5
	Indonesia			Malaysia			Philippines			Thailand			Viet Nam		
	Headline	Core	F&E	Headline	Core	F&E	Headline	Core	F&E	Headline	Core	F&E	Headline	Core	F&E
Full series															
Mean	7.4	6.7	9.5	2.8	2.4	3.6	6.5	5.2	5.7	3.5	2.9	4.9	6.7	5.6	8.4
Standard Deviation	3.4	3.3	4.6	1.6	1.7	2.1	3.5	2.0	3.2	2.4	2.2	4.0	5.8	4.5	7.7
Coefficient of Variation	0.5	0.5	0.5	0.6	0.7	0.6	0.5	0.4	0.6	0.7	0.8	0.8	0.9	0.8	0.9
Before 2000															
Mean	–	–	–	3.7	3.2	4.4	8.5	7.1	6.5	4.7	4.6	5.0	5.5	5.7	5.2
Standard Deviation	–	–	–	0.9	0.9	1.5	3.7	1.7	2.5	2.2	1.7	3.9	3.4	3.2	3.8
Coefficient of Variation	–	–	–	0.3	0.3	0.3	0.4	0.2	0.4	0.5	0.4	0.8	0.6	0.6	0.7
After 2000															
Mean	7.4	6.7	9.5	2.2	1.7	2.9	4.9	4.4	5.4	2.5	1.5	4.8	7.0	5.6	9.0
Standard Deviation	3.4	3.3	4.6	1.6	1.8	2.3	2.3	1.6	3.4	2.1	1.3	4.0	6.1	4.7	8.1
Coefficient of Variation	0.5	0.5	0.5	0.8	1.1	0.8	0.5	0.4	0.6	0.8	0.9	0.8	0.9	0.8	0.9

F&E = food and energy, – = unavailable.

¹Using year-on-year changes in price levels from Jan 1990 to May 2011, except for People's Republic of China (Jan 1993–May 2011), Indonesia (Jan 2002–May 2011), Philippines (Jan 1994–May 2011 for core inflation only), and Viet Nam (Jan 1997–May 2011).²Excludes food and energy (see Figure 68 for definitions used for each economy).

Source: OREI staff calculations based on data from CEIC and national sources.

commodity price inflation, which can damage credibility. In other cases, such as Thailand, inflation is targeted on core inflation, thus obviating the need to respond to food and energy inflation.

Five arguments explain why monetary policy traditionally focuses on core rather than headline inflation.

Central banks justify reluctance to systematically tighten monetary policy in response to commodity-based inflation for five reasons: (i) core inflation is better at predicting future inflation; (ii) commodity prices are random; (iii) commodities are only a small part of the consumption basket; (iv) monetary policy is ineffective against commodity price inflation and—if used—its instruments could become unstable; and (v) commodity prices are driven by supply shocks. For the most part, these arguments have their basis in advanced economies. Are these arguments applicable to emerging East Asia?

1. Core inflation is a better predictor of future inflation.

Core inflation has traditionally been the better and more reliable predictor of future price movements over the

time horizons that matter for monetary policy. Unless it is expected to spill over into core inflation, commodity price hikes can be largely ignored by monetary authorities, so tradition dictates. To see if this is true for emerging East Asia, the argument was tested using 36-month moving averages of past values of core and headline inflation to predict headline inflation—12, 24, and 36 months into the future. The test was conducted by the root mean square error (RMSE) statistics from the forecasting exercise, which essentially measures the precision of the forecasts and should ideally be as close to zero as possible. Thus, if core inflation has lower RMSEs than headline inflation, it means core inflation is a better predictor of future inflation.

In emerging East Asia, core inflation predicts future price trends only slightly better than headline inflation.

The results from the estimation were mixed (**Table 14**). The ability of lagged values of core and headline inflation to predict future inflation tends to improve in some economies as the forecast time horizon is extended from 12 months up to 36 months, but declines in other cases. The results also suggest that core inflation seems better than headline inflation as a predictor of future inflation.

Table 14: Root Mean Square Error of Forecasting Headline Inflation¹ Using Core² and Headline Inflation at Different Time Horizons

	12 months		24 months		36 months	
	Core Inflation	Headline Inflation	Core Inflation	Headline Inflation	Core Inflation	Headline Inflation
People's Republic of China	2.2	3.0	2.2	3.1	1.8	2.2
Hong Kong, China	4.7	4.5	5.8	5.6	5.9	5.7
Indonesia	2.4	3.2	1.8	2.4	—	—
Republic of Korea	2.7	3.6	3.0	3.8	2.5	3.4
Malaysia	2.7	3.2	2.5	3.2	2.5	3.0
Philippines	4.5	5.8	4.3	5.9	3.8	5.6
Singapore	2.4	2.6	2.2	2.3	1.7	1.7
Taipei, China	2.0	2.4	2.0	2.3	1.8	2.1
Thailand	3.8	4.7	4.0	4.9	4.0	4.8
Viet Nam	6.4	8.3	5.8	7.8	4.0	4.7

— = unavailable.

¹Using year-on-year changes in price levels from Jan 1990 to May 2011, except for People's Republic of China (Jan 1993–May 2011), Indonesia (Jan 2002–May 2011), Philippines (Jan 1994–May 2011 for core inflation only), and Viet Nam (Jan 1997–May 2011).

²Excluding food and energy (see notes in Figure 68 for definitions used for each economy).

Source: OREI staff calculations based on data from CEIC and national sources.

This is similar to the results in advanced economies.¹⁰ Overall, however, the results are not as clear-cut as in advanced economies. Headline inflation appears to provide useful information for forecasting future inflation in several economies in the region.

2. Commodity price changes are largely random and have low persistence.

If commodity price inflation is noisy and does not persist, then food and energy inflation measures (that are based on commodity price movements) will also have low persistence, and will not be very useful in understanding inflation trends. Conversely, core inflation measures typically exhibit high persistence as a result of slowly adjusting wages and prices in most economies, and therefore are useful in understanding inflation trends.

Food and energy inflation is clearly persistent in most emerging East Asian economies—and food and energy inflation affects inflation trends.

Autocorrelation functions for food and energy inflation and core inflation over the last two decades measure the degree of persistence in the core, and food and energy components of inflation. When persistence is very high, autocorrelations tend to die out very slowly; if inflation is largely random, autocorrelations die out more quickly. The tests found that, as expected, core inflation in most economies tends to display a relatively high degree of persistence as autocorrelations die out slowly (**Figures 69a, 69b**). Food and energy inflation, however, tends to have somewhat lower persistence than core inflation in several economies, as autocorrelations die out faster. In contrast to the traditional view that food and energy inflation is largely white noise, food and energy inflation in the region is quite persistent, as its autocorrelations die out slowly.¹¹

Table 15: Core¹, and Food and Energy Components of the Consumer Price Index (%)

	Core	Food and Energy
People's Republic of China	65.8	34.2
Hong Kong, China	86.7	13.4
Indonesia	74.5	25.5
Republic of Korea	77.6	22.4
Malaysia	69.0	31.0
Philippines	52.6	47.4
Singapore	87.6	12.4
Taipei, China	77.6	22.4
Thailand	65.6	34.4
Viet Nam	57.5	42.5

¹Excluding food and energy (see notes in Figure 68 for definitions used for each economy).

Source: Asian Development Outlook 2011, Asian Development Bank; CEIC; and national sources.

3. Commodities are only a small part of the consumption basket.

Commodities like food and energy usually constitute a relatively small share of CPIs and do not have a quantitatively significant impact on headline inflation. Consistent with Engle's Law,¹² spending on food is typically a very small share (less than 10%) of advanced country consumption baskets. Also, energy is not a very large direct share of consumption baskets in many advanced economies. Therefore, central banks should focus on core rather than headline inflation, and leaving commodity price movements out does not imply much loss of information and has the benefit of keeping some very volatile items out of inflation analysis.

In emerging East Asia, however, food and energy account for a significant portion of consumer baskets.

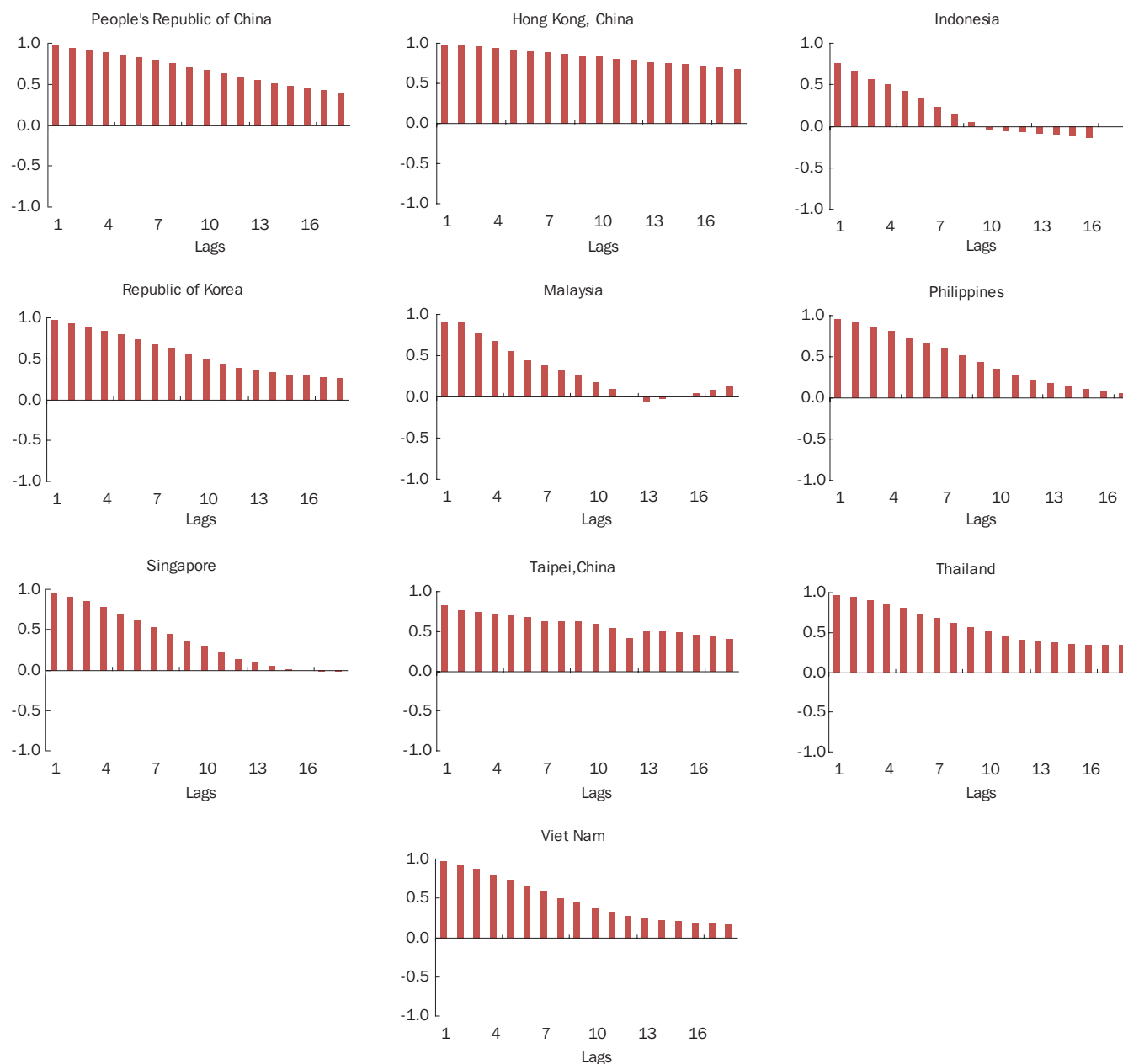
The situation in lower income emerging East Asian economies is quite different. In many of these economies, food and energy can account for more than 20–30% of the consumption basket with weights in some cases being close to the 40%–50% range (**Table 15**). So for the region, much information about changes in purchasing power is lost if the focus is limited to core inflation. And, by excluding food and energy, measures of core inflation can provide a misleading indicator of future inflation trends.

¹²The proportion of individual income spent on food will tend to decline as income rises.

¹⁰P. Krugman. 2011. Core Madness. *The New York Times*. 2 June. <http://krugman.blogs.nytimes.com/2011/06/02/core-madness-wonkish/>

¹¹Part of the persistence in year-on-year inflation rates is the result of carry over or base effects. Ideally, the estimates of the autocorrelation functions should be based on month-on-month inflation rates in order to avoid carry over effects. Unfortunately, month-on-month inflation rates across much of the region are very noisy and characterized by irregular seasonal effects. As a result, it was not possible to identify stable autocorrelation functions for month-on-month inflation rates.

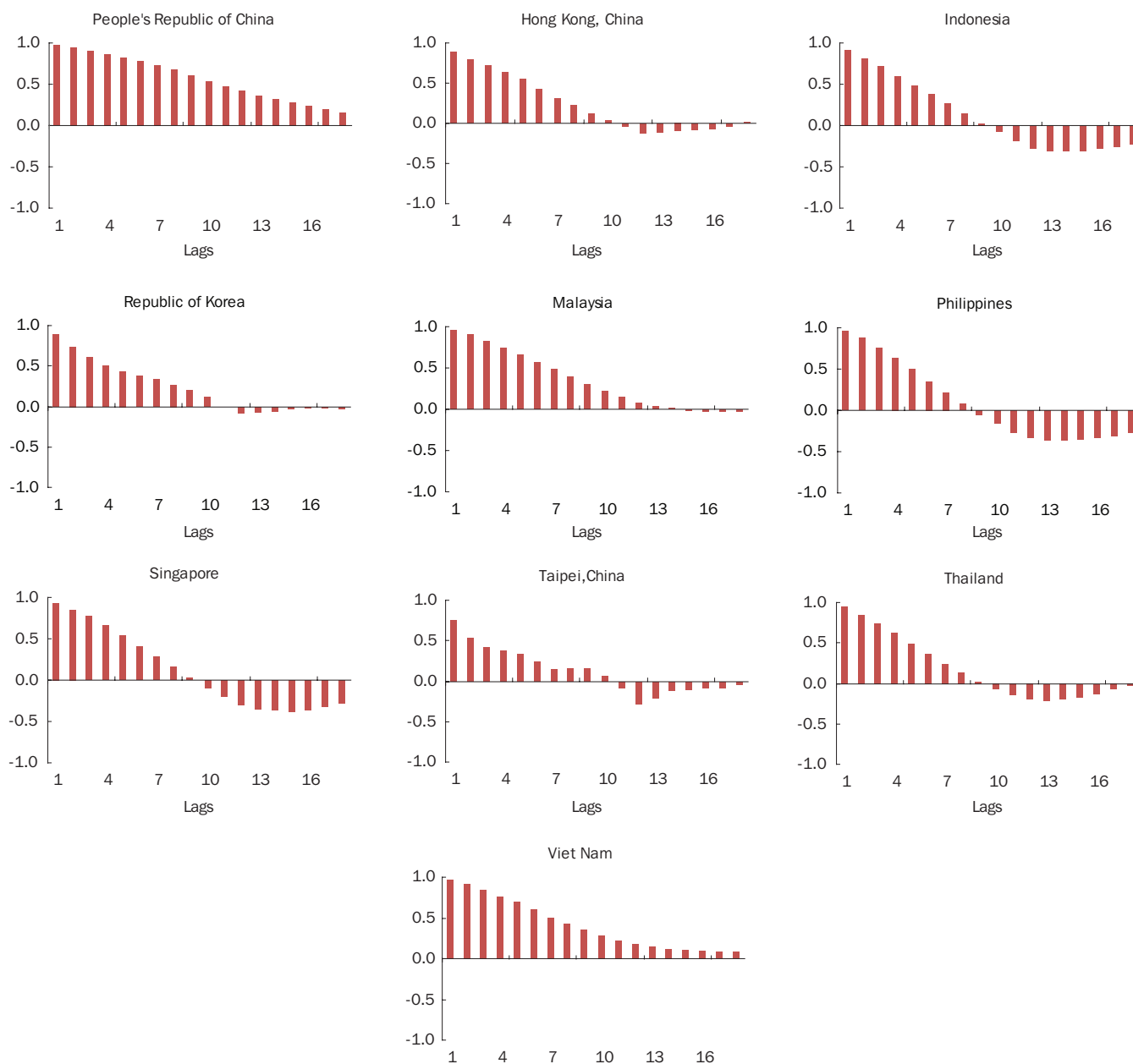
Figure 69a: Autocorrelation¹—Core Inflation²



¹Using year-on-year changes in price levels from Jan 1990 to May 2011, except for People's Republic of China (Jan 1993–May 2011), Indonesia (Jan 2002–May 2011), Philippines (Jan 1994–May 2011) and Viet Nam (Jan 1997–May 2011).

²Excluding food and energy (see notes in Figure 68 for definitions used for each economy).

Source: OREI staff calculations based on data from CEIC and national sources.

Figure 69b: Autocorrelation¹—Food and Energy Inflation²


¹Using year-on-year changes in price levels from Jan 1990 to May 2011, except for People's Republic of China (Jan 1993–May 2011), Indonesia (Jan 2002–May 2011), Philippines (Jan 1994–May 2011) and Viet Nam (Jan 1997–May 2011).

²See Figure 68 for definitions used for each economy.

Source: OREI staff calculations based on data from CEIC and national sources.

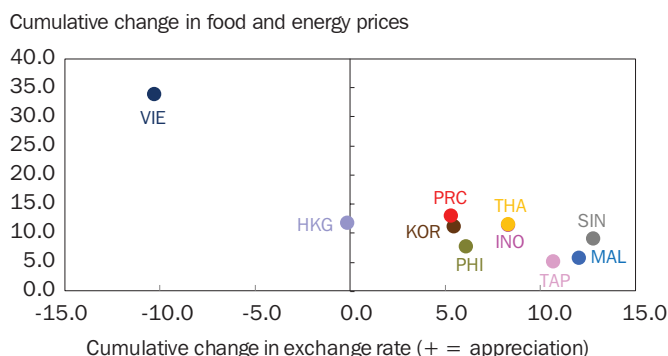
4. Monetary policy is ineffective against commodity price inflation and, if used in response to volatile commodity prices, policy instruments could become unstable.

It usually takes months before the impact of monetary policy can be felt in an economy. Thus, for short-term swings in commodity prices, monetary policy may not be an appropriate tool. Given the large swings in commodity prices, for monetary policy to be effective, it would require raising interest rates to such high levels that it will impose high costs on the economy. Furthermore, commodity prices tend to be much more volatile than other prices. So a systematic policy response could lead to instability in monetary policy instruments such as short-term policy interest rates.

Monetary policy is effective when it helps anchor inflationary expectations and reduces the impact of higher commodity prices through currency appreciation.

The argument that monetary policy is ineffective ignores two critical transmission channels. The first relates to the role monetary policy can play in anchoring inflationary expectations. In response to inflation “surprises” from commodity or other sources, the willingness of authorities to tighten monetary policy could help anchor inflationary expectations and reduce the risks of spillovers from headline inflation into core inflation. The second channel relates to the role exchange rates play in reducing the pass-through effect of increases in commodity prices denominated in major currencies such as the US dollar. Especially when there is already upward pressure on domestic currencies, allowing exchange rates to appreciate can reduce the impact of global commodity price increases on food and energy inflation measured in local currency terms. Those emerging East Asian economies with the largest exchange rate appreciations tend to have somewhat lower rates of domestic food and energy price increases (**Figure 70**). While many other factors may be at work, the results suggest a possible role for exchange rate policy in helping reduce imported energy and food price inflation.

Figure 70: Food and Energy Prices¹ versus Exchange Rate²
(%, cumulative change, Jan 2010 to Jun 2011³)



PRC = People's Republic of China, HKG = Hong Kong, China, INO = Indonesia, KOR = Republic of Korea, MAL = Malaysia, PHI = Philippines, SIN = Singapore, TAP = Taipei, China, THA = Thailand, VIE = Viet Nam.

¹See notes in Figure 68 for definitions used for each economy.

²Based on monthly average of the local currency value of \$.

³Except Hong Kong, China; Malaysia; and Singapore for which latest data May 2011. For PRC, data are Jun 2010–Jun 2011.

Source: OREI staff calculations based on data from *Asian Development Outlook 2011*, Asian Development Bank; CEIC; national sources; and Reuters.

5. Commodity prices are driven by supply shocks.

Commodity price hikes tend to be driven mainly by supply shocks that slow real economic activity in net commodity-importing countries. Tightening monetary policy in response to supply-driven increases in commodity prices could lead to even sharper economic contractions. Therefore, using monetary policy here can be counterproductive.

In emerging East Asia, however, strong demand—rather than supply disruption—appears largely behind recent commodity price inflation.

While some large increases in commodity prices over the past 50 years were due to supply shocks or disruptions—most notably the two oil price shocks of the 1970s—commodity price inflation can also result from excessive growth in demand relative to unchanged supply. While supply problems have played a role,¹³ recent surges in commodity prices were largely driven by demand from emerging economies—which tend to soak up more commodities than advanced economies. Under demand-driven commodity price increases,

¹³For example, recent food price hikes were in part due to bad weather in PRC, Russia, and Australia. The surge in energy price increases in part reflects geopolitics and instability in the Middle East and North Africa.

tighter monetary policy can help assure that growth in aggregate demand is in line with its sustainable rate. Yet, increasingly globalized commodity markets imply that tighter monetary policies in smaller economies may exert little impact on global commodity price inflation. The required dampening of global demand pressures in such cases would depend on macroeconomic policies in large, commodity-consuming economies.

Yet, globalization and increased financialization of commodities indicate monetary policy may have a limited role in managing commodity price volatility.

Commodity prices are increasingly determined by world aggregate demand and supply. Countries, in particular smaller ones, generally have minimal impact on commodity prices and are price takers in the currencies in which commodities are priced. Increasing financialization of commodity markets and the expanded role of hedging and speculation could exacerbate commodity price volatility (or bubbles) with potential inflationary and other implications (**Box 2**). Monetary policies may be less effective in countering these pressures. Macroprudential policies would be more appropriate and the responsibility of major economies where commodity derivatives are traded and priced.

In sum, monetary policy needs to consider the effects of commodity price inflation and requires other policies in tandem to mitigate or reduce their economic impact.

The evidence reviewed so far indicates that traditional arguments for focusing monetary policy on core inflation (largely ignoring surges in food and energy prices) do in fact have some validity for the region. Food and energy price inflation is very volatile and does not contain much additional information for predicting longer-term inflation. In addition, there are substantive questions on the effectiveness of monetary policy in mitigating the costs of commodity price inflation on the economy. Nonetheless, the results suggest that food and energy inflation do have some persistence that cannot be ignored. Also, the relatively high weights of food and energy in many of the region's CPI baskets imply that central banks may find it increasingly difficult to justify "benign neglect" when it comes to commodity price inflation. This is particularly true given the possibility of a "new normal" in which commodity prices rise at more rapid rates.

Are We Heading Toward a "New Normal" of Sustained Increases?

The conventional view is that, over time, commodity prices tend to decline in real terms.

The so-called Prebisch and Singer Hypothesis¹⁴ was seen to reflect both the relatively low-income elasticity of demand for primary commodities and a tendency for productivity in primary industries to grow more rapidly than in manufactures.¹⁵ At least through the early 2000s, as discussed by Cashin and McDermott,¹⁶ real commodity prices globally do appear trending down at a very modest rate—a key feature, nonetheless, was very high and time-varying volatility, especially since the 1970s.

However, the behavior of real commodity prices changed markedly in the early- to mid-2000s.

In real terms, both energy and food prices surged ahead during the 2000s, after trending down modestly from the early 1980s (**Figure 71a**). So are most other commodities (**Figure 71b**). Yet, these changes in behavior need to be interpreted carefully. Looking at the much longer-run trend in real commodity prices, there were frequent but irregular episodes during which commodity prices surged for extended periods—only to fall again. Therefore, the behavioral change in the early- to mid-2000s does not necessarily mean they will be sustained. It is simply too soon to conclude that there has necessarily been a permanent change in trend.

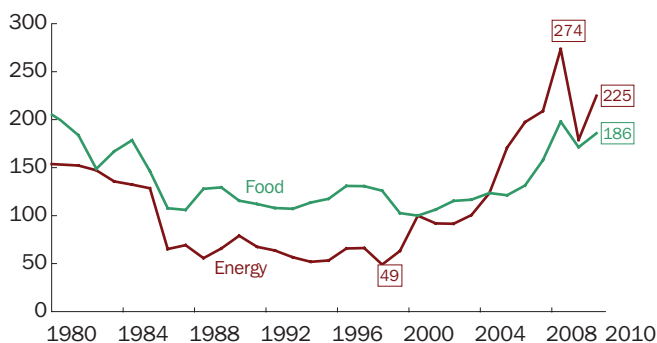
In the short term, commodity prices could continue to rise with increased volatility.

Still, the marked change in the behavior of commodities could continue. Key contributing factors may include: (i) strong demand from fast-growing emerging economies—given their relative high consumption of commodities; (ii) continued accommodating monetary

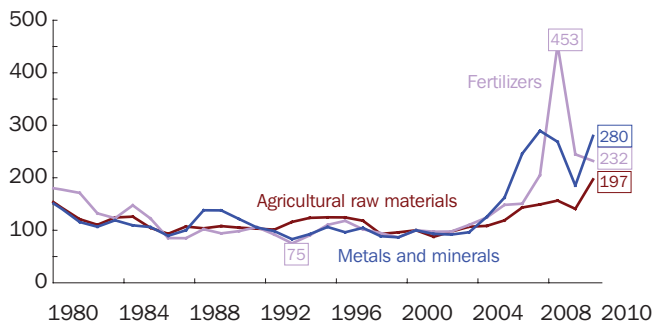
¹⁴R. Prebisch. 1950. *The Economic Development of Latin America and its Principal Problems*. Lake Success, United Nations; H. Singer. 1950. The Distributions of Gains Between Investing and Borrowing Countries. *American Economic Review*. 40. pp. 473-85.

¹⁵P. Cashin and C. McDermott. 2002. The Long-Run Behavior of Commodity Prices: Small Trends and High Variability. *IMF Staff Paper*. 49(2). pp. 175-199.

¹⁶P. Cashin and C. McDermott. op cit.

Figure 71a: Commodity Price Indexes—Energy and Food
(2000=100, constant \$)

Source: World Bank Commodity Price Data (Pink Sheet), World Bank.

Figure 71b: Commodity Price Indexes—Agricultural Raw Materials, Fertilizers, and Metals and Minerals
(2000=100, constant \$)

Source: World Bank Commodity Price Data (Pink Sheet), World Bank.

policies in many advanced economies—given the anemic recovery there; (iii) the growing importance of commodities as an asset class to meet search-for-yield investment demand in an unusually low interest rate environment; and (iv) geopolitical uncertainties—whether poor weather in major agriculture regions or instability such as in the Middle East. Together, these factors could help explain the recent strong upward pressure on many commodity prices as well as high price volatility and close correlation with measures of global risk appetite.

Real commodity prices may now be following a sustained upward trend—“a new normal” may be emerging.

Longer-term factors that could contribute to the “new normal” include, most notably, continued rapid growth of emerging economies (especially in Asia) and their high resource demands, and more general pressures on natural resources as a result of rapid global growth. Other

possible contributing factors include the adverse effects of global warming and extreme weather on agriculture, and possible shifts from nuclear to other power sources in the aftermath of Japan’s nuclear disaster. In addition, monetizing the environmental costs of using fossil fuel could also push up relative prices of energy. Nevertheless, the longer-term trend in real commodity prices will be determined by both demand and supply factors. And, there is a need to consider the possibilities of more rapid productivity growth in primary industries.

While the “new normal” may be uncertain, commodity price volatility will likely increase due to the interaction between cyclical and fundamental factors.

Even though commodity prices in recent years have trended up at a somewhat faster pace, it is not clear to what degree it reflects short-term cyclical factors such as loose monetary policies in advanced economies. Regardless, all factors affecting commodity prices—whether short- or long-term—will interact with each other. They will influence investor perception of future commodity prices, and thus commodity price volatility would rise. High commodity price volatility means that picking up signals from short-run price increases is even more difficult. At a minimum, policymakers may face the challenge of responding to more episodes of commodity price surges and continued high price volatility. But it is also possible that a “new normal” may evolve with sustained and high commodity price inflation.

How Might Monetary and Other Policies Better Manage Commodity Price Volatility and Inflation?

A pragmatic approach to a range of policies may help policymakers manage the inflation impact of persistent and volatile changes in commodity prices.

Rapid and volatile commodity inflation in the past year or so has brought challenges to policymakers in the region. Can the current approach of “benign neglect” of monetary policy continue? How should monetary policy in the region respond to volatile and possible sustained rises in commodity prices? What are the roles of other policies—including fiscal, financial, and structural—in helping manage and mitigate the consequences of rapid and volatile commodity price inflation? These are

important issues when commodity prices are volatile and become more critical if commodity prices persistently rise at more rapid rates relative to other goods and services.

The empirical assessment above suggests that the current approach of relatively “benign neglect” of monetary policy toward commodity price inflation needs to change.

It has been increasingly difficult for the region’s central banks to defend a “benign neglect” approach when energy and food prices trend up rapidly and account for a substantial share of CPIs. Traditional core inflation measures become increasingly divorced from reality and monetary policy credibility risks being challenged. The high level of commodity price volatility implies there may be no easy solutions for monetary policy. If monetary policy were required to systematically respond to large swings in commodity prices, large economic costs could follow and monetary instrument instability could result. To balance the tradeoff, a pragmatic approach to monetary policy might just work.

Using trends in global food and energy prices to project headline inflation may help define monetary policy in headline terms—making it easier to communicate inflation targets or objectives to the public.

Consistent with the reality that headline rather than core inflation is what “matters” for the public, implicit and explicit inflation targets could be specified in headline terms. Not only will this help address potential damage to credibility when narrow measures of core inflation are implicitly or explicitly targeted, it can also help improve communicating monetary policy to the public at large. In addition, this approach can help address the perception that policymakers are not concerned about commodity price inflation—in so far as trend changes in commodity prices would be reflected in officially targeted inflation rates. Nonetheless, central banks may still find it useful to continue using internal estimates of core inflation in preparing inflation forecasts and making forward-looking monetary policy decisions.

Persistent increases in relative prices of commodities (the trend effect) and/or continued high volatility of commodity prices (the volatility effect) potentially hold significant—and different—implications for monetary policy and its inflation targets or objectives.

Sustained rapid commodity price increases (relative to prices of goods and services) will not necessarily complicate the conduct of monetary policy very much. The current approach to monetary policy considers relative price changes between various goods and services, trend increases in wages and productivity, and the degree of “stickiness” of different nominal prices. Faced with sustained increases in commodity prices, policymakers may have to tolerate higher inflation in the short term to avoid absolute declines in the prices of other goods and services—which could hurt those industries. On the other hand, high commodity price volatility (rather than the trend) potentially presents a much greater challenge to monetary policy. Headline inflation rates continue to have a high degree of noise over time because of volatile commodity prices. In general, monetary policy cannot systematically react to each major price movement as the economic costs could be very high and instrument instability could result.

A more flexible monetary approach may be needed in response to potentially persistent and volatile commodity-driven inflation.

If increases in relative commodity prices are expected to persist, policymakers may want to take the trend increase into account in setting inflation targets or objectives. Whether this would require raising inflation targets or objectives from current levels is not pre-ordained. It will depend on several factors including, most importantly, the size of trend changes in relative commodity prices and other ongoing relative price changes. Monetary policy could be made more flexible through (i) widening the bands within which inflation targets or objectives are set—to explicitly allow for high volatility in commodity prices; (ii) extending time horizons over which inflation targets or objectives are set; or (iii) specifying inflation targets or objectives as 2–3 year averages so as to allow more flexibility when dealing with inflation noise. It may also be necessary to refine what is meant by “low and stable” inflation, because higher inflation variability may be inevitable. In economies with large food and energy CPI shares, more variability in inflation targets

or objectives may be the least bad outcome—it would remove the constraints of a tight objective in a world of high volatility.

Still, policymakers could take a pragmatic, case-by-case approach to monetary policy, given the uncertainties over underlying trends in commodity prices and their impact on inflationary expectations.

Adding flexibility to monetary policy and inflation targeting (or objective setting), monetary policy cannot “ignore” high frequency volatility in commodity prices. Not only is it difficult to differentiate short-term swings from long-term trends, but also short-term changes in commodity prices may have implications for underlying inflationary pressures. Thus, while wider bands around inflation targets or objectives and longer time horizons will provide central banks more flexibility when deciding whether to alter monetary policy, a monetary policy response should not be ruled out when commodity prices do surge ahead.

Greater exchange rate flexibility can help mitigate the effects of global commodity price surges on domestic prices.

Monetary policy remains a relatively blunt instrument to deal with food and energy inflation. Most important, using policy rate hikes to reduce food and energy inflation could impose high costs on the economy. Also, the typical long lags before monetary policy shows results—together with issues of policy instrument instability—imply it would not be feasible for monetary policy to respond systematically to frequent swings in commodity price inflation. A policy mix of faster currency appreciation, along with smaller or slower monetary policy responses, may mitigate inflationary pressures while avoiding the bluntness of wielding policy rates. Moreover, regional currency appreciation helps global rebalancing.

Fiscal, financial, and structural policies could also help authorities manage and adjust to commodity price volatility and inflation.

Ultimately, managing the consequences of commodity price movements for overall economic performance, handling the associated risks, and mitigating the effects on the most vulnerable members of society cannot be left to monetary policy alone—given the limits of what

monetary policy can achieve. Other policies must join in an efficient and effective way to lessen the impact of commodity price shocks on the economy and society.

Policymakers could use structural and fiscal policies to boost supply and increase economic flexibility when responding to commodity price changes.

Supply-side measures—which reduce supply bottlenecks in commodity-based industries, improve access to global markets, and increase productivity—are critical if a “new normal” emerges. Key structural policies could aim to improve commodity and factor market flexibility, facilitating reallocation of resources across sectors. Improving energy efficiency would also help. Programs that protect the most vulnerable members of society from the effects of higher commodity prices could be considered. These would need to be well-targeted to avoid fiscal burdens.

Market-based commodity price stabilization mechanisms and participation in commodity financial markets may help mitigate commodity price volatility.

Commodity price stabilization schemes are no panacea. There is also the risk of prices being stabilized at levels that lead to excessive stock accumulation (hoarding). Price controls and delays in administered price increases were not very effective in 2008. Controls tend to address symptoms of the problem and can create significant distortions over time. Delays in administered price increases can also threaten the solvency of public utilities and companies if maintained too long. Subsidies can impose high fiscal costs if large and sustained. The region may need to study how to use commodity futures and options markets. In particular, the increasing financialization of commodities suggests a potentially large role in hedging commodity price risk by commodity-importing countries. As a risk management tool, these markets could be useful.

Greater cooperation within the region and globally could work toward managing and mitigating the impact of commodity price inflation and volatility.

The case for enhanced cooperation relates to increasing commodity market globalization and the growing importance of spillover effects. While enhanced cooperation necessarily takes time, in the short term

economies could aim to ensure that national measures to manage commodity price inflation do not shift the problem to other economies. The policy responses within the region to the 2008 commodity price surge in some instances imposed costs on other economies. Export bans, for example, may have shifted the problems onto other economies and reduced commodity trade globally. They can lead to tit-for-tat responses that exacerbate the effects of commodity price shocks.

Greater cooperation to ensure (i) adequate trade in food and energy; (ii) effective commodity market regulation; and (iii) appropriate macroeconomic policy can help manage commodity price volatility and inflation.

One option could be to strengthen agreements that discourage commodity export bans or import subsidies during periods of rapidly increasing commodity prices. Regional food banks can be strengthened to reduce the risk of supply disruptions in critical commodities. Feasibility and cost studies can be initiated or updated. Global markets where commodity-based financial derivatives are traded and priced should be more closely supervised to avoid excesses or bubbles. Macroprudential measures can help address bubbles and ensure stability in commodity markets. Finally, countries can adopt a more global approach to managing commodity price inflation by recognizing that commodity prices are increasingly being driven by global demand. Mitigating and managing short-run commodity price inflation will likely call for greater international coordination of macroeconomic policies.

Box 2: Financialization of Commodities

Commodity prices are rising again; rapidly since mid-2010. The surge has been driven by robust demand in emerging economies and in some cases by disruptions to global supply. But soaring investment flows into commodities—fuelled by loose monetary conditions—may have amplified the intensity of the price surge.

Commodity prices have been volatile in recent years. Following a prolonged rise that peaked in mid-2008, commodity prices fell sharply, bottoming out in early 2009. Since then, prices have been rising again, accelerating from mid-2010 (see Figure 59). Oil prices are more volatile than others. Alongside narrowing output gaps, the commodity price surge has stoked inflationary pressures in emerging economies, leading central banks in these economies to “normalize” accommodative monetary conditions adopted during the global financial crisis.

The primary factor driving up global commodity prices has been fast rising demand in emerging economies. Historical patterns suggest that commodity consumption typically rises before an economy reaches high income status—as the economy experiences high income growth, industrialization, and infrastructure building.¹ With current high capacity-utilization and low inventories, markets are sensitive to slight changes in supply and demand. Geopolitical concerns in the Middle East and North Africa—and weather-related supply shocks—have contributed to higher commodity prices in recent months.

The growing presence of financial investors in commodity markets has “financialized” commodities, possibly amplifying commodity price fluctuations. Financial activity in commodity markets—mostly via commodity derivatives—is large relative to physical production and accelerated rapidly in the years prior to the crisis. Open contracts in commodity exchanges grew 170% in number

between 2002 and June 2008, placing the volume of exchange-traded derivatives at 20–30 times physical production for many commodities. Over-the-counter trade showed similar trends.² While notional outstanding amounts of over-the-counter commodity derivatives slumped after late 2008 (**Figure B2.1**), the number of commodity contracts traded on organized exchanges has continued to grow after the global crisis subsided (**Figure B2.2**). In particular, crude oil open interest increased nearly 160% the year to April 2011.³

Low interest rates and loose monetary conditions globally stimulate commodity trading. Commodities offer portfolio diversification, upside potential, and a hedge against inflation. Low interest rates increase demand for storable commodities or reduce supply in three ways.⁴ They (i) reduce incentives for physical extraction as future values are expected to rise; (ii) increase incentives for firms to hold on to inventories by lowering holding costs; and (iii) encourage speculators to shift from bonds to spot contracts for higher yields. Loose global monetary conditions further spur “search-for-yield” speculation in commodities.

Another key driver behind the financialization of commodities has been better market infrastructure for commodities futures trading. In the early 2000s, commodity indexes developed and exchange-traded funds were created. Since 2004, commodity index funds began attracting huge investment flows.⁵ The two most popular commodity indexes are the Goldman Sachs Commodity

¹International Monetary Fund. 2006. *The Boom in Nonfuel Commodity Prices: Can It Last?* *World Economic Outlook*. Washington, DC.

²D. Domanski and A. Heath. 2007. *Financial Investors and Commodity Markets*. *Bank for International Settlements Quarterly Review*. Switzerland.

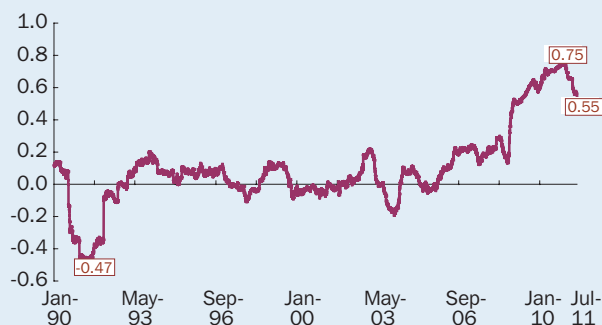
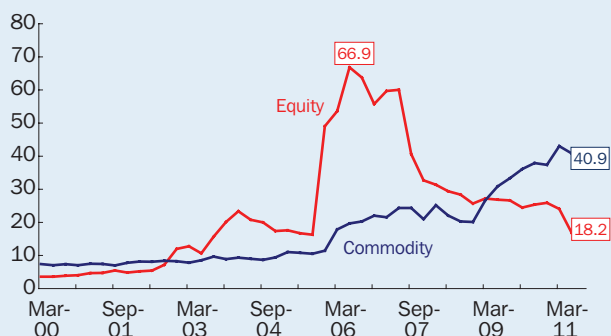
³US Commodity Futures Trading Commission. *Crude Oil Open Interest Statistics*. <http://www.cftc.gov/OCE/WEB/index.htm>

⁴J. Frankel. 2008. *The Effect of Monetary Policy on Real Commodity Prices. Asset Prices and Monetary Policy*. pp. 291–327.

⁵Federal Government of the US, Commodity Futures Trading Commission. 2008. *Staff Report on Commodity Swap Dealers and Index Traders with Commission Recommendations*. Washington, DC.

Figure B2.1: Over-the-Counter Equity-linked and Commodity Derivatives (notional amounts outstanding, \$ trillion)

Source: Bank for International Settlements.

Figure B2.3: Return Correlation Between Commodity and Equity Indexes¹¹Refers to one-year rolling correlation between the daily return of the global equity index (MSCI AC-World) and that of commodity index (S&P GSCI).
Source: OREI staff calculations based on Bloomberg data.**Figure B2.2: Number of Contracts, Exchange-Traded Derivatives Worldwide** (in million)

Source: Bank for International Settlements.

Index (SP-GSCI) and Dow-Jones UBS Commodity Index (DJ- UBS). Also, many commodities future markets introduced electronic trading, reducing transaction costs, and accelerating transaction settlement.

The financialization process—helped by widespread growth in commodity index investments—affects commodity markets generally and holds important implications for price determination. On one hand, the presence of financial

investors can more efficiently distribute commodity price risk. On the other hand, rapid portfolio rebalancing can draw external price volatility into commodities markets and across different commodities. This has led to greater price co-movements between commodities—and between commodities and other financial assets such as equities and bonds (**Figure B2.3**). Thus, prices are becoming less related to specific supply-demand conditions of individual commodities and are increasingly subject to the effects of portfolio rebalancing by financial investors. This financialization process may help explain the increased commodity price volatility seen in recent years.⁶

⁶K. Tang and W. Xiong. 2010. Index Investment and Financialization of Commodities. *NBER Working Paper*. No. 16385. Massachusetts: National Bureau of Economic Research.

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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 section on managing commodity price volatility and inflation in emerging East Asia.

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