

# Bond Market Developments in the Third Quarter of 2012

## Size and Composition

**Total bonds outstanding in emerging East Asia's LCY bond market grew 3.5% q-o-q and 11.0% y-o-y to reach US\$6.2 trillion at the end of 3Q12, driven by of strong growth in both the government and corporate bond sectors.<sup>3</sup>**

The quarter-on-quarter (q-o-q) growth rate for emerging East Asia's local currency (LCY) bond market was 3.5% in 3Q12, up from 1.9% in 2Q12. On a q-o-q basis, the five most rapidly growing markets in the region were Singapore, the People's Republic of China (PRC), Malaysia, the Philippines, and the Republic of Korea, which grew 6.1%, 4.2%, 4.1%, 3.7%, and 2.1%, respectively (**Table 1**). These q-o-q growth rates were significantly higher than in 2Q12 in most of the region's individual bond markets (**Figure 1a**).

The year-on-year (y-o-y) growth rate for emerging East Asia's LCY bond market rose to 11.0% in 3Q12 from 8.6% in 2Q12 (**Figure 1b**), as growth for both the government and corporate bond sectors accelerated from their 2Q12 levels. The y-o-y growth rate for government bonds rose to 7.8% in 3Q12 from 5.5% in 2Q12, while the y-o-y growth rate for corporate bonds rose to 17.6% in 3Q12 from 15.2% in 2Q12.

The region's most rapidly growing bond markets on a y-o-y basis in 3Q12 were those of Viet Nam, Singapore, the Philippines, Malaysia, and Thailand, which grew 21.4%, 18.1%, 16.1%, 15.7%, and 14.4%, respectively. The growth of Viet Nam's bond market on a y-o-y basis was driven entirely by its treasury bond market in 3Q12, while the size of its corporate bond market shrank 21.4%. In the other four markets mentioned above, both

the government and corporate bond sectors grew at double-digit rates on a y-o-y basis, but growth in Singapore, the Philippines, and Thailand was led by their respective corporate bond markets. Malaysia's y-o-y growth was more evenly balanced between its government and corporate bond markets: 16.1% for the government bond market and 15.3% for the corporate bond market.

**Total government bonds outstanding grew 3.1% q-o-q in 3Q12, reflecting a dichotomy of very rapid growth in five markets and slower or negative growth in the region's remaining four markets.**

The region's five most rapidly growing government bond markets in 3Q12 on a q-o-q basis were Malaysia, Singapore, the PRC, the Philippines, and Thailand. The q-o-q growth rates for these five markets were 4.8%, 4.0%, 3.9%, 3.6%, and 1.3%, respectively. On the other hand, the government bond markets of the Republic of Korea; Hong Kong, China; Indonesia; and Viet Nam grew at q-o-q rates of 0.4%, 0.1%, -0.1%, and -1.7%, respectively.

The slower growth for government bond markets—compared to corporate bond markets—has been a result of the sharp reduction in issuance by central banks and monetary authorities as they have retreated from the aggressive sterilization measures pursued in previous years. The stock of bills of The Bank of Korea (BOK) fell 3.4% q-o-q in 3Q12. The stock of Hong Kong Monetary Authority (HKMA) bills grew only 0.1% q-o-q in 3Q12. Bank Indonesia (BI) has reduced issuance of *Sertifikat Bank Indonesia* (SBI) over the last several years, resulting in a decline of the stock of SBI outstanding from levels well above US\$30 billion in the first half of 2010 to only US\$7 billion at the end of 3Q12. Furthermore, the stock of SBI fell 23.9% q-o-q and 53.3% y-o-y in 3Q12. SBI

<sup>3</sup> Emerging East Asia comprises the People's Republic of China; Hong Kong, China; Indonesia; the Republic of Korea; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam.

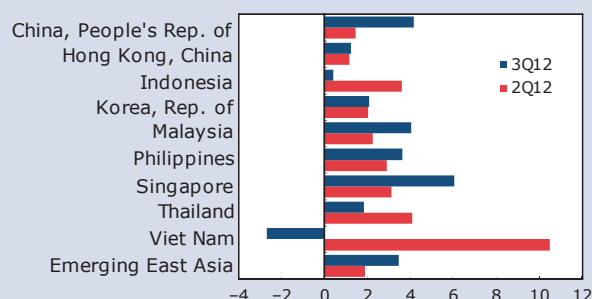
**Table 1: Size and Composition of LCY Bond Markets**

	3Q11		2Q12		3Q12		Growth Rate (LCY-base %)				Growth Rate (US\$-base %)			
	Amount (US\$ billion)	% share	Amount (US\$ billion)	% share	Amount (US\$ billion)	% share	3Q11		3Q12		3Q11		3Q12	
							q-o-q	y-o-y	q-o-q	y-o-y	q-o-q	y-o-y	q-o-q	y-o-y
China, People's Rep. of (PRC)														
Total	3,247	100.0	3,469	100.0	3,654	100.0	0.5	3.5	4.2	10.8	1.8	8.6	5.3	12.5
Government	2,474	76.2	2,580	74.4	2,711	74.2	0.1	(0.7)	3.9	7.9	1.4	4.1	5.0	9.6
Corporate	773	23.8	889	25.6	943	25.8	1.8	20.0	5.0	20.2	3.1	25.9	6.1	22.0
Hong Kong, China														
Total	170	100.0	174	100.0	176	100.0	1.6	5.7	1.3	3.3	1.5	5.3	1.3	3.7
Government	90	52.8	93	53.5	93	52.8	1.9	3.8	0.1	3.4	1.8	3.5	0.1	3.8
Corporate	80	47.2	81	46.5	83	47.2	1.2	7.8	2.6	3.3	1.2	7.4	2.7	3.7
Indonesia														
Total	111	100.0	111	100.0	110	100.0	(2.9)	(1.8)	0.4	7.4	(6.2)	(1.5)	(1.2)	(0.6)
Government	96	86.3	94	84.2	92	83.8	(3.7)	(5.6)	(0.1)	4.2	(6.9)	(5.2)	(1.7)	(3.6)
Corporate	15	13.7	18	15.8	18	16.2	2.0	30.5	3.1	27.2	(1.4)	31.0	1.4	17.7
Korea, Rep. of														
Total	1,179	100.0	1,302	100.0	1,370	100.0	2.1	8.6	2.1	9.6	(7.4)	5.1	5.2	16.2
Government	501	42.5	525	40.3	543	39.6	1.2	4.4	0.4	2.2	(8.3)	1.1	3.5	8.4
Corporate	678	57.5	777	59.7	827	60.4	2.9	11.9	3.3	15.1	(6.8)	8.3	6.4	22.0
Malaysia														
Total	263	100.0	294	100.0	318	100.0	3.4	16.5	4.1	15.7	(2.1)	12.7	8.1	20.7
Government	158	60.1	176	59.8	192	60.3	4.1	19.8	4.8	16.1	(1.4)	16.0	8.9	21.0
Corporate	105	39.9	118	40.2	126	39.7	2.3	11.8	2.9	15.3	(3.1)	8.2	6.9	20.2
Philippines														
Total	75	100.0	87	100.0	91	100.0	0.3	3.1	3.7	16.1	(0.6)	3.3	4.7	21.8
Government	65	87.5	75	86.5	79	86.5	0.7	2.3	3.6	14.7	(0.2)	2.5	4.6	20.3
Corporate	9	12.5	12	13.5	12	13.5	(2.2)	8.9	3.9	26.1	(3.1)	9.1	4.9	32.3
Singapore														
Total	188	100.0	217	100.0	237	100.0	4.0	12.7	6.1	18.1	(2.3)	13.5	9.3	25.8
Government	116	61.9	130	59.9	139	58.7	5.8	18.9	4.0	12.1	(0.5)	19.7	7.2	19.4
Corporate	72	38.1	87	40.1	98	41.3	1.0	3.8	9.1	27.8	(5.1)	4.6	12.5	36.1
Thailand														
Total	229	100.0	254	100.0	265	100.0	4.8	8.7	1.9	14.4	3.3	5.8	4.3	15.7
Government	187	81.5	204	80.3	212	79.8	6.5	8.9	1.3	12.1	5.0	5.9	3.7	13.4
Corporate	43	18.5	50	19.7	54	20.2	(2.0)	8.1	4.2	24.4	(3.5)	5.2	6.7	25.9
Viet Nam														
Total	18	100.0	22	100.0	21	100.0	3.1	21.1	(2.7)	21.4	1.9	13.3	(2.6)	21.1
Government	16	88.3	20	91.6	20	92.5	3.3	20.2	(1.7)	27.0	2.1	12.5	(1.7)	26.7
Corporate	2	11.7	2	8.4	2	7.5	1.4	27.8	(12.7)	(21.4)	0.2	19.6	(12.6)	(21.6)
Emerging East Asia (EEA)														
Total	5,480	100.0	5,930	100.0	6,242	100.0	1.3	5.7	3.5	11.0	(0.8)	7.7	5.3	13.9
Government	3,703	67.6	3,897	65.7	4,080	65.4	0.9	1.8	3.1	7.8	(0.3)	4.4	4.7	10.2
Corporate	1,777	32.4	2,033	34.3	2,162	34.6	2.1	14.7	4.2	17.6	(1.9)	15.2	6.4	21.7
EEA Less PRC														
Total	2,233	100.0	2,461	100.0	2,588	100.0	2.4	9.0	2.6	11.3	(4.4)	6.4	5.2	15.9
Government	1,229	55.0	1,317	53.5	1,369	52.9	2.5	7.4	1.6	7.7	(3.5)	4.9	4.0	11.4
Corporate	1,004	45.0	1,144	46.5	1,219	47.1	2.3	11.0	3.6	15.7	(5.4)	8.1	6.5	21.5
Japan														
Total	12,626	100.0	12,465	100.0	12,955	100.0	0.8	3.9	1.5	3.8	5.3	12.6	3.9	2.6
Government	11,467	90.8	11,373	91.2	11,841	91.4	0.8	4.4	1.7	4.5	5.4	13.2	4.1	3.3
Corporate	1,158	9.2	1,092	8.8	1,114	8.6	0.5	(0.7)	(0.3)	(2.7)	5.1	7.6	2.0	(3.8)
Memo Item: CNH														
Total	40	100.0	55	100.0	53	100.0	37.4	600.1	(5.7)	31.2	39.2	634.3	(4.6)	33.2
Government	10	24.9	14	25.1	15	28.3	39.3	314.2	6.3	48.8	41.1	334.4	7.4	51.0
Corporate	30	75.1	41	74.9	38	71.7	36.8	808.4	(9.6)	25.4	38.5	852.7	(8.7)	27.0

LCY = local currency, q-o-q = quarter-on-quarter, y-o-y = year-on-year.

Notes:

1. For Singapore, corporate bonds outstanding quarterly figures based on *AsianBondsOnline* estimates. For Japan, 3Q12 data carried over from August 2012.
2. Corporate bonds include issues by financial institutions.
3. CNH bonds are renminbi-denominated bonds issued in Hong Kong, China. Data include certificates of deposit and bonds issued by foreign companies.
4. Bloomberg LP end-of-period LCY-US\$ rates are used.
5. For LCY base, emerging East Asia growth figures are based on end-September 2012 currency exchange rates and do not include currency effects.
6. Emerging East Asia comprises the People's Republic of China; Hong Kong, China; Indonesia; the Republic of Korea; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam. Source: People's Republic of China (*ChinaBond*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia and Indonesia Stock Exchange); Republic of Korea (EDAILY *BondWeb* and The Bank of Korea); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury and Bloomberg LP); Singapore (Monetary Authority of Singapore, Singapore Government Securities, and Bloomberg LP); Thailand (Bank of Thailand); Viet Nam (Bloomberg LP); and Japan (Japan Securities Dealers Association).

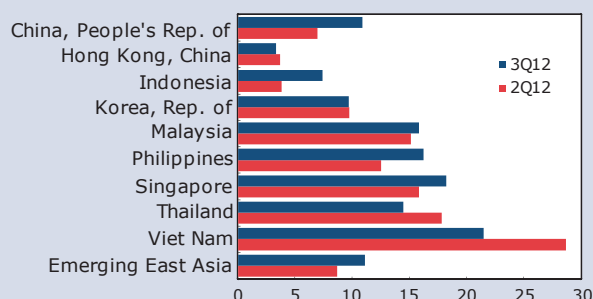
**Figure 1a: Growth of LCY Bond Markets in 2Q12 and 3Q12 (q-o-q, %)**

LCY = local currency, q-o-q = quarter-on-quarter.

Notes:

1. Calculated using data from national sources.
2. Growth rates are calculated from LCY base and do not include currency effects.
3. Emerging East Asia growth figure is based on end-September 2012 currency exchange rates and does not include currency effects.
4. For Singapore, corporate bonds outstanding quarterly figures based on *AsiaBondsOnline* estimates.

Source: People's Republic of China (*ChinaBond*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia and Indonesia Stock Exchange); Republic of Korea (EDAILY *BondWeb* and The Bank of Korea); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury and Bloomberg LP); Singapore (Monetary Authority of Singapore, Singapore Government Securities, and Bloomberg LP); Thailand (Bank of Thailand); and Viet Nam (Bloomberg LP).

**Figure 1b: Growth of LCY Bond Markets in 2Q12 and 3Q12 (y-o-y, %)**

LCY = local currency, y-o-y = year-on-year.

Notes:

1. Calculated using data from national sources.
2. Growth rates are calculated from LCY base and do not include currency effects.
3. Emerging East Asia growth figure is based on end-September 2012 currency exchange rates and does not include currency effects.
4. For Singapore, corporate bonds outstanding quarterly figures based on *AsiaBondsOnline* estimates.

Source: People's Republic of China (*ChinaBond*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia and Indonesia Stock Exchange); Republic of Korea (EDAILY *BondWeb* and The Bank of Korea); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury and Bloomberg LP); Singapore (Monetary Authority of Singapore, Singapore Government Securities, and Bloomberg LP); Thailand (Bank of Thailand); and Viet Nam (Bloomberg LP).

issuance actually rose by 101% q-o-q in 3Q12, but from too small a base to make any difference to the downward trend in SBI outstanding. BI has implemented a 6-month holding period over concerns that the generous availability of short-dated SBI was contributing to speculation on the Indonesian currency. Indonesian issuance of LCY central government bonds grew only 0.2% q-o-q in 3Q12.

In Viet Nam, the stock of State Bank of Viet Nam (SBV) bills fell 62.0% q-o-q in 3Q12, even as the stock of Viet Nam government bills rose 104.7%—albeit from a small base of only US\$1 million—and the stock of Viet Nam government bonds rose 14.0% q-o-q as Viet Nam's government has continued to pursue fiscal stimulus policies to offset the lingering impacts of the Global Financial Crisis (GFC) on Viet Nam's export sector.

Rapid growth in the government bond sectors of Malaysia and Singapore has been driven primarily by the growth of Bank Negara Malaysia (BNM) bills and Monetary Authority of Singapore (MAS) bills. BNM bills grew 12.0% q-o-q and 24.5% y-o-y in 3Q12, while Malaysian government bonds grew only 1.8% q-o-q and 12.8% y-o-y. Malaysian

monetary policy still reflects concerns over large inflows of foreign capital into the country, which led to the share of foreign ownership of Malaysian government bonds rising to 28.5% by end-September.

MAS has aggressively increased its stock of MAS bills since they were first introduced in April 2011 for the purpose of managing liquidity in the Singaporean banking system. Outstanding MAS bills stood at SGD26.9 billion (US\$21.9 billion) at end-September, representing a 60.1% y-o-y increase from September 2011. MAS bills grew 31.9% on a q-o-q basis in 3Q12, while growth rates for Singapore treasury bonds and bills were essentially flat in 3Q12.

The growth of Thai government bonds has also been driven primarily by bills issued by the Bank of Thailand (BOT) for sterilization purposes. BOT bills outstanding grew 12.7% q-o-q in 3Q12, while growth of other government and central bank securities was essentially flat for the quarter.

Philippine government bonds as a whole (including bonds issued by government-owned corporations) rose 3.6% q-o-q and 14.7% y-o-y in 3Q12.

Treasury bonds grew somewhat more rapidly at 3.8% q-o-q and 19.8% y-o-y. Growth of Philippine treasury bills was flat in 3Q12 on a q-o-q basis, but declined 22.7% y-o-y, reflecting the Philippines' Bureau of the Treasury's (BTr) concentration of new issuance at the longer-end of the curve.

At the end of 3Q12, the PRC government bond market was still the largest in the region at a size equivalent to US\$2.7 trillion, representing a q-o-q increase of 3.9%. Bonds and bills outstanding of the People's Bank of China (PBOC) fell 7.9% q-o-q, resulting from the PBOC ceasing issuance of new bonds and bills in the beginning of the year. Treasury bonds and bills rose 5.5% q-o-q, while policy bank bonds rose 4.9%. The sharp decline in PBOC bonds and bills did not reduce the overall growth rate for government sector bonds, since PBOC bills and bonds only amounted to US\$241 billion at end-September.

**The LCY corporate bond market in emerging East Asia grew 4.2% q-o-q in 3Q12, a significantly faster pace than the 3.1% growth achieved in 2Q12.**

The largest LCY corporate bond market in emerging East Asia in 3Q12 remained that of the PRC at US\$943 billion, followed by the Republic of Korea at US\$827 billion. The next largest corporate bond market was Malaysia's at US\$126 billion. The corporate bond markets of Singapore and Hong Kong, China, broadly similar in size, reached US\$98 billion and US\$83 billion, respectively. Thailand followed at US\$54 billion. The three remaining LCY corporate bond markets—Indonesia, the Philippines, and Viet Nam—were much smaller in size at US\$18 billion, US\$12 billion, and US\$2 billion, respectively.

The most rapidly growing corporate bond markets on a q-o-q basis in 3Q12 were Singapore, the PRC, Thailand, the Philippines, and the Republic of Korea. The rapid growth of the Singapore corporate bond market at 9.1% q-o-q was driven by a number of factors including (i) frequent issuance by government-linked corporations such as the Housing and Development Board, (ii) issuance

of subordinated debt by banks to strengthen their capital structure to Basel III standards, (iii) issuance of perpetual bonds by both financial and non-financial companies, and (iv) issuance by companies in the power and infrastructure sectors. This pattern of issuance reflects, in large part, the upgrading of infrastructure in Singapore.

The PRC corporate bond market only grew 2.6% q-o-q in 2Q12 before recovering in 3Q12 to grow at a more typical rate of 5.0%. Growth in 3Q12 was driven mainly by local corporate bonds, which expanded 11.8% q-o-q, and medium-term notes (MTNs), which expanded 9.9% q-o-q.

The Thai corporate bond market's growth of 4.2% q-o-q in 3Q12 was driven by the growth of subordinated debt from Thai banks, as well as that of companies in the infrastructure and real estate sectors.

The Philippine corporate bond market grew 3.9% q-o-q in 3Q12. A total of PHP27.4 billion (US\$700 million) of LCY corporate bonds was sold in 3Q12 by 47 Philippine companies. Out of the 30 largest issuers, only five are privately held companies, the rest are publicly listed, including San Miguel Brewery (SMB), Banco de Oro Unibank, Ayala Corporation, Philippine National Bank, and the Manila Electric Company. The following are some notable characteristics of corporate bond issues in the Philippines in 3Q12:

- (i) The ability of these companies to issue at relatively low coupons encourages them to issue in relatively large sizes.
- (ii) Corporate bonds with maturities of 5 years have paid coupons ranging from 5.25% to 6.05% per annum.
- (iii) Bonds with maturities of 7 years have been paying coupons ranging from 5.5% to 6.25% per annum.
- (iv) Except for MTD Manila Expressways, which pays a coupon of 8.6615% for its 10-year bond, all other bonds with maturities of 10 years have coupons ranging from 5.75% to 6.95%. The bond of MTD Manila Expressways was issued through private placement and its liquidity may be limited.

- (v) Ayala Corporation's 15-year bond pays a coupon of only 6.875% per annum.

These large, blue-chip companies are tapping the capital markets—either by issuing bonds or offering equities—to take advantage of the positive business environment and rapidly growing economy in the Philippines. Philippine banks are turning to small and medium-sized enterprises (SMEs) to expand their loan business, which diminishes the interest of Philippine SMEs in issuing bonds.

The Indonesian corporate bond market grew 3.1% q-o-q in 3Q12. In terms of yields for Indonesian corporate bonds, these can range between 7% and 10%:

- (i) The Indonesian automotive leasing company Adira Dinamika Multi-Finance raised a total of IDR1.6 trillion (US\$170 million) in September by issuing bonds ranging from maturities of 370 days with a yield of 6.5% to 5 years at 8.25%.
- (ii) Property developer Bumi Serpong Damai raised a total of IDR1 trillion in 3Q12 by issuing 3-, 5-, and 7-year bonds with coupons of 8.0%, 9.25%, and 9.5%, respectively.
- (iii) Indonesian plantation firm Sinar Mas Agro Resources and Technology issued 5-year bonds with a coupon of 9.0% and 7-year bonds with a coupon of 9.25%.

The 3.3% q-o-q growth rate of the corporate bond market of the Republic of Korea in 3Q12 was driven by the special public bonds sector (3.1% q-o-q and 15.1% y-o-y) and the private corporate sector (5.2% q-o-q and 23.5% y-o-y). Growth in the financial debentures sector, which comprises bonds of commercial banking subsidiaries of financial holding companies, was flat on both a q-o-q and y-o-y basis. Large LCY corporate bond issues for 3Q12 included

- (i) Kookmin Bank's KRW500 billion (US\$439 million) 10-year bond offering a 3.4% coupon;
- (ii) Hyundai Heavy Industry's KRW400 billion 10-year bond with a 3.35% coupon;

- (iii) Lotte Shopping's 3-year bond with a 2.98% coupon; and
- (iv) Korea Expressway's 50-year bond, the longest-dated LCY corporate bond from the Republic of Korea issued in 3Q12, worth KRW100 billion and carrying a 3.48% coupon.

The corporate bond market of the Republic of Korea also saw a number of high-yield corporate issues in 3Q12, including

- (i) a 3-year asset-backed security of KRW68 billion issued by Gibo Green Hitech 1st Security Specialization Inc. at a coupon rate of 10%;
- (ii) Dongbu Corporation's 1-year bond of KRW70 billion carrying an 8.9% coupon; and
- (iii) Tongyang Inc.'s 1.5-year bond worth KRW130 billion offering a 7.4% coupon.

## The CNH Bond Market in Hong Kong, China<sup>4</sup>

CNH bonds outstanding in 3Q12 fell 5.7% q-o-q to CNH331 billion (US\$53 billion) from CNH351 billion in 2Q12. The amount of bonds outstanding declined due to a fall in issuance, which amounted to only CNH43 billion in 3Q12 versus CNH77 billion in 2Q12. On a year-to-date (YTD) basis, total issuance in the first 3 quarters of 2012 amounted to CNH185 billion versus CNH202 billion in the same period last year.

Concerns that the renminbi would no longer appreciate because of the slowing PRC economy have prompted some investors to move out of the PRC's currency. Renminbi deposits in Hong Kong, China fell to CNH552 billion in August from CNH563 billion in July. As a result, yields on CNH bonds have risen, making them less attractive for issuers, particularly those based in the PRC who can raise funds onshore.

Thus, CNH issuers are giving the CNH market more of a high-yield character. Some notable high-yield issuances in 3Q12 include Gemdale's 3-year

<sup>4</sup> CNH bonds are renminbi-denominated bonds issued in Hong Kong, China.



CNH1.2 billion bond that carried a coupon of 9.15% and Credit China Holdings' 2-year CNH200 million bond with a coupon of 11.0%.

## Ratio of Bonds Outstanding to Gross Domestic Product

### The ratio of LCY bonds outstanding to GDP in emerging East Asia rose to 54.3% in 3Q12 from 53.0% in 2Q12.

The ratio of LCY bonds outstanding to gross domestic product (GDP) in emerging East Asia rose to 54.3% in 3Q12 from 53.0% in 2Q12 (**Table 2**). The ratio of government bonds to GDP rose to 35.5% in 3Q12 from 34.8% in 2Q12, and the ratio of corporate bonds to GDP rose to 18.8% from 18.2%. The largest increases in the ratio of government bonds to GDP in 3Q12 were in Malaysia (61.5% to 66.9%), Singapore (49.4% to 53.0%), and Thailand (60.0% to 62.2%). The ratio of government bonds to GDP remained unchanged in Hong Kong, China at 37.6% and fell in Indonesia (11.2% to 10.9%) and Viet Nam (15.4% to 14.7%).

The largest increase in the ratio of corporate bonds to GDP occurred in Singapore (33.1% to 37.8%), the Republic of Korea (70.7% to 75.2%), and Malaysia (41.2% to 44.1%). The ratio of corporate bonds to GDP remained unchanged in Indonesia at 2.1% and fell in Viet Nam from 1.4% to 1.2%.

## Issuance

### Issuance in emerging East Asia in 3Q12 totaled US\$826 billion, a decrease of 3.8% q-o-q and 4.5% y-o-y.

The overall decline in issuance in the region in 3Q12 was due entirely to the decline of central bank issuance by 16.7% q-o-q and 27.7% y-o-y (**Table 3**). Issuance of treasuries and other government bonds grew 6.0% on both a q-o-q and y-o-y basis in 3Q12. Issuance of corporate bonds grew 7.5% q-o-q and a very impressive 45.4% y-o-y, which helps explain why the y-o-y growth rate for corporate bonds outstanding rose to 17.6% in 3Q12 from 15.2% in 2Q12.

**Table 2: Size and Composition of LCY Bond Markets**  
(% of GDP)

	3Q11	2Q12	3Q12
<b>China, People's Rep. of</b>			
<b>Total</b>	46.0	44.7	45.5
Government	35.1	33.3	33.7
Corporate	11.0	11.5	11.7
<b>Hong Kong, China</b>			
<b>Total</b>	70.8	70.3	70.4
Government	37.4	37.6	37.6
Corporate	33.4	32.7	33.6
<b>Indonesia</b>			
<b>Total</b>	13.7	13.3	13.1
Government	11.8	11.2	10.9
Corporate	1.9	2.1	2.1
<b>Korea, Rep. of</b>			
<b>Total</b>	113.7	118.4	124.6
Government	48.3	47.7	49.4
Corporate	65.3	70.7	75.2
<b>Malaysia</b>			
<b>Total</b>	97.4	102.7	111.0
Government	58.6	61.5	66.9
Corporate	38.8	41.2	44.1
<b>Philippines</b>			
<b>Total</b>	34.3	36.3	38.0
Government	30.0	31.4	32.9
Corporate	4.3	4.9	5.1
<b>Singapore</b>			
<b>Total</b>	76.0	82.5	90.8
Government	47.0	49.4	53.0
Corporate	29.0	33.1	37.8
<b>Thailand</b>			
<b>Total</b>	67.0	74.7	78.5
Government	54.6	60.0	62.2
Corporate	12.4	14.7	15.7
<b>Viet Nam</b>			
<b>Total</b>	15.7	16.8	15.9
Government	13.9	15.4	14.7
Corporate	1.8	1.4	1.2
<b>Emerging East Asia</b>			
<b>Total</b>	53.0	53.0	54.3
Government	35.8	34.8	35.5
Corporate	17.2	18.2	18.8
<b>Japan</b>			
<b>Total</b>	216.9	207.1	215.3
Government	197.0	189.0	196.8
Corporate	19.9	18.1	18.5

GDP = gross domestic product, LCY = local currency.

Notes:

1. Data for GDP is from CEIC. 3Q12 GDP figures carried over from 2Q12 for Hong Kong, China; the Republic of Korea; Malaysia; the Philippines; Singapore; and Thailand.

2. For Singapore, corporate bonds outstanding quarterly figures based on *AsianBondsOnline* estimates. For Japan, 3Q12 data carried over from August 2012.

Source: People's Republic of China (*ChinaBond*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia and Indonesia Stock Exchange); Republic of Korea (EDAILY *BondWeb* and The Bank of Korea); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury and Bloomberg LP); Singapore (Monetary Authority of Singapore, Singapore Government Securities, and Bloomberg LP); Thailand (Bank of Thailand); Viet Nam (Bloomberg LP); and Japan (Japan Securities Dealers Association).

**Table 3: LCY-Denominated Bond Issuance (gross)**

	LCY (billion)		US\$ (billion)		Growth Rate (LCY-base %)		Growth Rate (US\$-base %)	
	3Q12	% share	3Q12	% share	3Q12		3Q12	
					q-o-q	y-o-y	q-o-q	y-o-y
China, People’s Rep. of (PRC)								
Total	1,739	100.0	277	100.0	10.5	12.4	11.7	14.2
Government	1,203	69.2	191	69.2	9.2	(2.4)	10.4	(0.9)
Central Bank	0	0.0	0	0.0	–	–	–	–
Treasury and Other Govt.	1,203	69.2	191	69.2	9.2	12.6	10.4	14.3
Corporate	536	30.8	85	30.8	13.4	70.7	14.7	73.3
Hong Kong, China								
Total	1,312	100.0	169	100.0	(25.9)	(29.3)	(25.9)	(29.0)
Government	1,245	94.9	161	94.9	(26.8)	(30.5)	(26.7)	(30.2)
Central Bank	1,230	93.8	159	93.8	(27.0)	(30.7)	(27.0)	(30.4)
Treasury and Other Govt.	15	1.1	2	1.1	0.0	(9.4)	0.0	(9.0)
Corporate	67	5.1	9	5.1	(5.4)	4.2	(5.4)	4.6
Indonesia								
Total	79,985	100.0	8	100.0	(0.2)	27.1	(1.8)	17.6
Government	70,028	87.6	7	87.6	27.1	22.6	25.0	13.4
Central Bank	29,475	36.9	3	36.9	101.7	48.7	98.4	37.6
Treasury and Other Govt.	40,553	50.7	4	50.7	0.2	8.7	(1.5)	0.6
Corporate	9,957	12.4	1	12.4	(60.2)	71.1	(60.9)	58.3
Korea, Rep. of								
Total	160,111	100.0	144	100.0	(3.0)	5.9	0.0	12.2
Government	63,326	39.6	57	39.6	(5.1)	(14.0)	(2.2)	(8.9)
Central Bank	39,000	24.4	35	24.4	(8.2)	(17.1)	(5.4)	(12.2)
Treasury and Other Govt.	24,326	15.2	22	15.2	0.2	(8.6)	3.3	(3.1)
Corporate	96,785	60.4	87	60.4	(1.5)	24.8	1.6	32.3
Malaysia								
Total	180	100.0	59	100.0	38.1	20.3	43.4	25.5
Government	139	77.0	45	77.0	36.9	11.1	42.2	15.8
Central Bank	112	62.2	37	62.2	53.8	13.1	59.8	17.9
Treasury and Other Govt.	27	14.8	9	14.8	(6.4)	3.1	(2.8)	7.5
Corporate	41	23.0	14	23.0	42.2	67.1	47.7	74.2
Philippines								
Total	234	100.0	6	100.0	13.0	(47.8)	14.1	(45.3)
Government	206	88.3	5	88.3	55.2	(53.1)	56.7	(50.8)
Central Bank	0	0.0	0	0.0	–	–	–	–
Treasury and Other Govt.	206	88.3	5	88.3	55.2	(53.1)	56.7	(50.8)
Corporate	27	11.7	0.7	11.7	(62.9)	242.8	(62.6)	259.4
Singapore								
Total	103	100.0	84	100.0	(2.1)	7.8	1.0	14.8
Government	93	90.3	76	90.3	(6.6)	2.5	(3.7)	9.2
Central Bank	39	37.5	32	37.5	(4.0)	6.0	(1.0)	12.9
Treasury and Other Govt.	55	52.8	44	52.8	(8.4)	0.2	(5.6)	6.7
Corporate	10	9.7	8	9.7	78.5	104.6	84.0	117.9
Thailand								
Total	2,419	100.0	78	100.0	(8.1)	(19.9)	(6.0)	(18.9)
Government	2,080	86.0	67	86.0	(11.5)	(25.6)	(9.4)	(24.8)
Central Bank	1,689	69.8	55	69.8	(19.2)	(32.2)	(17.3)	(31.4)
Treasury and Other Govt.	392	16.2	13	16.2	50.8	27.1	54.4	28.6
Corporate	338	14.0	11	14.0	19.9	53.1	22.7	54.9

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Table 3 *continued*

	LCY (billion)		US\$ (billion)		Growth Rate (LCY-base %)		Growth Rate (US\$-base %)	
	3Q12	% share	3Q12	% share	3Q12		3Q12	
					q-o-q	y-o-y	q-o-q	y-o-y
Viet Nam								
Total	17,020	100.0	0.8	100.0	(81.3)	(40.4)	(81.3)	(40.6)
Government	16,170	95.0	0.8	95.0	(82.2)	(40.5)	(82.2)	(40.6)
Central Bank	0	0.0	0.0	0.0	–	–	–	–
Treasury and Other Govt.	16,170	95.0	0.8	95.0	(61.1)	(40.5)	(61.1)	(40.6)
Corporate	850	5.0	0.04	5.0	–	(38.8)	–	(39.0)
Emerging East Asia (EEA)								
Total	–	–	826	100.0	(3.8)	(4.5)	(2.3)	(2.2)
Government	–	–	611	73.9	(7.3)	(14.8)	(6.0)	(13.0)
Central Bank	–	–	320	38.7	(16.7)	(27.7)	(15.7)	(26.4)
Treasury and Other Govt.	–	–	291	35.2	6.0	6.0	7.7	8.9
Corporate	–	–	216	26.1	7.5	45.4	9.8	50.8
EEA Less PRC								
Total	–	–	550	100.0	(9.7)	(11.2)	(8.1)	(8.8)
Government	–	–	419	76.3	(13.2)	(19.5)	(11.9)	(17.6)
Central Bank	–	–	320	58.2	(16.7)	(23.2)	(15.7)	(21.8)
Treasury and Other Govt.	–	–	100	18.1	0.2	(4.8)	2.9	(0.3)
Corporate	–	–	130	23.7	4.0	32.5	6.8	39.0
Japan								
Total	51,024	100.0	654	100.0	0.7	1.4	3.1	0.3
Government	48,016	94.1	616	94.1	1.1	3.1	3.5	1.9
Central Bank	0.0	0.0	0	0.0	–	–	–	–
Treasury and Other Govt.	48,016	94.1	616	94.1	1.1	3.1	3.5	1.9
Corporate	3,008	5.9	39	5.9	(4.9)	(19.8)	(2.6)	(20.7)

– = not applicable, LCY = local currency, q-o-q = quarter-on-quarter, y-o-y = year-on-year.

Notes:

1. Corporate bonds include issues by financial institutions.

2. Bloomberg LP end-of-period LCY-US\$ rates are used.

3. For LCY base, emerging East Asia growth figures based on end-September 2012 currency exchange rates and do not include currency effects.

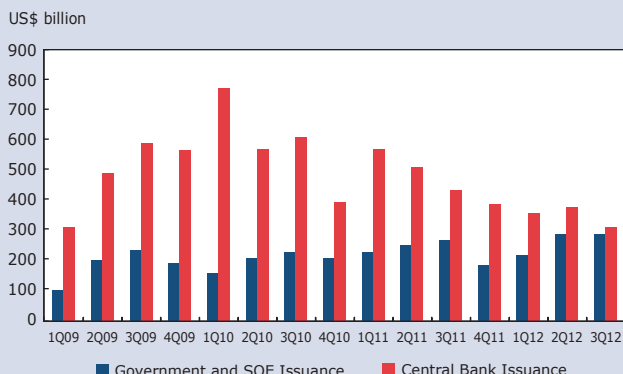
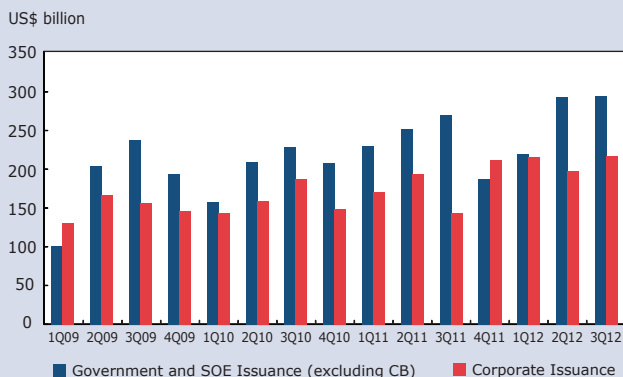
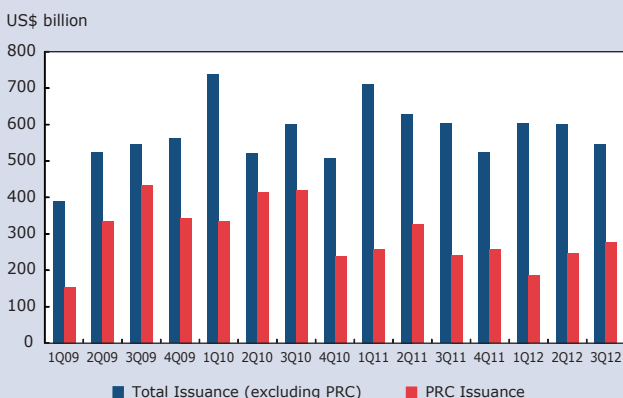
Source: People's Republic of China (*ChinaBond*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia, Indonesia Debt Management Office, and Indonesia Stock Exchange); Republic of Korea (EDAILY *BondWeb* and The Bank of Korea); Malaysia (Bank Negara Malaysia); Philippines (Bloomberg LP); Singapore (Singapore Government Securities and Bloomberg LP); Thailand (Bank of Thailand); Viet Nam (Bloomberg LP); and Japan (Japan Securities Dealers Association).

The most recent quarterly decline in central bank issuance is part of an overall trend that has been in place since 2Q10. Central bank issuance recovered briefly in 2Q12 before resuming its downward trend in 3Q12. In contrast, government bond issuance has risen significantly in the last 2 quarters to reach historically high levels. Corporate issuance in 3Q12 ranged around levels of issuance reached in 4Q11 and 1Q12 (**Figures 2a, 2b, 2c**).

The PBOC ceased issuing bills and bonds in 2012, thereby making a direct contribution to the expansion of market liquidity. HKMA sharply reduced its issuance in 3Q12 by 27.0% q-o-q and 30.7% y-o-y. What is more interesting,

however, is the result of large reductions of issuance in 3Q12 by BOK and BOT. For example, BOK reduced its quarterly issuance 8.2% q-o-q and BOT cut its issuance 19.2% q-o-q. However, the remaining amounts of central bank bonds and bills outstanding in both markets was still substantial. The stock of BOK bills declined 3.4% q-o-q, but BOK's stock of bonds was largely unchanged. BOT's stock of bonds fell 11.5% q-o-q, but its stock of bills still grew 12.7%. The consequence of these actions in both the Republic of Korea and Thailand was to reduce the growth of central bank sterilization activities, but not to eliminate it altogether. Indonesia has dramatically reduced its stock of SBI to US\$7 billion in 3Q12



**Figure 2a: Government (including SOE) and Central Bank Bond Issuance, 1Q09–3Q12****Figure 2b: Government (including SOE) and Corporate Bond Issuance, 1Q09–3Q12****Figure 2c: Total LCY Bond Issuance, 1Q09–3Q12**

CB = central bank, LCY = local currency, PRC = People's Republic of China, SOE = state-owned enterprise.

Note: In the PRC, government issuance (including SOE issuance) includes policy bank bonds, local government bonds, and savings bonds.

Source: AsianBondsOnline.

from a high point of US\$38 billion in April 2010. However, BI issued US\$3 billion of new SBI in 3Q12.

The one market where central bank issuance has not declined on a q-o-q and y-o-y basis is Malaysia. BNM's issuance grew 53.8% q-o-q and 13.1% y-o-y in 3Q12, resulting in growth of the stock of BNM bills at a rate of 12.0% q-o-q and 24.5% y-o-y.

The three markets where q-o-q growth in government bond issuance was most vigorous in 3Q12 were Thailand (50.8%), the Philippines (55.2%), and the PRC (9.2%). Thai issuance was driven by issuance from government-owned corporations rather than treasury bonds from the Ministry of Finance. Issuance by SOEs in 3Q12 amounted to US\$4.7 billion out of total government sector issuance of US\$13 billion. The most important issuer among the government-owned corporations was the Bank for Agriculture and Agricultural Cooperatives (BAAC), which issued bonds amounting to US\$3.3 billion to finance support programs for Thai farmers. Philippine issuance reflects not only issuance of treasury bonds and bills, but also issuance by government-owned corporations such as the National Home Mortgage Finance Corporation (NHMFC). The growth of PRC issuance was more or less evenly divided between treasury bonds and policy bank bonds.

Issuance is typically more volatile from quarter-to-quarter for corporate bonds than for government bonds. Thus, q-o-q growth of corporate issuance was 7.5% in 3Q12. However, y-o-y growth in corporate issuance was 45.4%. The markets most responsible for the huge y-o-y growth of corporate bond issuance were the Philippines (242.8%), Singapore (104.6%), Indonesia (71.1%), the PRC (70.7%), and Malaysia (67.1%). Meanwhile, Indonesia and the Philippines had significant q-o-q contractions in issuance of 60.2% and 62.9%, respectively. Also, the PRC's corporate issuance growth of 13.4% q-o-q was quite modest compared with y-o-y growth of 70.7%.

## Money Market Trends and Bills-to-Bonds Ratios

**The movement of bills-to-bonds ratios in emerging East Asian markets was close to being evenly divided between those that rose and those that fell in 3Q12.**

Total bills-to-bonds ratios fell in 3Q12 in four out of the eight emerging markets under review: the PRC, Indonesia, the Republic of Korea, and Viet Nam (**Figure 3a**). More specifically, the stock of PBOC bills has fallen sharply from levels in 3Q11 (**Figure 3b**). Total bonds, whether issued by governments or central banks, rose in all four cases, albeit by a very small amount—from US\$81 billion to US\$82 billion—in the case of Indonesia. The ratio of bills to bonds remained unchanged in the Philippines, reflecting in large part the fact that the central bank of the Philippines, Bangko Sentral ng Pilipinas (BSP), does not issue bills (**Table 4**). The bills-to-bonds ratio also remained essentially unchanged in Hong Kong, China, which is not included in Figure 3a, due to the fact that its extraordinarily large ratio of bills to bonds puts it

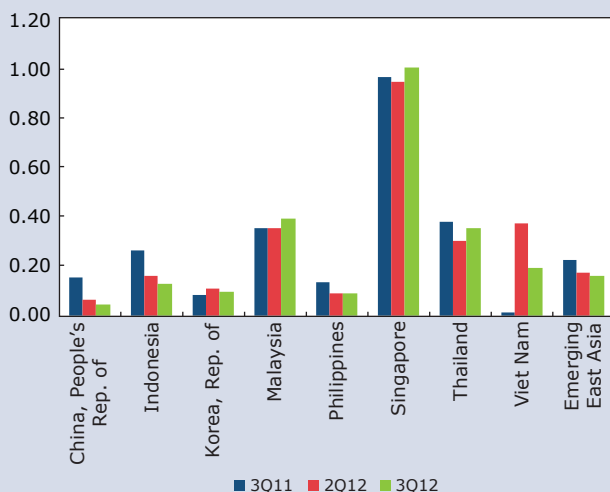
on an entirely different scale from other markets in the region.

The ratio of bills to bonds rose in Malaysia, Singapore, and Thailand, due to their rising stocks of central bank bills, even as their respective stocks of bonds—both government and central bank—also rose.

The region's stock of treasury bills was US\$94 billion at the end of 3Q12. Of this amount, US\$48 billion was in Singapore and US\$28 billion was in the PRC, leaving only US\$18 billion distributed among the rest of the region as follows: Indonesia (US\$3 billion), the Republic of Korea (US\$4 billion), Malaysia (US\$1 billion), the Philippines (US\$6 billion), Thailand (US\$3 billion) and Viet Nam (US\$0.8 billion). Around US\$1 billion of Philippine treasury bills were issued in 3Q12 outside of the usual auction system for Philippine government securities.

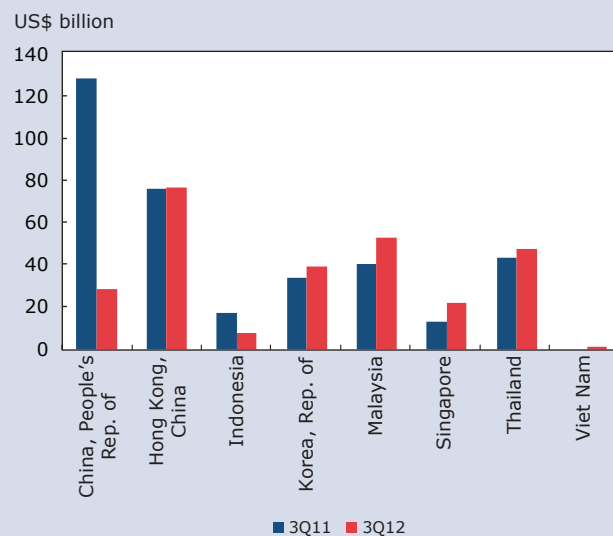
Finally, the stock of central bank bills for the region as a whole declined at a rate of 3.5% q-o-q and 23.5% y-o-y in 3Q12. Malaysia, Singapore, and Thailand recorded positive q-o-q growth rates

**Figure 3a: Total Bills-to-Bonds Ratios**



Note: Total bills comprise central bank bills plus treasury bills. Bonds comprise long-term bonds (more than 1 year in maturity) issued by central governments and central banks.  
Source: *AsianBondsOnline*.

**Figure 3b: Central Bank Bills Outstanding**



Source: *AsianBondsOnline*.

Table 4: Government Bills-to-Bonds Ratios in LCY Bond Markets

	3Q11		2Q12		3Q12		Government Bills-to-Bonds Ratio			Growth Rate (LCY-base %)		Growth Rate (US\$-base %)	
	Amount (US\$ billion)	% share	Amount (US\$ billion)	% share	Amount (US\$ billion)	% share				3Q12		3Q12	
							3Q11	2Q12	3Q12	q-o-q	y-o-y	q-o-q	y-o-y
China, People's Rep. of (PRC)													
Total	1,334	100.0	1,309	100.0	1,341	100.0				1.3	(1.0)	2.4	0.5
Total Bills	177	13.3	80	6.1	56	4.2	0.15	0.07	0.04	(30.9)	(68.9)	(30.2)	(68.4)
Treasury Bills	50	3.7	32	2.4	28	2.1	0.05	0.03	0.03	(13.5)	(44.8)	(12.6)	(43.9)
Central Bank Bills	127	9.5	48	3.7	28	2.1	0.63	0.23	0.13	(42.5)	(78.3)	(41.9)	(78.0)
Total Bonds	1,157	86.7	1,229	93.9	1,285	95.8				3.4	9.4	4.5	11.0
Treasury Bonds	954	71.5	1,018	77.8	1,072	79.9				4.1	10.7	5.2	12.4
Central Bank Bonds	203	15.2	211	16.1	213	15.9				0.0	3.1	1.1	4.7
Hong Kong, China													
Total	90	100.0	93	100.0	93	100.0				0.1	3.4	0.1	3.8
Total Bills	75	83.9	76	81.5	75.81	81.5	5.22	4.42	4.42	0.1	0.5	0.1	0.9
Treasury Bills	0	0.0	0	0.0	0	0.0	-	-	-	-	-	-	-
Central Bank Bills	75	83.9	76	81.5	76	81.5	8.41	8.51	8.52	0.1	0.5	0.1	0.9
Total Bonds	14	16.1	17	18.5	17.15	18.5				0.0	18.6	0.0	19.1
Treasury Bonds	5	6.1	8	8.9	8	8.9				0.0	50.6	0.0	51.2
Central Bank Bonds	9	10.0	9	9.6	9	9.6				0.0	(0.9)	0.0	(0.5)
Indonesia													
Total	96	100.0	94	100.0	92	100.0				(0.1)	4.2	(1.7)	(3.6)
Total Bills	20	20.7	13	13.8	10	11.3	0.26	0.16	0.13	(18.3)	(43.0)	(19.7)	(47.3)
Treasury Bills	3	2.8	3	3.3	3	3.3	0.04	0.04	0.04	(0.8)	21.9	(2.5)	12.8
Central Bank Bills	17	17.8	10	10.5	7	8.0	-	-	-	(23.9)	(53.3)	(25.1)	(56.7)
Total Bonds	76	79.3	81	86.2	82	88.7				2.9	16.5	1.2	7.8
Treasury Bonds	76	79.3	81	86.2	82	88.7				2.9	16.5	1.2	7.8
Central Bank Bonds	0	0.0	0	0.0	0	0.0				-	-	-	-
Korea, Rep. of													
Total	449	100.0	471	100.0	497	100.0				2.3	4.5	5.4	10.8
Total Bills	34	7.5	46	9.8	43	8.6	0.08	0.11	0.09	(10.0)	19.4	(7.2)	26.6
Treasury Bills	0	0.0	7	1.5	4	0.8	0.00	0.02	0.01	(45.5)	-	(43.8)	-
Central Bank Bills	34	7.5	39	8.2	39	7.8	0.30	0.38	0.37	(3.4)	8.1	(0.5)	14.6
Total Bonds	415	92.5	425	90.2	454	91.4				3.6	3.3	6.8	9.5
Treasury Bonds	301	67.2	324	68.7	350	70.5				5.0	9.6	8.2	16.2
Central Bank Bonds	113	25.3	102	21.6	104	21.0				(0.6)	(13.4)	2.4	(8.2)
Malaysia													
Total	158	100.0	176	100.0	191	100.0				4.4	15.6	8.4	20.6
Total Bills	41	26.2	46	26.2	53	28.0	0.35	0.35	0.39	11.6	23.7	15.9	29.0
Treasury Bills	1	0.9	1	0.8	1	0.7	0.01	0.01	0.01	0.0	0.0	3.9	4.2
Central Bank Bills	40	25.3	45	25.4	52	27.3	-	-	-	12.0	24.5	16.3	29.8
Total Bonds	117	73.8	130	73.8	137	72.0				1.8	12.8	5.8	17.6
Treasury Bonds	117	73.8	130	73.8	137	72.0				1.8	12.8	5.8	17.6
Central Bank Bonds	0	0.0	0	0.0	0	0.0				-	-	-	-
Philippines													
Total	63	100.0	72	100.0	76	100.0				3.5	14.7	4.5	20.3
Total Bills	8	12.0	6	8.4	6	8.1	0.14	0.09	0.09	0.0	(22.7)	1.0	(18.9)
Treasury Bills	8	12.0	6	8.4	6	8.1	0.14	0.09	0.09	0.0	(22.7)	1.0	(18.9)
Central Bank Bills	0	0.0	0	0.0	0	0.0	-	-	-	-	-	-	-
Total Bonds	55	88.0	66	91.6	69	91.9				3.8	19.8	4.8	25.7
Treasury Bonds	55	88.0	66	91.6	69	91.9				3.8	19.8	4.8	25.7
Central Bank Bonds	0	0.0	0	0.0	0	0.0				-	-	-	-

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Table 4 *continued*

	3Q11		2Q12		3Q12		Government Bills-to-Bonds Ratio			Growth Rate (LCY-base %)		Growth Rate (US\$-base %)	
	Amount (US\$ billion)	% share	Amount (US\$ billion)	% share	Amount (US\$ billion)	% share				3Q12		3Q12	
							3Q11	2Q12	3Q12	q-o-q	y-o-y	q-o-q	y-o-y
Singapore													
Total	116	100.0	130	100.0	139	100.0				4.0	12.1	7.2	19.4
Total Bills	57	49.0	63	48.5	70	50.1	0.96	0.94	1.00	7.4	14.5	10.7	21.9
Treasury Bills	44	38.0	47	36.1	48	34.3	0.75	0.70	0.69	(1.0)	1.2	2.0	7.8
Central Bank Bills	13	11.0	16	12.4	22	15.7	–	–	–	31.9	60.1	35.9	70.5
Total Bonds	59	51.0	67	51.5	69	49.9				0.8	9.9	3.9	17.1
Treasury Bonds	59	51.0	67	51.5	69	49.9				0.8	9.9	3.9	17.1
Central Bank Bonds	0	0.0	0	0.0	0	0.0				–	–	–	–
Thailand													
Total	171	100.0	189	100.0	192	100.0				(0.7)	10.8	1.6	12.1
Total Bills	47	27.4	44	23.2	50	26.2	0.38	0.30	0.35	11.9	5.8	14.6	7.0
Treasury Bills	4	2.4	3	1.7	3	1.7	0.05	0.03	0.04	2.1	(18.7)	4.6	(17.8)
Central Bank Bills	43	25.0	41	21.5	47	24.4	1.12	0.76	0.97	12.7	8.1	15.4	9.3
Total Bonds	124	72.6	145	76.8	142	73.8				(4.5)	12.7	(2.3)	14.0
Treasury Bonds	86	50.2	92	48.6	94	48.7				(0.5)	7.5	1.8	8.8
Central Bank Bonds	38	22.4	53	28.2	48	25.1				(11.5)	24.2	(9.4)	25.6
Viet Nam													
Total	7	100.0	12	100.0	12	100.0				(1.1)	63.0	(1.0)	62.6
Total Bills	0.1	1.4	3	27.2	2	16.0	0.01	0.37	0.19	(41.7)	1737.7	(41.6)	1732.8
Treasury Bills	0.1	1.4	0.4	3.3	0.8	6.9	0.01	0.05	0.08	104.7	686.7	104.9	684.6
Central Bank Bills	0	0.0	3	23.9	1	9.2	–	–	–	(62.0)	–	(62.0)	–
Total Bonds	7	98.6	8	72.8	10	84.0				14.0	38.8	14.1	38.5
Treasury Bonds	7	98.6	8	72.8	10	84.0				14.0	38.8	14.1	38.5
Central Bank Bonds	0	0.0	0	0.0	0	0.0				–	–	–	–
Emerging East Asia (EEA)													
Total	2,484	100.0	2,546	100.0	2,632	100.0				1.7	3.5	3.4	6.0
Total Bills	459	18.5	377	14.8	366	13.9	0.23	0.17	0.16	(4.6)	(21.9)	(2.9)	(20.2)
Treasury Bills	110	4.4	100	3.9	94	3.6	0.07	0.06	0.05	(7.6)	(17.0)	(5.6)	(14.1)
Central Bank Bills	349	14.0	277	10.9	272	10.3	0.96	0.74	0.73	(3.5)	(23.5)	(1.9)	(22.2)
Total Bonds	2,025	81.5	2,169	85.2	2,266	86.1				2.7	9.2	4.5	11.9
Treasury Bonds	1,661	66.9	1,794	70.5	1,891	71.9				3.7	11.2	5.4	13.9
Central Bank Bonds	364	14.7	374	14.7	374	14.2				(1.8)	(0.1)	(0.1)	2.7
EEA Less PRC													
Total	1,150	100.0	1,237	100.0	1,291	100.0				2.0	8.6	4.4	12.3
Total Bills	282	24.5	297	24.0	310	24.0	0.32	0.32	0.32	2.4	7.3	4.5	10.1
Treasury Bills	60	5.2	68	5.5	66	5.1	0.08	0.09	0.08	(4.9)	5.2	(2.4)	10.7
Central Bank Bills	222	19.3	229	18.5	244	18.9	1.38	1.40	1.51	4.6	7.9	6.6	9.9
Total Bonds	868	75.5	940	76.0	981	76.0				1.9	9.0	4.4	13.0
Treasury Bonds	707	61.5	776	62.8	820	63.5				3.2	12.0	5.6	15.9
Central Bank Bonds	161	14.0	164	13.2	161	12.5				(4.1)	(4.1)	(1.5)	0.3
Japan													
Total	9,987	100.0	9,888	100.0	10,302	100.0				1.8	4.4	4.2	3.2
Total Bills	389	3.9	376	3.8	385	3.7	0.04	0.04	0.04	(0.0004)	(0.0017)	2.3	(1.2)
Treasury Bills	389	3.9	376	3.8	385	3.7	0.04	0.04	0.04	(0.0004)	(0.0017)	2.3	(1.2)
Central Bank Bills	0	0.0	0	0.0	0	0.0	–	–	–	–	–	–	–
Total Bonds	9,598	96.1	9,512	96.2	9,917	96.3				1.9	4.5	4.3	3.3
Treasury Bonds	9,598	96.1	9,512	96.2	9,917	96.3				1.9	4.5	4.3	3.3
Central Bank Bonds	0	0.0	0	0.0	0	0.0				–	–	–	–

– = not applicable, LCY = local currency, q-o-q = quarter-on-quarter, y-o-y = year-on-year.

Notes:

1. Bloomberg LP end-of-period LCY–US\$ rates are used.
2. For LCY-base, emerging East Asia growth figures are based on end-September 2012 currency exchange rates and do not include currency effects.
3. Total figures per market refer to bills and bonds issued by the central government and the central bank. It excludes bonds issued by policy banks and state-owned enterprises. Bills are defined as securities with original maturities of less than 1 year.

Source: People's Republic of China (*ChinaBond*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia and Indonesia Stock Exchange); Republic of Korea (Bloomberg LP); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury); Singapore (Monetary Authority of Singapore); Thailand (Bank of Thailand and Bloomberg LP); Viet Nam (Bloomberg LP); and Japan (Japan Securities Dealers Association).

for bills issued by central banks or monetary authorities in 3Q12—12.0%, 31.9%, and 12.7%, respectively. Signs of growth trends among treasury bills were even more sparse than for central bank bills. The only two markets to record any significant q-o-q growth for treasury bills in 3Q12 were Thailand at 2.1% and Viet Nam at 104.7%. (As mentioned above, Viet Nam's growth occurred from a small base, leaving Viet Nam's total treasury bills at a level of US\$0.8 billion.) At the end of 3Q12, treasury bills for the region as a whole only constituted about one-quarter the amount of total bills.

## Foreign Holdings

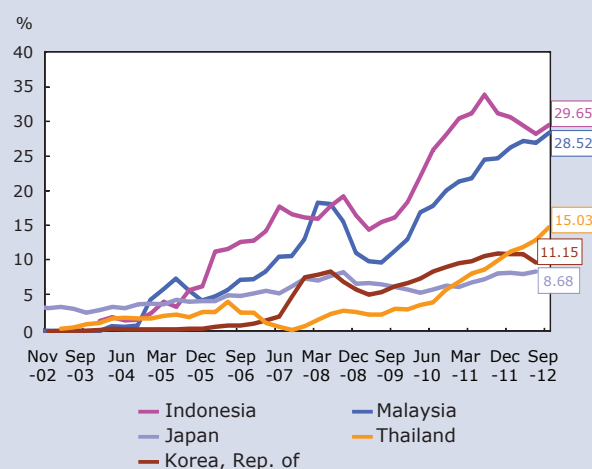
### Foreign holdings of government bonds rose in several markets in 3Q12.

The quarterly trends in foreign holdings of LCY government bonds differed among the individual markets of emerging East Asia (**Figure 4**). In Indonesia, the share of foreign holdings to total LCY government bonds climbed to 29.7% by

end-September from 28.4% at end-June. Foreign investor sentiment remained bullish on Indonesia given expectations for continued robust economic growth. Indonesia's GDP growth hovered above the 6% mark for the eighth consecutive quarter in 3Q12, expanding 6.2% y-o-y. At end-September, foreign holdings of Indonesian LCY government bonds with maturities of more than 5 years amounted to IDR168.8 trillion, or 70.1% of total foreign holdings, higher than end-June's figure of IDR150.9 trillion (67.3%) (**Figure 5**).

The share of foreign holdings in Thailand's LCY government bonds also increased in 3Q12, reaching 15.0% by end-September compared with 13.2% at end-June. The quarterly rise in foreign investment in Thailand's government bond market was supported by expectations of policy rate cuts amid softer growth momentum in the Thai economy. On 17 October, BOT's Monetary Policy Committee decided to lower the policy rate by 25 basis points (bps) to 2.75%. Also in October, BOT decided to revise downward its 2013 growth forecast to 4.6% from its earlier estimate of 5.0% made in July.

**Figure 4: Foreign Holdings of LCY Government Bonds in Select Asian Economies (% of total)**

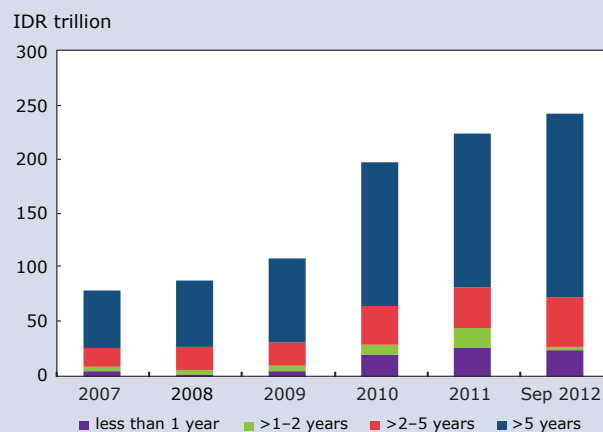


LCY = local currency.

Note: Data as of end-September 2012 except for the Republic of Korea and Japan as of end-June 2012.

Source: AsianBondsOnline.

**Figure 5: Foreign Holdings of Indonesian LCY Government Bonds by Maturity, 2007–September 2012**



LCY = local currency.

Source: Indonesia Debt Management Office.



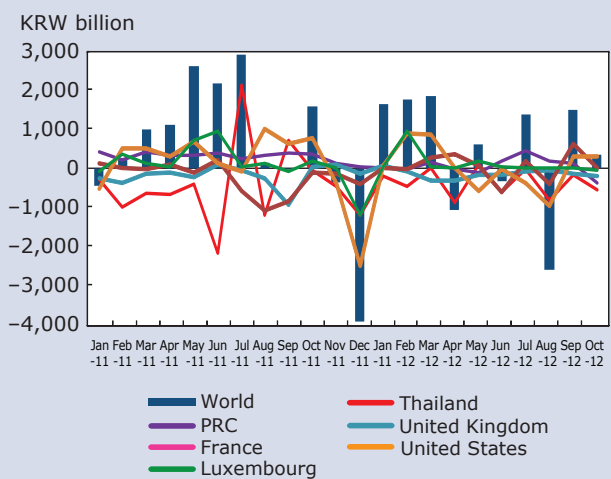
In the Republic of Korea, the share of foreign holdings fell to 10.0% at end-June from 11.1% at end-March amid heightened uncertainty due to the resurgence of the eurozone crisis. In more recent months, however, net foreign investment flows into the Republic of Korea's LCY bond market—defined to encompass both government and corporate bonds—have turned positive, leveling off at KRW361 billion in October after posting net foreign bond inflows of KRW1.5 billion in September and net bond outflows of KRW2.6 billion in August (**Figure 6**). The rating upgrades for the Republic of Korea from Standard and Poor's (S&P) and Fitch Ratings in September and by Moody's Investor Service (Moody's) in August have helped attract more foreign capital into the country's domestic bond market. Meanwhile, the share of foreign holdings of LCY government bonds in Malaysia stood at 28.5% at end-September, higher than the end-June figure of 27.1%.

## Government Bond Yield Curves

**Most government bond yield curves have shifted downward since the end of 2Q12 on the back of moderating inflation and reduced central bank policy interest rates.**

Most government bond yield curves have shifted downward since the end of 2Q12 on the back of moderating inflation and reductions in policy interest rates (**Figure 7**). The strengthening of the region's currencies also has been a factor attracting foreign investment into the region's bond markets (**Table 5**), while export performance has begun to recover in some markets. The export performance of the PRC improved in September and October, while export growth turned positive in October in the Republic of Korea for the first time in 4 months. Furthermore, ratios of government debt to GDP have generally remained below 50% across the region (**Figure 8**), and even the country with the highest ratio of government debt to GDP in emerging East Asia, the Philippines (53.6%), was upgraded to one notch below investment grade by S&P in 3Q12 and, more recently, by

**Figure 6: Net Foreign Investment by Country in LCY Bonds in the Republic of Korea, January 2011–October 2012**

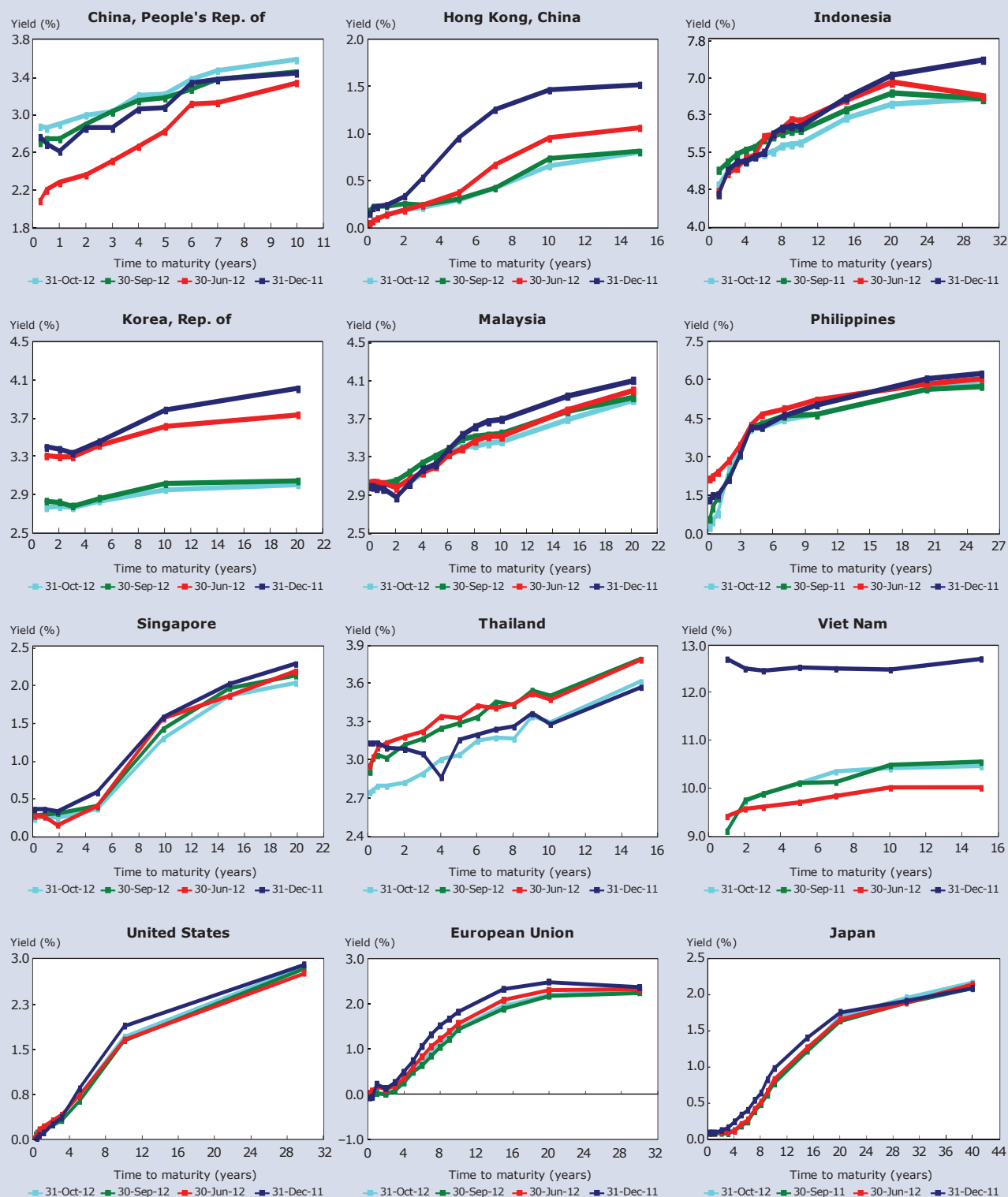


LCY = local currency, PRC = People's Republic of China.  
Source: Financial Supervisory Service (FSS).

Moody's in October (**Table 6**), reflecting improved macroeconomic fundamentals. Inflation rates in the region have leveled off in most cases and even have started to move upward in some cases (**Figure 9**). This trend could have a potential impact on the region's government bond yield curves in coming months.

The general trend of yield curves shifting downward demonstrated a wide range of variation across the region in 3Q12:

- (i) The movement of the yield curves of Malaysia and the Philippines between end-June and end-September can be generally characterized as steepening, with yields falling more at the shorter-end than in the belly of the curve. However, in both markets yields have fallen more at the longer-end of the curve. Taking the whole length of the curve into account, "arching upward" might better describe the movement of the curve for these two markets. In both markets, inflation has been trending downward. This has allowed BSP to cut its policy rates recently, and some market observers believe that BNM will keep its rates unchanged at least until the end of the year,

**Figure 7: Benchmark Yield Curves—LCY Currency Bonds**

LCY = local currency.  
Source: Based on data from Bloomberg LP.

**Table 5: Appreciation (Depreciation) of Emerging East Asian Currencies (%)**

Currency	2011	3Q12		As of 31 October 2012	
	y-o-y	y-o-y	q-o-q	y-o-y	q-o-q
CNY	4.8	1.5	1.1	1.9	0.8
HKD	0.07	0.4	0.04	0.2	0.06
IDR	(0.8)	(7.8)	(1.7)	(8.4)	(0.3)
KRW	(2.3)	5.8	3.0	1.8	1.9
MYR	(3.4)	4.2	3.8	0.6	0.4
PHP	(0.1)	4.8	1.0	3.6	1.4
SGD	(1.0)	6.3	3.0	2.8	0.6
THB	(4.8)	1.2	2.3	0.03	0.4
VND	(7.6)	(0.3)	0.1	0.8	0.2
JPY	5.3	(1.2)	2.3	(2.0)	(2.3)

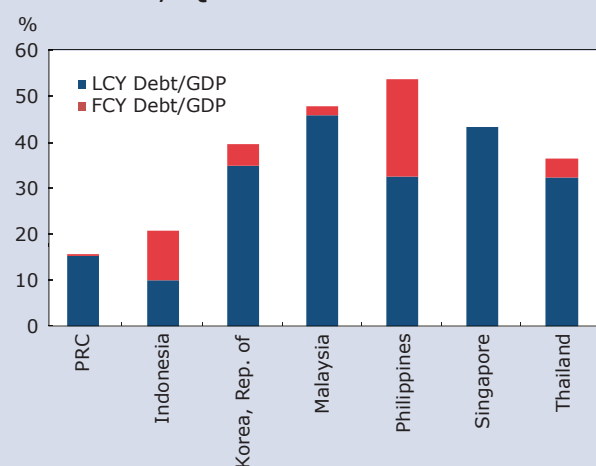
q-o-q = quarter-on-quarter, y-o-y = year-on-year.

Notes:

1. Appreciation (depreciation) is equal to  $-\text{LN}(\text{end-of-period rate}/\text{start-of-period rate})$ .

2. For 31 October 2012 q-o-q figures, appreciation (depreciation) is equal to  $-\text{LN}(31 \text{ October } 2012 \text{ rate}/\text{end-2Q12 rate})$ .

Source: Bloomberg LP.

**Figure 8: Ratios of LCY and FCY Government Debt to GDP, 2Q12**

FCY = foreign currency, GDP = gross domestic product, LCY = local currency, PRC = People's Republic of China.

Note: Data as of 30 June 2012.

Source: AsianBondsOnline.

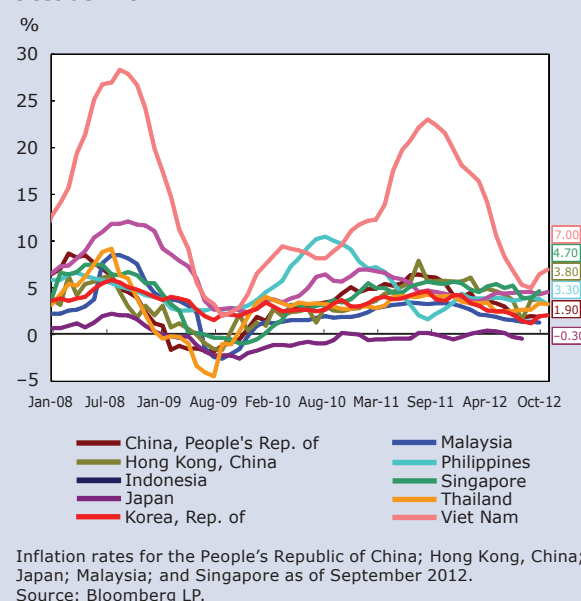
given the recent downward trend in inflation in Malaysia (**Figure 10**).

- (ii) The yield curve for Thailand steepened in 3Q12, with short-term yields falling as much as 5 bps–12 bps at the shorter-end of the curve and rising slightly at the longer-end. Yields then fell further between

**Table 6: Sovereign Credit Ratings**

	S&P	Moody's	Fitch
China, People's Rep. of	AA–	Aa3	A+
Hong Kong, China	AAA	Aa1	AA+
Indonesia	BB+	Baa3	BBB–
Korea, Rep. of	A+	Aa3	AA–
Malaysia	A–	A3	A–
Philippines	BB+	Ba1	BB+
Singapore	AAA	Aaa	AAA
Thailand	BBB+	Baa1	BBB
Viet Nam	BB–	B2	B+

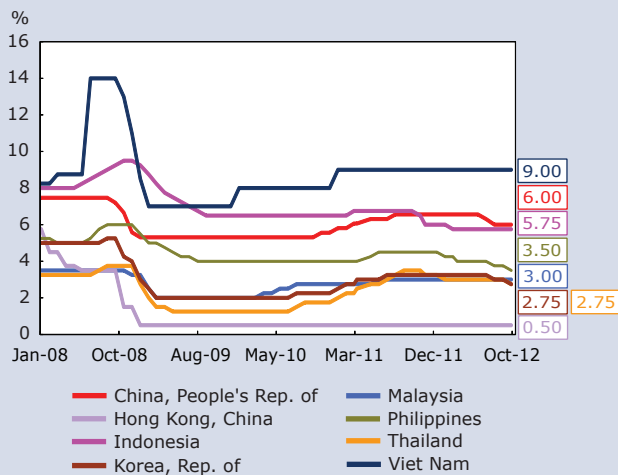
Source: Rating Agencies.

**Figure 9: Headline Inflation Rates, January 2008–October 2012**

Inflation rates for the People's Republic of China; Hong Kong, China; Japan; Malaysia; and Singapore as of September 2012.  
Source: Bloomberg LP.

end-September and end-October, falling somewhat more at the shorter-end of the curve, following the reduction of BOT's policy rate by 25 bps on 17 October. BOT described its rate cut as an effort to improve domestic demand and cushion the economy from the effects of a fragile global economy. This move by BOT was supported by a slight decline in inflation in October.

- (iii) The yield curve for the Republic of Korea shifted downward in 3Q12. This downward shift was somewhat more pronounced at the

**Figure 10: Policy Rates, January 2008–October 2012**

Source: Bloomberg LP except for Viet Nam (State Bank of Viet Nam).

longer-end of the curve, creating a flattening effect on the curve as a whole. The larger decline at the longer-end would seem to reflect weakening in the Korean economy as it suffers from a combination of falling export growth and weak domestic demand. On 11 October, BOK's Monetary Policy Committee reduced its base rate—the 7-day repurchase rate—by 25 bps to 2.75% and also lowered the interest rate on Aggregate Credit Ceiling Loans to 1.25% from 1.5%. Yields subsequently fell across all tenors.

- (iv) The Viet Nam curve shifted sharply downward between end-December 2011 and end-June. But between end-June and end-October, Viet Nam yields rose modestly—with more movement at the longer-end than at the shorter-end, resulting in a normalization of Viet Nam's yield curve. SBV cut its key interest rates on 1 July for the fifth time this year. SBV has not executed any further reduction of its interest rates since then.
- (v) The movement of the yield curves for Singapore and Hong Kong, China in 3Q12 could best be described as flattening. Inflation has been trending upward in both markets, resulting in the case of Hong Kong, China in

a rise in short-term yields between end-June and end-September, and falling yields at the longer-end of the curve. A somewhat similar pattern emerged out of Singapore between end-June and end-September. However, between end-September and end-October, yields fell slightly more at the longer-end of the Singapore curve and at the shorter-end of the Hong Kong, China curve.

- (vi) Indonesia is a more clear-cut case of yield curve flattening. In 3Q12, the LCY government bond yield curve flattened as yields rose from the shorter-end of the curve through the 5-year maturity and yields fell from the belly through the longer-end of the curve. This rise in short-term yields reflected the reluctance of BI to reduce policy rates while it remained concerned about inflationary pressures. Inflation eased in September to 4.3% y-o-y before rising again in October to 4.6%.
- (vii) The fall in long-term yields, however, reflects the growing attractiveness of Indonesia as an investment destination for both domestic and foreign investors. The economy has remained buoyant, despite the reduced export performance of recent months, due to strong domestic consumption and investment. Positive investor sentiment resulted in a further reduction of yields along the entire curve by end-October.
- (viii) The yield curve in the PRC shifted upward between end-June and end-October due to the lack of policy rate movement. Policy rates were last cut in the first week of July, when the PBOC reduced its 1-year deposit rate by 25 bps and its 1-year lending rate by 31 bps. Also, rates moved upward due to seasonal demand during the National Day Golden Week holidays in the first week of October.

Finally, the spread between the 2- and 10-year yields fell for most emerging East Asian markets between end-June and end-October, except in the cases of Thailand and Viet Nam. In the case of Thailand (**Figure 11**), the widening

## Box 1: Impact of the Global Financial Crisis: Spillovers across Asian Financial Markets

### Introduction

The September 2012 issue of the *Asia Bond Monitor* analyzed the impact of the crises in the United States (US) and eurozone on emerging Asian local bond markets. Our results show that while the growth of individual bond markets in recent years has been impressive, the threat of financial contagion to Asian bond markets from shock and volatility spillovers originating in mature markets is real. Although Asian local bond market volatilities are more determined by their own shocks and volatilities, in some countries—such as the People’s Republic of China (PRC), Indonesia, the Republic of Korea, and Thailand—the spillovers from the US and eurozone crises remain significant. During the Lehman crisis in 2008, shock spillovers were prominent, while volatility spillovers have had a more significant effect in Asia during the current eurozone crisis.

However, we are also aware that financial market interactions and spillovers during crisis periods are not limited to the direct spillovers. Substantial cross-asset market transmissions and interactions can occur during times of heightened market uncertainty and stress, adding to the overall instability of the financial system.

We have extended our analysis to investigate the channels through which the shocks and volatilities of source markets get transmitted to Asian local bond markets. The aim is to identify significant direct or indirect channels of shock and volatility propagation.

### Methodology

A broader view of financial market interactions, spillovers, and contagion during the crisis periods (Lehman and eurozone debt crises) necessitates the use of multivariate GARCH (MV GARCH) analysis of a group of domestic financial markets partnered with an international source market. In line with the previous estimation technique, this exercise also employs the unrestricted version of the Baba–Engle–Kraft–Kroner (BEKK,  $p = q = K = 1$ ) model to estimate the  $5 \times 5$  conditional variance–covariance matrix  $H_t$ .

For the impact from the Lehman collapse, the US Treasury (**UST BM**) and US high-yield corporate bond (**USC BM**) markets are used as the two main sources

of shocks and spillovers. For the eurozone debt crisis, perturbations in German Bund (**Ger BM**), European Union (EU) composite government bond (**EUCG BM**), and the European corporate bond (**EUC BM**, mainly financial sector) markets are used to examine their fallout on selected Asian local debt markets.

The group of domestic markets considered are the local bond market (**BM**), domestic equity market (**EQM**), domestic currency market (**FXM**), and domestic money market (**MM**).

The time periods are defined as the (i) Lehman collapse period from September 2008 to March 2009, and (ii) peak of eurozone debt crisis from September 2011 to September 2012.

The emphasis is on shock and volatility spillovers, particularly in domestic bond markets. However, the results are rich enough to show shock and volatility persistence and spillovers within domestic markets and from source markets to domestic markets.

### Results

**Figure B1** shows the significant channels of shock and volatility spillovers from sources in mature markets and across Asian financial markets as implied by our MV GARCH estimates.<sup>a</sup>

### Shock Spillovers

- In line with our earlier findings, there is a significant direct shock spillover from the US Treasury market into the government bond market in the PRC.
- Apart from the direct shock spillovers of US and EU government bond markets into Asian local bond markets, the multivariate GARCH estimates reveal significant transmission of shock spillovers from both the US and eurozone crisis periods into domestic money markets. During the Lehman crisis, there were significant spillovers into domestic money markets in the PRC, Indonesia, the Republic of Korea, the Philippines, and Thailand. During the eurozone crisis, in addition to the PRC, Indonesia, the Philippines, and Thailand, there was also a direct spillover into the Malaysia money market.

<sup>a</sup> See Tables B1 and B2 for the significant shock and volatility spillover coefficient values.



**Figure B1: Observed Shock and Volatility Spillovers across Asian Financial Markets**

Lehman Crisis Period	Eurozone Debt Crisis Period
<p>The channels of <b>shock spillovers</b> are</p> <ol style="list-style-type: none"> <li>1. UST <math>\rightarrow</math> BMMM FXM <math>\leftrightarrow</math> MM FXM <math>\rightarrow</math> BM</li> <li>2. USC BM <math>\rightarrow</math> BM USC BM <math>\rightarrow</math> EQM EQM <math>\rightarrow</math> BM</li> </ol>	<p>The channels of <b>shock spillovers</b> are</p> <ol style="list-style-type: none"> <li>1. EUCG BM <math>\rightarrow</math> MM BM <math>\leftrightarrow</math> MM <math>\leftrightarrow</math> FXM <math>\leftrightarrow</math> BM</li> <li>2. Ger BM <math>\rightarrow</math> BM Ger BM <math>\rightarrow</math> MM</li> <li>3. EUC BM <math>\rightarrow</math> BM EUC BM <math>\rightarrow</math> EQM</li> </ol>
<p>The channels of <b>volatility spillovers</b> are</p> <ol style="list-style-type: none"> <li>1. UST BM <math>\rightarrow</math> BM UST BM <math>\rightarrow</math> EQM BM <math>\leftrightarrow</math> EQM <math>\leftrightarrow</math> FXM <math>\leftrightarrow</math> BM</li> <li>2. USC BM <math>\rightarrow</math> BM</li> </ol>	<p>The channels of <b>volatility spillovers</b> are</p> <ol style="list-style-type: none"> <li>1. EUCG BM <math>\rightarrow</math> BM  <math>\nearrow</math> EQM  EUCG BM <math>\rightarrow</math> FXM  <math>\searrow</math> MM  <math>\nearrow</math> MM</li> <li>2. Ger BM <math>\rightarrow</math> EQM <math>\rightarrow</math> BM  <math>\searrow</math> FXM</li> <li>3. EUC BM <math>\rightarrow</math> FXM  BM <math>\leftrightarrow</math> EQM <math>\leftrightarrow</math> FXM <math>\leftrightarrow</math> BM</li> </ol>

Note:  $\rightarrow$  shows unidirectional spillover;  $\leftrightarrow$  shows two-way market feedback and/or spillover.

- The results highlight the liquidity crunch that occurs during the crisis periods. During the Lehman crisis, the US and eurozone interbank markets froze as fear engulfed market participants, creating stress in the funding and execution of capital market transactions. The liquidity crunch experienced by financial institutions in the mature markets evidently had ripple effects on Asian domestic money markets.
- The shocks delivered by US and EU government bond markets to Asian domestic money markets eventually found their way to Asian foreign exchange markets and local bond markets. There is significant spillover feedback between the domestic currency and money markets.<sup>b</sup> Since

<sup>b</sup> To further investigate claims of tightening in the US\$ funding market during the height of the Global Financial Crisis, we have used the MV GARCH model to observe spillovers between US\$ SIBOR and local money markets. Results show significant shock and volatility spillovers between the two funding markets, implying that instability is transmitted across onshore and offshore money markets.

most Asian banks have substantial holdings of local government bonds, any instability in the currency and money markets translates into instability in local bond markets.

- On the other hand, the US and eurozone corporate bond markets have shock spillovers directly into Asian local bond markets. This validates investor perceptions that most Asian government bonds are in the same asset class as high-yielding US and EU corporate bonds. The US high-yield corporate debt market impacted Indonesia, the Republic of Korea, Malaysia, and the Philippines. The disturbances in the high-yield corporate market in the eurozone generated shock spillovers in the same four markets in addition to the PRC and Thailand.
- The US and EU corporate bond markets also have shock spillovers in Asian domestic equity markets, which further supports the high-yield classification.

- There are significant shock spillovers from the other domestic asset markets into the local bond market. During the Lehman crisis, equity markets showed significant shock spillovers in local bond markets, particularly when taken alongside the US corporate bond market (i.e., the high-yield market). The currency market also showed significant shock effects on the bond market, particularly when the US Treasury bond market is the source.

### Volatility Spillovers

- The US and EU government bond markets have direct volatility spillovers into Asian local bond markets. Their values are generally larger than the shock spillovers. During the Lehman crisis, there was a direct volatility spillover from US Treasuries into the PRC, Indonesia, the Philippines, and Thailand. During the eurozone crisis, in addition to the PRC, Indonesia, the Republic of Korea, and Thailand, the volatility in the EU composite government bond market also spilled over into Malaysia.
- During the Lehman collapse crisis period, the US corporate bond market had significant volatility spillovers into all local bond markets included in this exercise. Moreover, there was a high degree of spillovers across domestic financial markets, suggesting heightened contagion in this crisis period.
- During the eurozone debt crisis period, the EU government bond market showed significant volatility spillovers not just into Asian local bond markets, but also into domestic equity, currency, and money markets, demonstrating the real and broader threat of financial market contagion from mature markets.

### Implications

The spillover modelling exercise confirms the view that the region's local bond markets are vulnerable

to the ongoing crisis in the eurozone as shocks and volatilities from the crisis affecting mature markets are transmitted into Asian domestic asset markets. The vulnerability of local bond markets is not only driven by direct linkages between the sources in mature markets and local bond markets in Asia, but more importantly through the cross-asset market spillovers within the domestic setting. The significant cross-market spillovers expose not only domestic bond markets, but also other local financial asset markets, to contagion threats as any direct spillover into one market may channel through and ultimately find its way into the other markets. The feedback and transmission of spillovers highlight the importance of coordination among domestic financial policymakers and regulators to address any market pressure and maintain financial stability.

The continued strong capital inflows that the region is experiencing further expose regional markets to contagion risks. The flow of funds from global capital markets presents opportunities for growth in the real sector when properly channelled into real investments; it also raises concerns over capital flight risks. Strengthening the domestic investor base and putting in place domestic safety nets are key policy measures needed to address any adverse impacts from capital flows reversals.

As the region moves toward greater financial integration, the results of the exercise underscore the importance of strengthening domestic and regional safety nets. Global market volatilities get transmitted to domestic asset markets and expose the region to contagion risks. From a risk-sharing viewpoint, financial integration may be beneficial as pressures in one market can be more easily diffused to other markets. On the other hand, it heightens contagion threats since a strain in one market can be shared across the region. To better stave off pressures on the region's markets and minimize the spread of contagion, strong domestic and regional safety nets are needed.

**Table B1: Shock Spillovers and Persistence (5% level of significance)****Lehman Collapse**

		Source Market					
		Variable	BM	EQ	FX	MM	US Treasury
Receptient Market	BM	Country					
		PRC	0.1663	0.0897			0.0759
		INO			0.2687		
		KOR		0.0439	0.1166	0.0039	
	EQ	PHI	0.2708		1.5465		
		THA	0.4092	0.0083	3.4587		
		PRC	0.0767	0.3517	10.2232		0.0299
		INO		0.2217			
		KOR		0.0302			
		PHI	0.0226	0.2207			0.0064
		THA	0.0094	0.1088	2.3164		
	FX	PRC	0.0001		0.1703	0.0001	
		INO	0.0096	0.0492	0.0579		
		KOR			0.2046		
		THA	0.0009		0.1085	0.0040	0.0001
	MM	PRC	0.8424	0.1672	60.1780		0.0578
		INO	0.0004	0.0027	0.0188	3.0717	0.0040
		KOR	0.1285	0.1667		0.7429	0.0144
		PHI	0.0725			0.0516	0.0446
		THA	0.0001	0.0028	0.4005	11.1316	0.0014

**EU Sovereign Debt Crisis**

		Source Market					
		Variable	BM	EQ	FX	MM	EU composite government bond
Receptient Market	BM	Country					
		PRC	0.2187	0.0135		0.0004	0.0318
		INO	0.0675	0.0211	0.2591	0.0873	
		KOR		0.0203		0.0489	
	EQ	MAL	0.2043				
		PHI	0.1304			0.0022	
		THA	0.0707	0.0120			
		PRC	0.0039	0.0079	0.0211		0.0084
		INO		0.0923	0.2658		0.0023
		KOR		0.1490			
	FX	MAL		0.1395	0.1984	0.0062	
		PHI		0.0855	0.1687		
		THA		0.0003	0.0591		
		PRC	0.0003	0.0018	0.1866	0.0015	0.0005
		INO	0.0010	0.0026	0.0131	0.0025	
		KOR	0.0004	0.0097	0.1029	0.0173	
	MM	MAL		0.0042	0.0250		0.0006
		PHI	0.0006	0.0011	0.0630		
		THA			189.4008	0.0912	0.5252
		PRC	0.2031	0.1316	0.0388	4.0678	0.0323
		INO				0.0706	
		KOR	0.0443			0.0323	0.0098
		MAL	0.0666	0.0641	0.1070	0.1286	0.0123
		PHI	0.0224	0.1325	1.3572	5.0510	0.0001
		THA	0.0031	0.0125	0.1149		

		Source Market					
		Variable	BM	EQ	FX	MM	German Bunds
Receptient Market	BM	Country					
		PRC	0.2277		10.7284		0.0002
		INO	0.1676		0.0599	0.2775	
		KOR		0.0101			0.0007
	EQ	MAL	0.1847				0.0000
		PHI	0.0375			0.7992	0.0004
		THA		0.0318			0.0002
		PRC	0.0208	0.0271	5.4637		
	FX	INO		0.0462	0.3054		
		KOR		0.1081	0.6158	0.1037	
		MAL	0.1251	0.1621		0.0031	
		PHI	0.0125	0.0430			
	MM	THA	0.0095				
		PRC		0.0003	0.0270	0.0000	
		INO	0.0020	0.0147	0.0328	0.0045	
		KOR	0.0266	0.0511	0.0189	0.0104	
		MAL		0.0070			
		PHI	0.0031				
		THA	1.5956	4.0717	113.1182	0.1254	
		PRC	0.4800	0.0154	0.4742	1.3250	0.0002
		INO	0.0431			0.3739	
		KOR				0.2687	0.0004
		MAL	0.0263	0.2376	0.0950	0.1726	0.0007
		PHI	0.0000	0.0000	5.7405	1.7978	0.0000
		THA					

		Source Market					
		Variable	BM	EQ	FX	MM	US Corp.
Receptient Market	BM	Country					
		PRC	0.0192	0.0493	22.0932	0.0227	0.3183
		INO		0.1792	0.1334	0.2383	
		KOR		0.0719	0.0736		0.3066
	EQ	MAL	0.0274			0.2732	0.3196
		PHI	0.0534	0.2961		0.0093	0.0659
		THA	0.0822	0.0429	12.0191	0.3489	
		PRC		0.0388	28.8173		0.5073
	FX	INO	0.0539	0.7445		0.5255	0.3084
		KOR		0.0180	0.0612		0.2843
		MAL		0.0456		0.0086	0.0378
		PHI	0.1764	0.0852		0.0820	
		THA		0.1917	1.6150		
		PRC			0.5707	0.0000	
		INO	0.0000	0.0284	0.2974		0.0013
		KOR	0.0158		0.1890		
	MM	MAL	0.0087	0.0034	0.0923	0.0039	0.0270
		PHI				0.0022	0.0022
		THA	0.0134		0.0186	0.0028	
		PRC	0.0005				
		INO		0.4052		0.0236	
		KOR				0.0986	
		MAL	0.0412	0.0533		0.8638	0.1765
		PHI	0.0580	0.1121	2.2800	2.2344	0.8813
		THA	0.2445	0.5423	0.1682	4.5599	0.0012
		PRC	0.0000		0.0005		

		Source Market					
		Variable	BM	EQ	FX	MM	EU Corp.
Receptient Market	BM	Country					
		PRC	0.5181		1.6111		0.0315
		INO	0.2389		0.3717		0.0181
		KOR	0.0078	0.0325		0.4358	
	EQ	MAL	0.1769		0.0186		0.0018
		PHI	0.1091		1.8479	0.0106	0.0165
		THA		0.0371			0.0426
		PRC		0.0404	10.4054	0.0005	0.0199
	FX	INO	0.0928	0.5270	2.7579	0.1290	
		KOR	0.0095	0.1327	0.4387	0.0528	0.0164
		MAL		0.0256			0.0020
		PHI	0.0071	0.2860	0.1313		
		THA		0.0556	0.0692		0.0088
		PRC	0.0002			0.0000	
		INO	0.0018	0.0150		0.0174	
		KOR				0.0123	0.0033
	MM	MAL			0.0645		
		PHI				0.1341	
		THA				0.2051	2.9383
		PRC		2.2416		0.3203	0.0074
		INO	0.1021			0.1783	0.0034
		KOR	0.0481			0.0757	0.0300
		MAL			0.1572	0.0844	
		PHI	0.0818	0.0730	1.0690	1.5821	
		THA	0.0000	0.0000	0.0006		0.0000

BM = local bond market, EQ = domestic equity market, EU = European Union, FX = domestic currency market, INO = Indonesia, KOR = Republic of Korea, MAL = Malaysia, MM = domestic money market, PHI = Philippines, PRC = People's Republic of China, THA = Thailand, US = United States.  
Source: ADB's Office of Regional Economic Integration.

**Table B2: Volatility Spillover and Persistence (5% level of significance)**

Lehman Collapse						
		Variable	Source Market			
		Country	BM	EQ	FX	MM
						US Treasury
Receptient Market	BM	PRC	0.2049	0.0581		0.0251
		INO	0.8642	0.2312		0.0104
		KOR	0.4739	0.4852	0.1425	0.0301
		PHI	0.3056			0.0114
		THA	0.6111			0.0320
	EQ	PRC	0.1263	0.0684	29.9823	0.0976
		INO		0.0485		0.0659
		KOR	0.6017	0.7370	0.6771	0.0430
		PHI	0.2771		5.1957	0.0348
		THA		0.9007	4.6840	0.0073
	FX	PRC	0.0077	0.1030	0.6400	0.0000
		INO	0.1698	0.1509	0.6870	
		KOR		0.0038	1.0927	0.0076
		PHI		0.0037		
		THA	0.0009			0.0023
	MM	PRC	0.5049			0.3318
		INO		0.0006		0.0634
		KOR				0.4310
		PHI	0.1295	1.5485		0.4055
		THA	0.0001	0.0003	0.0018	0.0044

EU Sovereign Debt Crisis						
		Variable	Source Market			
		Country	BM	EQ	FX	MM
						EU composite government bond
Receptient Market	BM	PRC		0.3137	16.7443	0.0240
		INO		0.0241	4.0671	0.0016
		KOR	0.0466	0.1019	0.2127	0.0523
		MAL	0.7894	0.0035	0.0200	0.0017
		PHI	0.8540	0.0606		0.0027
	EQ	THA	0.5891	0.0052		0.0415
		PRC	0.4638	0.1322	19.4184	
		INO	0.4103	0.4027		0.0359
		KOR		0.8594	0.0300	0.1894
		MAL		0.1086	0.7452	0.0594
	FX	PHI		0.0432	6.5700	0.0140
		THA		0.8932	0.0379	0.0137
		PRC	0.0015		0.1208	0.0011
		INO	0.0726	0.0893	0.1589	
		KOR	0.0071	0.0010	0.8832	0.0778
	MM	MAL	0.1054		0.5458	0.0012
		PHI		0.0844	0.2470	0.0093
		THA			0.8225	0.0030
		PRC			156.8631	0.3689
		INO				0.0083
		KOR	0.1265	0.0264	0.0573	0.0245
		MAL	0.0165			0.0020
		PHI	0.0203			0.0150
		THA		0.0001		0.0453

German Bunds						
		Variable	Source Market			
		Country	BM	EQ	FX	MM
						German Bunds
Receptient Market	BM	PRC	0.5360	0.0247	10.0487	0.0006
		INO	0.7053	0.0054		0.3696
		KOR	0.5149	0.1193	0.2993	
		MAL	0.8326			0.0025
		PHI	0.8898			
	EQ	THA	0.1615		7.4780	0.0025
		PRC	0.0808	0.0587	57.0317	0.0020
		INO		0.8929		0.0012
		KOR	0.2293	0.9890		0.0002
		MAL		0.2812	0.1585	0.0009
	FX	PHI		0.6959	0.7921	0.2265
		THA		0.9166		0.0049
		PRC		0.0087		0.0000
		INO	0.0283		0.8636	0.0051
		KOR		0.0365	0.9160	0.0095
	MM	MAL	0.0160	0.0145	0.1146	0.0198
		THA				0.0003
		PRC		3.7219	676.3852	0.4909
		INO	0.0262	0.0028		0.0203
		MAL	0.0775	0.3047	2.3164	0.1416
		PHI			1.3549	0.6658
		THA		0.0000	0.0000	0.2853

US Corp.						
		Variable	Source Market			
		Country	BM	EQ	FX	MM
						US Corp.
Receptient Market	BM	PRC	0.4538	0.1795	5.3379	0.2189
		INO	0.3975		1.9775	1.0190
		KOR	0.6173			0.1149
		MAL	0.5539	0.4939	1.1450	0.1253
		PHI	0.2803		0.4188	0.0644
	EQ	THA		0.1436	54.7333	0.0171
		PRC	0.4971	0.3819	32.5360	0.0806
		KOR	0.1186	0.6367	0.0504	0.0012
		MAL	0.1915	0.4009		0.0199
		PHI			10.0616	
	FX	THA	0.0540	0.6036		0.0576
		PRC	0.0001	0.0000	0.2788	0.0000
		INO	0.0235	0.0492	0.4500	0.1028
		KOR	0.0321	0.0041	0.9108	0.0005
		MAL		0.0469	0.1057	0.0608
	MM	PHI	0.0049	0.0345	0.4771	0.0373
		THA	0.0056	0.0012	0.0267	0.0215
		PRC		0.0857		0.6732
		INO			0.5498	
		KOR			0.3648	
		MAL	0.2699		2.7186	0.0073
		PHI		0.0000		3.8639
		THA			0.0977	
					0.0247	

EU Corp.						
		Variable	Source Market			
		Country	BM	EQ	FX	MM
						EU Corp.
Receptient Market	BM	PRC	0.2880		7.6736	0.0329
		INO	0.1062	0.0978	0.6723	
		KOR	0.2165		0.2669	0.1326
		MAL	0.7847			3.4559
		PHI	0.6798		0.3031	0.0068
	EQ	THA	0.2057			0.0073
		PRC			44.1673	
		INO	0.0254	0.2389		0.3135
		KOR	0.2018	0.1156	3.3536	0.6469
		MAL	0.0040	0.8867		0.0126
	FX	PHI		0.6070		0.0006
		THA	0.0202	0.8968		
		PRC		0.0077		0.0014
		INO	0.0105	0.0090	0.4777	0.1033
		KOR	0.0407	0.2263	0.0589	0.0324
	MM	MAL		0.4124	0.6481	0.0982
		PHI	0.0007	0.0035		0.0082
		THA				0.0204
		PRC			379.4810	0.0301
		INO	0.3289	0.0962		0.6553
		KOR	0.0559			0.1054
		MAL	0.0452		0.9354	0.1632
		PHI	0.1018	0.2771		0.7993
		THA		0.0128		0.2954

BM = local bond market, EQ = domestic equity market, EU = European Union, FX = domestic currency market, INO = Indonesia, KOR = Republic of Korea, MAL = Malaysia, MM = domestic money market, PHI = Philippines, PRC = People's Republic of China, THA = Thailand, US = United States.  
Source: ADB's Office of Regional Economic Integration.

of the 2- versus 10-year spread has been driven mainly by the decline in yields on 2-year bonds between end-June and end-October. In Viet Nam, yields on 2-year bonds fell over this same period, while yields on 10-year bonds rose.

## Corporate Bond Credit Spreads

### There was little movement in corporate bond credit spreads between end-June and end-October.

The lack of movement for corporate bond credit spreads is especially true for the credit spreads of high-grade bonds in the PRC and the Republic of Korea, which traditionally have seen significant movement from one quarter to another. However, in the PRC credit spreads widened slightly for the 1- and 5-year maturities between end-June and end-October, while they tightened by miniscule amounts along the rest of the PRC corporate bond credit curve (**Figure 12a**). Credit spreads for the Republic of Korea's high-grade corporate bonds tightened slightly across all maturities, as did credit

spreads for Malaysian high-grade bonds. Credit spreads for Thai high-grade bonds widened in 3Q12 for the 1.5-, 2-, 3-, and 3.5-year maturities, while tightening for most other maturities.

The trend of non-movement was even more pronounced among the credit spreads of high-yield bonds. Movements in credit spreads were almost nonexistent for high-yield bonds from the PRC, Malaysia, and the Republic of Korea, except at the very short-end of the PRC curve, which showed a sharp reduction in credit spreads (**Figure 12b**). Movements in credit spreads for Thai high-yield bonds were somewhat larger as credit spreads for bonds with maturities of 1, 3, and 4 years widened, while credit spreads for other maturities tightened.

## G3 Currency Bond Issuance

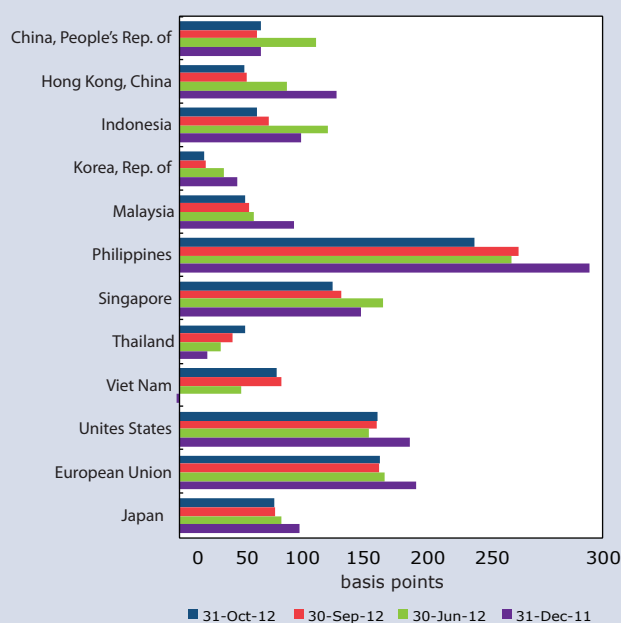
### Emerging East Asia's G3 currency issuance breached the US\$100 billion mark in 2012, reaching US\$112 billion through October.

G3 currency bond issuance in emerging East Asia soared to US\$112.1 billion through end-October, easily surpassing the full-year 2011 total of US\$75 billion, on the back of historically low funding costs (**Table 7**).

Most emerging East Asian economies recorded higher G3 currency bond issuance amounts in the first 10 months of the year than in all of 2011. The largest G3 currency issuance in the region in January–October came from the Republic of Korea, which recorded total issuance of US\$27.9 billion. Among the top G3 currency bond issuers in the Republic of Korea were banks (Korea Eximbank and Korea Development Bank) and utility companies (Korea Gas Corporation, Korea National Oil Corporation, and Korea Hydro and Nuclear Power).

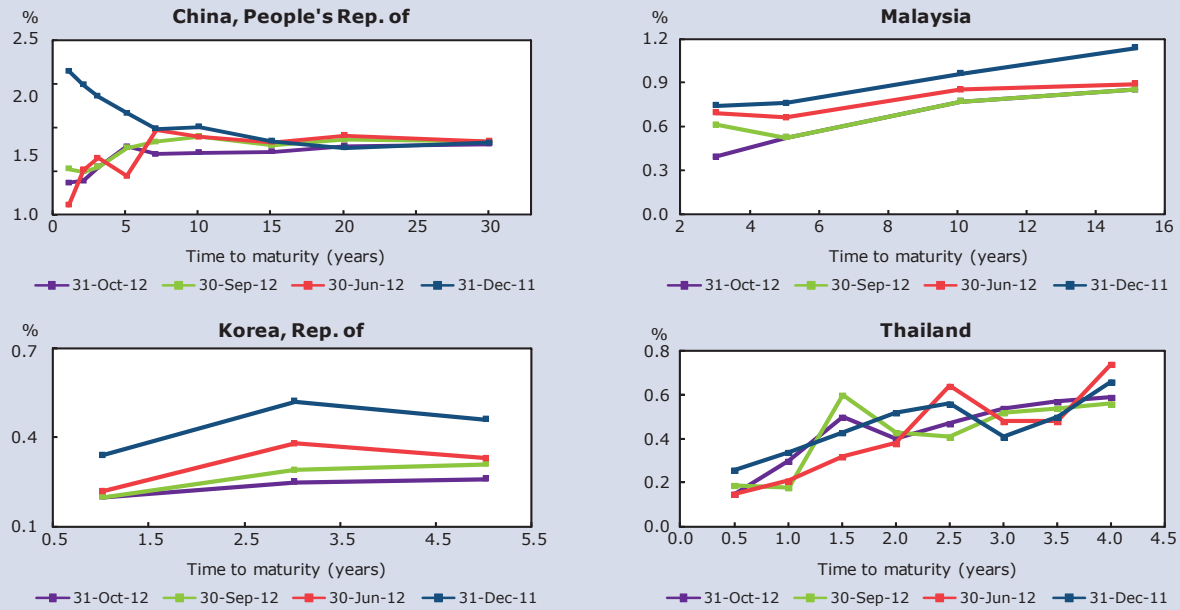
Hong Kong, China registered the second-largest G3 currency issuance in emerging East Asia in January–October, amounting to US\$24.7 billion, which eclipsed its issuance of US\$8.6 billion

**Figure 11: Yield Spreads Between 2- and 10-Year Government Bonds**



Source: Based on data from Bloomberg LP.

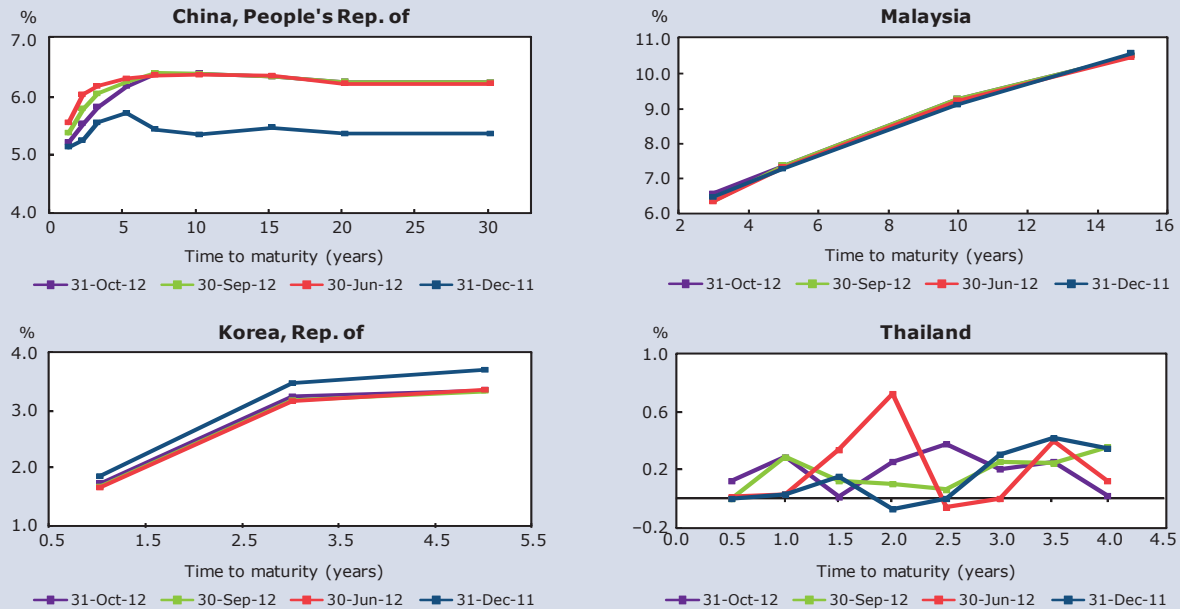


**Figure 12a: Credit Spreads—LCY Corporates Rated AAA vs. Government Bonds**

LCY = local currency.

Note: Credit spreads are obtained by subtracting government yields from corporate indicative yields.

Source: People's Republic of China (*ChinaBond*); Republic of Korea (*EDAILY BondWeb*); Malaysia (Bank Negara Malaysia); and Thailand (ThaiBMA).

**Figure 12b: Credit Spreads—Lower-Rated LCY Corporates vs. LCY Corporates Rated AAA**

LCY = local currency.

Notes:

1. For the People's Republic of China, credit spreads are obtained by subtracting corporate indicative yields rated as AAA from corporate indicative yields rated as BBB.

2. For Malaysia, credit spreads are obtained by subtracting corporate indicative yields rated as AAA from corporate indicative yields rated as BBB.

3. For the Republic of Korea, credit spreads are obtained by subtracting corporate indicative yields rated as AAA from corporate indicative yields rated as BBB+.

4. For Thailand, credit spreads are obtained by subtracting corporate indicative yields rated as AAA from corporate indicative yields rated as A.

Source: People's Republic of China (*ChinaBond*); Republic of Korea (*EDAILY BondWeb*); Malaysia (Bank Negara Malaysia); and Thailand (ThaiBMA).

**Table 7: G3 Currency Bond Issuance, 2011 and 1 January–31 October 2012**

2011			1 January–31 October 2012		
Issuer	US\$ (million)	Issue Date	Issuer	US\$ (million)	Issue Date
<b>China, People's Rep. of</b>	<b>17,829</b>		<b>China, People's Rep. of</b>	<b>21,715</b>	
CNOOC Finance 4.25% 2021	1,500	26-Jan-11	CNOOC Finance 3.875% 2022	1,500	2-May-12
Country Garden 11.125% 2018	900	23-Feb-11	Sinopec 2.75% 2017	1,000	17-May-12
China Resources Power 7.25% Perpetual	750	9-May-11	Sinopec 3.9% 2022	1,000	17-May-12
Citic Pacific 7.875% Perpetual	750	15-Apr-11	Sinopec 4.875% 2042	1,000	17-May-12
ENN Energy 6.0% 2021	750	13-May-11	COSL Finance 3.25% 2022	1,000	6-Sep-12
Longfor Properties 9.5% 2016	750	7-Apr-11	Citic Pacific 6.8% 2023	750	17-Oct-12
Others	12,429		Others	15,465	
<b>Hong Kong, China</b>	<b>8,565</b>		<b>Hong Kong, China</b>	<b>24,673</b>	
Bank of China (Hong Kong) 3.75% 2016	750	8-Nov-11	Hutchison Whampoa 2.5% 2017	1,538	6-Jun-12
China Resources Land 4.625% 2016	750	19-May-11	Hutchison Whampoa 4.625% 2022	1,500	13-Jan-12
HSBC 1.0599% 2014	500	31-May-11	Hutchison Whampoa 3.5% 2017	1,000	13-Jan-12
Newford Capital 0.0% 2016	500	12-May-11	Hutchison Whampoa 6.0% Perpetual	1,000	7-May-12
The Hong Kong Mortgage Corp. 0.5293% 2013	450	15-Apr-11	Wharf Finance 4.625% 2017	900	8-Feb-12
Others	5,615		Others	18,735	
<b>Indonesia</b>	<b>6,673</b>		<b>Indonesia</b>	<b>10,041</b>	
Indonesia (sovereign) 4.875% 2021	2,500	5-May-11	Indonesia (sovereign) 3.75% 2022	2,000	25-Apr-12
Pertamina 5.25% 2021	1,000	23-May-11	Indonesia (sovereign) 5.25% 2042	1,750	17-Jan-12
PLN 4.0% 2018	1,000	21-Nov-11	Pertamina 6.0% 2042	1,250	3-May-12
Others	2,173		Others	5,041	
<b>Korea, Rep. of</b>	<b>32,035</b>		<b>Korea, Rep. of</b>	<b>27,901</b>	
Korea Development Bank 3.875% 2017	1,000	4-Nov-11	Korea Eximbank 4.0% 2017	1,250	11-Jan-12
Korea Eximbank 4.375% 2021	1,000	15-Sep-11	Korea Eximbank 5.0% 2022	1,000	11-Jan-12
Korea National Oil Corp. 4.0% 2016	1,000	27-Oct-11	Korea National Oil Corp. 3.125% 2017	1,000	3-Apr-12
Korea Development Bank 4.0% 2016	750	9-Mar-11	Samsung Electronics 1.75% 2017	1,000	10-Apr-12
Korea Finance 4.625% 2021	750	16-Nov-11	Korea Finance Corp. 2.25% 2017	800	7-Aug-12
Korea Eximbank ( <i>samurai</i> ) 0.93% 2013	741	8-Jul-11	Korea Development Bank 3% 2022	750	14-Sep-12
Hyundai Capital 4.375% 2016	700	27-Jan-11	Korea Hydro and Nuclear Power 3% 2022	750	19-Sep-12
Korea Eximbank 3.75% 2016	700	20-Apr-11	Korea Gas 6.25% 2042	750	20-Jan-12
Posco 5.25% 2021	700	14-Apr-11	Korea Development Bank 3.5% 2017	750	22-Feb-12
Others	24,694		Others	19,851	
<b>Malaysia</b>	<b>3,100</b>		<b>Malaysia</b>	<b>6,785</b>	
Wakala Global ( <i>sukuk</i> ) 2.991% 2016	1,200	6-Jul-11	1MDB Energy 5.99% 2022	1,750	21-May-12
Others	1,900		Malayan Banking 3.25% 2022	800	20-Sep-12
<b>Philippines</b>	<b>3,450</b>		SSG Resources 4.25% 2022	800	4-Oct-12
Philippines (sovereign) 5.5% 2026	1,500	30-Mar-11	Others	3,435	
San Miguel Corp. 2.0% 2014	600	5-May-11	<b>Philippines</b>	<b>3,125</b>	
Energy Development Corp. 6.5% 2021	300	20-Jan-11	Philippines (sovereign) 5.0% 2037	1,500	13-Jan-12
Others	1,050		Others	1,625	
<b>Singapore</b>	<b>1,868</b>		<b>Singapore</b>	<b>12,392</b>	
SingTel Group 4.5% 2021	600	8-Mar-11	OCBC Bank 3.15% 2023	1,000	11-Sep-12
Others	1,268		Others	11,392	
<b>Thailand</b>	<b>1,370</b>		<b>Thailand</b>	<b>4,900</b>	
PTTEP 5.692% 2021	700	5-Apr-11	PTT Global Chemical 4.25% 2022	1,000	19-Mar-12
Others	670		Others	3,900	
<b>Viet Nam</b>	<b>90</b>		<b>Viet Nam</b>	<b>550</b>	
<b>Emerging East Asia Total</b>	<b>74,981</b>		<b>Emerging East Asia Total</b>	<b>112,081</b>	
<b>Memo Items:</b>			<b>Memo Items:</b>		
<b>India</b>	<b>11,673</b>		<b>India</b>	<b>10,469</b>	
Novelis 8.75% 2020	1,400	13-Apr-11	Reliance Holdings 5.4% 2022	1,500	14-Feb-12
Novelis 8.375% 2017	1,100	13-Apr-11	State Bank of India 4.125% 2017	1,250	1-Aug-12
ICICI Bank 4.75% 2016	1,000	25-May-11	ICICI Bank 4.7% 2018	750	21-Aug-12
Others	8,173		Others	6,969	
<b>Sri Lanka</b>	<b>1,512</b>		<b>Sri Lanka</b>	<b>2,434</b>	

Note: Not included in this table is the Philippines' sovereign Global Peso Bond, a PHP54.8 billion (US\$1.2 billion) 25-year bond issued in January 2011.  
Source: Bloomberg LP, newspaper and wire reports.

in 2011. One of the largest G3 currency bond issuers in Hong Kong, China was Hutchison Whampoa, which raised about US\$7 billion through October. The PRC was third on the list in terms of G3 currency bond issuance with a total of US\$21.7 billion, which was also larger than 2011's US\$17.8 billion. Energy companies were among the top G3 currency bond issuers from the PRC. For example, Sinopec Group, a state-owned petroleum and petrochemical company, raised a total of US\$3.5 billion in US\$-denominated bonds in the first 10 months of the year.

Meanwhile, Singapore showed the most impressive growth in G3 currency bond issues in January–October compared with full-year 2011, posting total issuance of US\$12.4 billion thus far in 2012 versus US\$1.9 billion in all of the previous year. Financial institutions were the largest issuers of G3 currency bonds in Singapore, including OCBC Bank (US\$2.2 billion), DBS Bank (US\$2.1 billion), and Temasek Financial (US\$1.7 billion in dual-tranche bonds).

In 2012, total G3 currency bond issuance from Indonesia also improved, leveling off at US\$10.0 billion through October versus US\$6.7 billion in 2011. This total was bolstered by the Government of Indonesia issuing a US\$2.0 billion 10-year bond and a US\$1.75 billion 30-year bond. Utility companies in Indonesia have likewise issued a number of US\$-denominated bonds in 2012, led by Indonesian oil company, Pertamina, which sold dual-tranche bonds totaling US\$2.5 billion in May.

Malaysia's total G3 currency bond issues in January–October reached US\$6.8 billion, more than doubling its 2011 total of US\$3.1 billion. 1MDB Energy remained the largest Malaysian G3 currency bond issuer based on its US\$1.75 billion bond sold in May. More recently, Malayan Banking (Maybank) and SSG Resources both issued US\$800 million worth of US\$-denominated bonds in September and October, respectively.

G3 issuance in 2012 has more than tripled in Thailand compared with the previous year, reaching US\$4.9 billion through October versus US\$1.4 billion in full-year 2011. PTT was the largest Thai issuer of US\$-denominated bonds, with the PTT Group issuing a total of US\$1.1 billion in dual-tranche bonds in October. Its petrochemical unit, PTT Global Chemical, sold US\$1.0 billion of 10-year bonds in March.

In the Philippines, total G3 issuance amounted to US\$3.1 billion through October, led by a 25-year sovereign bond worth US\$1.5 billion issued in January. In Viet Nam, G3 currency bond issues totaled US\$550 million in January–October.

## Market Returns

### Market returns for emerging East Asia's LCY bonds show YTD gains in all markets.

The Pan-Asian Index rose 6.8% year-to-date (YTD) through 31 October, which is identical to the 6.8% return for 2011 as a whole (**Table 8**). Most of these YTD gains were realized by the end of 3Q12, when the Pan-Asian Index's YTD return was 5.6%.

The best performing market on a US\$ unhedged basis through 31 October was the Philippines with a return of 13.4%, while the best performing market on an LCY total return basis was Indonesia at 8.6%. The return for Singapore (9.8%) was also impressive on an unhedged basis, as was that for Malaysia (7.7%). Both markets, however, shared the same return of 3.6% on an LCY total return basis. The worst performing market by both measurements was the PRC, with returns of 2.9% on an unhedged basis and 1.9% on an LCY total return basis.

The region's equity markets have delivered returns that are much improved in 2012 over 2011 returns (**Table 9**). Returns on the Far East ex-Japan Index were –16.8% in US\$ terms and –15.6% in LCY terms in 2011. However, these returns improved in January–October this year, with YTD returns of 12.3% in US\$ terms and 9.5% in LCY terms.

**Table 8: iBoxx Asia Bond Fund Index Family Returns**

Market	Modified Duration (years)	2011 Returns (%)		3Q12 Returns (%)		2012 YTD Returns	
		LCY Total Return Index	US\$ Unhedged Total Return Index	LCY Total Return Index	US\$ Unhedged Total Return Index	LCY Total Return Index	US\$ Unhedged Total Return Index
China, People's Rep. of	6.73	5.4	9.9	2.1	2.3	1.9	2.9
Hong Kong, China	4.22	5.2	5.2	3.0	3.2	3.2	3.4
Indonesia	7.09	19.7	18.4	6.6	1.6	8.6	3.1
Korea, Rep. of	4.73	6.2	4.7	6.2	9.8	6.6	12.1
Malaysia	5.25	4.7	1.8	3.0	6.6	3.6	7.7
Philippines	6.94	14.8	14.7	6.9	11.8	7.2	13.4
Singapore	6.49	6.3	5.0	3.0	8.9	3.6	9.8
Thailand	5.04	4.9	0.3	1.8	4.1	3.2	5.9
Pan-Asian Index	5.63	–	6.8	–	5.6	–	6.8
HSBC ALBI	7.54	–	4.9	–	6.3	–	7.4
US Govt. 1–10 years	3.99	–	6.8	–	1.9	–	1.6

– = not applicable, ALBI = Asian Local Bond Index, LCY = local currency, US = United States, YTD = year-to-date.

Notes:

1. The Asian Bond Fund (ABF) indices contain only government debt and government-guaranteed debt obligations.
2. Market bond indices are from iBoxx Index Family. Returns for 2012 are year-to-date as of 31 October 2012.
3. Annual returns are computed for each year using a natural logarithm of end-of-year index value/beginning-of-year index value.
4. Duration as of 31 October 2012.

Source: *AsianBondsOnline* and Bloomberg LP.

**Table 9: MSCI Index Returns**

Market	2010 Returns (%)		2011 Returns (%)		2012 YTD Returns (%)	
	LCY terms	US\$ terms	LCY terms	US\$ terms	LCY terms	US\$ terms
China, People's Rep. of	2.6	2.3	(20.4)	(20.3)	11.2	11.4
Hong Kong, China	20.0	19.7	(18.5)	(18.4)	19.7	19.9
Indonesia	25.8	31.2	4.7	4.0	10.5	4.3
Korea, Rep. of	22.1	25.3	(11.5)	(12.8)	5.4	11.3
Malaysia	19.3	32.5	(0.2)	(2.9)	5.7	10.0
Philippines	23.5	30.3	(3.1)	(3.2)	24.7	32.8
Singapore	8.1	18.4	(20.0)	(21.0)	14.1	21.2
Thailand	36.4	50.8	(1.7)	(5.6)	18.0	21.5
Far East ex-Japan Index	12.5	16.7	(15.6)	(16.8)	9.5	12.3
MSCI US	–	13.2	–	(0.1)	–	12.3

– = not applicable, LCY = local currency, MSCI = Morgan Stanley Capital International, US = United States, YTD = year-to-date.

Notes:

1. Market indices are from MSCI country indexes. 2012 returns are year-to-date as of 31 October 2012.
2. Far East ex-Japan includes the People's Republic of China; Hong Kong, China; Indonesia; the Republic of Korea; Malaysia; the Philippines; Singapore; Taipei, China; and Thailand.

Source: *AsianBondsOnline* and Bloomberg LP.