AsianBondsOnline Annual Bond Market Liquidity Survey

Current Trends in the Emerging Asian LCY Bond Market

This year's *AsianBondsOnline* Bond Market Liquidity Survey was conducted from early August through mid-October. It assessed the current state of liquidity in emerging Asia's local currency (LCY) bond markets by looking at major indicators of liquidity: bid–ask spreads, representative trading sizes, and turnover ratios; as well as how market participants view potential changes in policies and improvements to market infrastructure.[6]

During the survey period, the central role of liquidity in the health of the region's LCY bond market was underscored by the emergence of concerns about Europe's sovereign debt crisis as well as the mixed signals of economic recovery in the United States (US). These factors contributed to a widening of bid–ask spreads in most emerging Asian markets since the last *AsianBondsOnline* survey was conducted in 2010.

Liquidity, nevertheless, has remained robust—even amid the wider bid–ask spreads prevalent in most markets—due to demand from domestic investors. The region's central banks and monetary authorities had begun tightening liquidity at the end of 2010, but in most cases these measures have been put on hold in recent months. In Indonesia policy rates have even been reduced to record-low levels. Furthermore, the region's LCY government bond markets are where domestic investors find safety.

The 2011 survey revealed that market participants want governments in the region to issue more investable LCY government bonds to improve market liquidity. Governments in the region have generally pursued cautious fiscal policies and in most cases have begun to withdraw from economic stimulus programs implemented in response to the 2007–09 global financial crisis. Furthermore, central banks and monetary authorities have begun to reduce the volume of bonds and bills outstanding as they pull back from the aggressive sterilization activities undertaken from 2008 until early 2010. As a result, issuance has declined sharply in a number of markets and growth in the region's overall government bond market has fallen. This leaves the region's governments with some degree of fiscal flexibility if the problems facing the US and Europe worsen and lead to a significant spillover into the region's economies.

Recent Trends in Quarterly Turnover Ratios for LCY Bonds in Emerging East Asia

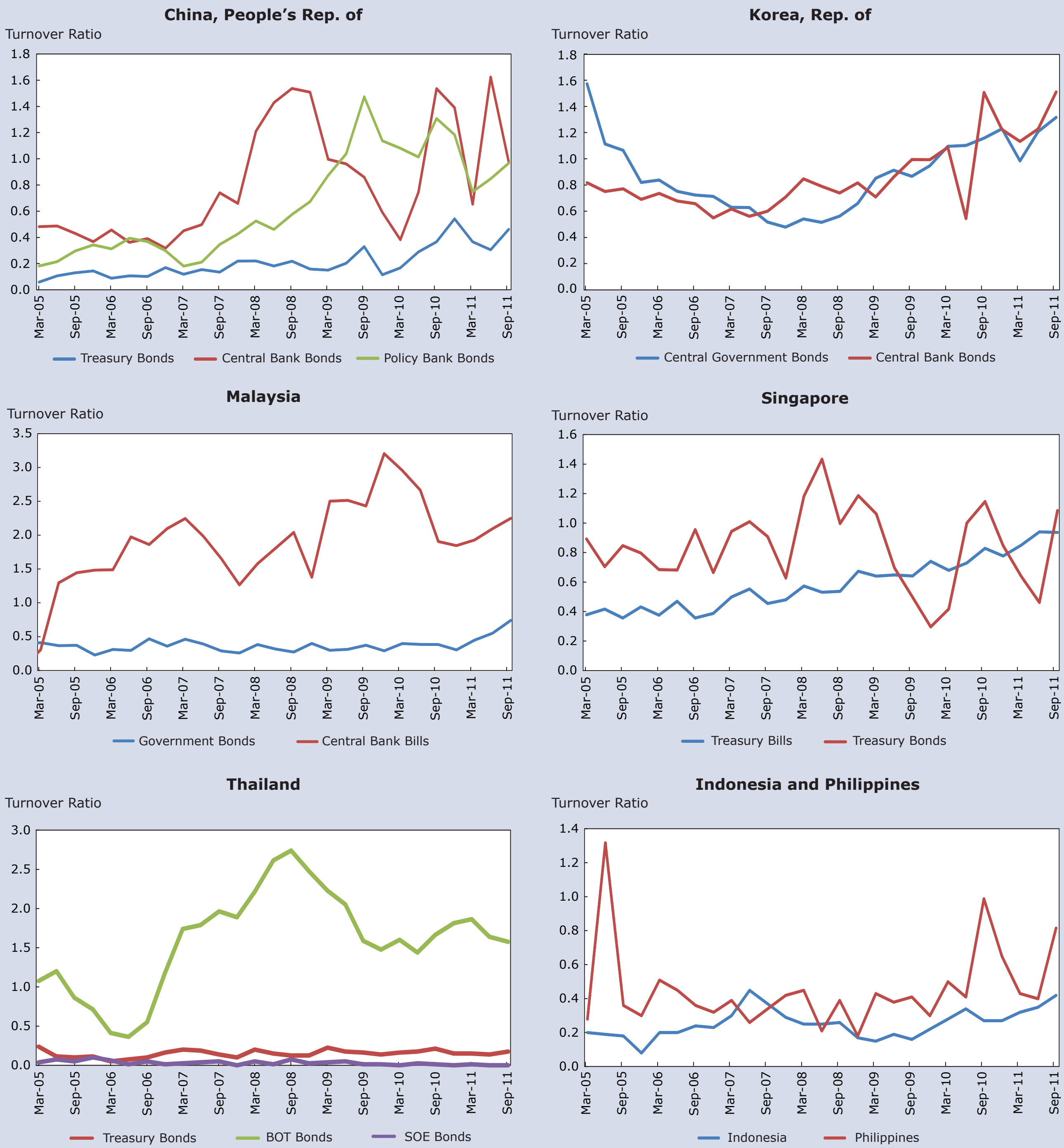
The liquidity of LCY government bonds—as measured by quarterly turnover ratios—has improved in most emerging East Asian markets in 2011 on a year-to-date basis **(Figure 13)**:[7]

- In the People's Republic of China (PRC), quarterly turnover ratios for bonds issued by the People's Bank of China (PBOC) and policy banks rose in 2Q11. The turnover ratio for PBOC bonds and bills then fell sharply in 3Q11 on the back of a continued sharp decline in issuance by the PBOC. However, the turnover ratio for policy bonds continued to rise and at the end of 3Q11 the turnover ratio for policy bank bonds (0.96) essentially converged with that for PBOC bonds (0.97). The turnover ratio for treasury bonds rose modestly in 3Q11 to a level of 0.46.
- In the Republic of Korea, turnover ratios for both central government and central bank bonds continued on their rising trajectories in place since the middle of 2008. These ratios moved in a range between 1.3 and 1.5 in 3Q11.

[6] Emerging Asia comprises the People's Republic of China; Hong Kong, China; India; Indonesia; the Republic of Korea; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam.

[7] 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.

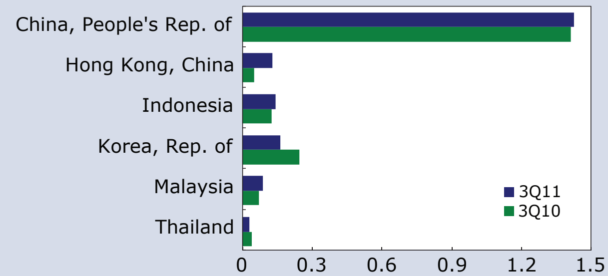
Figure 13: Trends in Quarterly LCY Government Bond Turnover Ratios, March 2005–September 2011



BOT = Bank of Thailand, LCY = local currency, SOE = state-owned enterprises.
Notes:
1. For the Republic of Korea, central government bonds include treasury bonds and National Housing Bonds.
2. For Malaysia, government bonds include Malaysian Government Securities (MGS) and Government Investment Issues (GII).
3. For the Philippines, 3Q11 government bonds oustanding used to compute the turnover ratio based on *AsianBondsOnline* estimates.
4. Turnover ratios are calculated as LCY trading volume (sales amount only) divided by average LCY value of outstanding bonds during each 3-month period.
Source: *AsianBondsOnline*.

- Malaysia's central bank bills have consistently registered some of the highest turnover ratios in the region over the last several years, climbing as high as 2.2 in 3Q11. Meanwhile, the turnover ratio for Malaysian government bonds rose from only 0.4 in 1Q11 to 0.7 in 3Q11.
- The turnover ratio for Singapore's treasury bills have historically been well below 1.0 but have risen steadily over the last 5 years, reaching a ratio of 0.9 in 3Q11. The turnover ratio for longer-term Singapore Government Securities (SGS) has historically been much higher than the ratio for bills, fluctuating at levels of 1.0 or higher. However, the turnover ratio for SGS has trended downward from a high of 1.4 in 2Q08 to 1.1 in 3Q11.
- Turnover ratios for Thailand's government bonds and state-owned enterprise (SOE) bonds are among the lowest in the region. The turnover ratio for Bank of Thailand (BOT) bonds fluctuates in a much higher range than ratios for government and SOE bonds, and has trended downward from a high of 2.7 in 2Q08 to 1.6 in 3Q11.
- Liquidity ratios for Indonesian and Philippine government bonds have remained at levels of 0.5 or less in recent years. In 3Q11 the turnover ratio for Indonesia rose slightly to 0.4, while in the Philippines the ratio moved sharply upward to 0.8. The Indonesian and Philippine governments have consistently taken measures to lengthen the maturity structure of their respective stocks of government bonds in recent years. They also have reopened existing issues on a regular basis. Issuance in both countries has significantly expanded at the longer-end of the curve with lesser liquidity available at the shorter-end.
- Turnover ratios for corporate bonds were much lower than government bonds in most regional markets in 3Q11, standing at 0.16 or less in Thailand; Malaysia; the Republic of Korea; Indonesia; and Hong Kong, China **(Figure 14)**. The turnover ratios for corporate bonds in the PRC tend to be significantly higher, ranging between 1.4 and 1.7 in recent quarters, and are broadly comparable to turnover ratios for PRC government bonds.

Figure 14: LCY Corporate Bond Turnover Ratios



LCY = local currency.
Note: Turnover ratios are calculated as LCY trading volume (sales amount only) divided by average LCY value of outstanding bonds during each 3-month period.
Source: *AsianBondsOnline*.

The 2011 survey received 110 replies to the questionnaire for government bond markets and 83 replies to the questionnaire for corporate bond markets. These replies came from a total of 118 respondents representing trading desk staff and managers, portfolio managers, bond market analysts and strategists, and bond pricing agency staff. The number of responses to the government bond questionnaire was split evenly between domestic-based and foreign firms at 55 each. The number of responses to the corporate bond market questionnaire from domestic firms was 49, while responses to the questionnaire from foreign firms totaled 39. The 2011 *AsianBondsOnline* Bond Market Liquidity Survey is the first to include responses from India.

Respondents were asked to give quantitative and qualitative feedback on measures of liquidity in emerging Asian LCY bond markets, as well as their views on the appropriate policies needed to improve market liquidity and efficiency. Market participants were asked to provide bid–ask spreads and typical transaction sizes for both "on-the-run" and "off-the-run=" government bonds. In the case of corporate bonds, market participants were asked to provide bid–ask spreads at the time when a new bond is issued, and average transaction sizes. **Table 8** summarizes survey results for the region's government bond markets.

Bid–ask spreads. The bid–ask spread is perhaps the most commonly used measure of market

Table 8: LCY Government Bond Market Quantitative Indicators

		PRC	HK	IN	ID	KR	MY	PH	SG	TH	VN	Regional
Typical Bid–Ask Spread On-the-Run (bps)	Average	4.0	4.7	1.0	32.9	0.7	3.3	5.3	3.8	3.3	33.5	9.2
	Count	16	8	4	13	13	8	21	7	10	5	105
	SD	2.1	3.7	0.9	18.5	0.3	2.4	2.3	1.7	1.9	24.6	12.7
Typical Bid–Ask Spread Off-the-Run (bps)	Average	5.9	6.4	2.5	61.9	1.1	5.9	19.4	3.5	6.8	34.0	14.7
	Count	8	5	4	9	12	7	21	6	10	5	87
	SD	2.3	4.1	0.4	40.7	0.2	4.4	7.8	0.9	2.7	24.8	19.4
Accepted LCY Bond Transaction Size On-the-Run (US$ million)	Average	15.3	5.3	1.1	2.0	8.9	3.7	3.7	18.3	1.7	3.0	6.3
	Count	16	6	4	15	12	8	21	7	10	4	103
	SD	9.6	2.5	0.3	2.1	6.4	3.8	3.4	10.3	1.8	0.7	6.0
Accepted LCY Bond Transaction Size Off-the-Run (US$ million)	Average	11.8	4.7	1.1	1.1	9.8	2.6	1.0	11.7	1.2	3.0	4.8
	Count	9	3	4	9	8	7	21	7	8	4	80
	SD	10.7	1.6	0.3	0.5	7.6	1.5	0.3	5.5	1.0	0.7	4.5

bps = basis points; HK = Hong Kong, China; ID = Indonesia; IN = India; KR = Republic of Korea; LCY = local currency; MY = Malaysia; PH = Philippines; PRC = People's Republic of China; SD = standard deviation; SG = Singapore; TH = Thailand; VN = Viet Nam.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

liquidity as it directly measures the cost of executing a trade, although bid–ask spreads are only valid for market-accepted transaction sizes and for a limited period of time. The average reported "on-the run" bid–ask spread for the government benchmark bond (typically a treasury bond) in each of the 10 markets surveyed was 9.2 basis points (bps), somewhat wider than the 7.2 bps from the 2010 survey. The two lowest on-the-run bid–ask spreads were in the Republic of Korea (0.7 bps) and India (1.0 bps), followed by Thailand and Malaysia (3.3 bps each). The widest on-the-run bid–ask spreads were found in Viet Nam (33.5 bps) and Indonesia (32.9 bps). Bid–ask spreads widened in most markets this year due to the uncertain global outlook and the risk of a weakened external performance affecting Asian economies and producing greater financial market volatility.

Liquidity can also be measured by the difference between on-the-run and off-the-run bid–ask spreads, given that greater liquidity among on-the-run bonds results in tighter bid–ask spreads. The greatest differences between on-the-run bid–ask spreads and off-the-run spreads were in Indonesia and the Philippines, where respondents reported differences that averaged 29 bps and 14 bps, respectively. However, in some markets off-the-run bonds are not only less liquid, but they exist in very small volumes and rarely trade. Thus, many respondents report that they are not involved in the off-the-run markets; Indonesia and the PRC are cases in point.

Average transaction size. Transaction size is a useful measure of market depth, given that it is an ex-post measure of the quantity of bonds that can be traded at the bid or ask price. In this year's survey, average transaction size (US$ equivalent) for government bonds ranged from a low of US$1.1 million in India to highs of US$8.9 million in the Republic of Korea, US$15.3 million in the PRC, and US$18.3 million in Singapore for on-the run bonds. Off-the-run transaction sizes for government bonds ran from a low of US$1.1 million in India to highs of US$11.7 million in Singapore and US$11.8 million in the PRC.

Characteristics of Individual Government Bond Markets

The survey also collected data on bid–ask spreads and average trading sizes for the different types of bonds in the larger individual markets, as well as information on developments in market structure**.**

The PRC. Bid–ask spreads for the PRC's treasury bills, bonds, and policy bank bonds widened by less than 2 bps between the 2010 and 2011 surveys. Bid–ask spreads for PBOC bills and

Table 9: LCY Government Bond Survey Results—People's Republic of China

	Treasury Bills	Treasury Bonds	Policy Bank Bonds	PBOC Bills	PBOC Bonds
On-the-Run					
Bid–Ask Spread (bps)	4.7	4.0	4.0	4.5	4.3
Average Trading Size (CNY million)	98.8	97.5	75.0	215.9	122.0
Off-the-Run					
Bid–Ask Spread (bps)	7.3	5.9	6.5	5.9	5.3
Average Trading Size (CNY million)	73.9	75.6	43.9	81.1	78.3

bps = basis points, LCY = local currency, PBOC = People's Bank of China.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

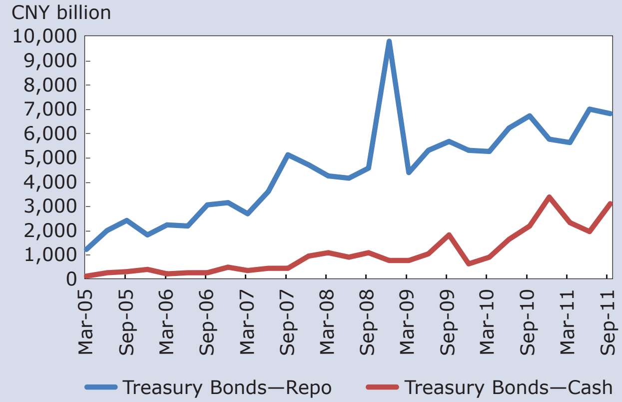
bonds, however, widened 3.0 bps and 2.8 bps, respectively. These increases reflect the tightening of PBOC monetary policy since the second half of last year. Interestingly, the bid–ask spreads for PBOC bills and bonds were somewhat wider than those for treasury bonds and policy bank bonds **(Table 9)**. PBOC bills and bonds are generally more liquid than other types of government bonds, as can be seen in their larger average trading sizes. However, the PBOC has aggressively reduced its issuance over the last year.

Current bid–ask spreads represent a more typical level than those found in the 2010 survey. At that time, bid–ask spreads in a range of 2 bps–3 bps were unusually low due to the excess liquidity that had been generated by a combination of the PBOC's accommodative monetary policy and the government's aggressive economic stimulus program. The PBOC has since raised its policy rates a number of times and implemented a series of hikes in bank reserve requirements. Most market participants expect that market liquidity will not change much in the very near-term.

One of the PRC's bond market's more attractive features is the availability of hedging instruments such as large and active repurchase (repo) markets that include a market for most classes of government bonds and several types of corporate bonds. **Figure 15** compares the trading volume of treasury bond cash trades with that of comparable repo trades.

Interest rate swaps (IRSs) are another important hedging product in the PRC. The most important

Figure 15: Repo vs. Cash Trading Volume in the People's Republic of China, March 2005-September 2011



Source: *ChinaBond*.

benchmark in the PRC's IRS market is the 7-day repo swap, which at the end of 3Q11 comprised 51% of the IRS market compared with 60%–70% in mid-2010. The next most important benchmark is the overnight Shanghai Interbank Offered Rate (SHIBOR) swap, which increased its market share to 35% at the end of 3Q11 compared with 14% in mid-2010. Meanwhile, the 3-month SHIBOR swap saw its market share decline to 10% in 3Q11 from 15% in mid-2010.

Another interesting development over the last year has been the launch of a domestic credit default swap (CDS) market. This market is regulated by the National Association of Financial Market Institutional Investors (NAFMII), which is a trade body set up by the PBOC. The CDS domestic market is divided into two sections: (i) non-tradable bilateral contracts more akin to insurance policies that are known as credit risk mitigation agreements (CRMA), and (ii) tradable contracts known as credit risk mitigation warrants (CRMW). Daily trading volume in the CRMW market is negligible because the banking regulatory authority—the China Banking Regulatory Commission (CBRC)—has yet to decide on precise rules for reflecting the reduction of risk on a financial institution's balance sheet once it buys a particular CRMW contract.

Republic of Korea. Korea Treasury Bonds (KTBs) and Monetary Stabilization Bonds (MSBs), which are issued by The Bank of Korea, remained liquid in 2011 based on the survey results presented in **Table 10**. In fact, liquidity in the LCY government bond market of the Republic of Korea improved in 2011, with bid–ask spreads for on-the-run KTBs falling to 0.7 bps from 1.1 bps in 2010, while decreasing to 1.1 bps from 1.7 bps for off-the-run KTBs. Bid–ask spreads for The Bank of Korea bills and MSBs also dropped in 2011, with bid–ask spreads for on-the-run MSBs falling to 0.8 bps from 1.1 bps in 2010.

The average trading sizes for on-the-run and off-the-run KTBs in 2011 stood at KRW10.5 billion and KRW11.6 billion, respectively, up from KRW9.8 billion and KRW9.7 billion in 2010. Bid–ask spread and trading size data in 2011 were collected during the last week of August when net monthly foreign inflows into the Korean bond market had fallen to KRW134 billion from levels of KRW2 trillion–KRW3 trillion in May–July, and just before a small net foreign outflow of KRW2.5 billion in September. Net foreign inflows into the Korean bond market staged a strong recovery in October, climbing to KRW1.3 trillion. The most recently available data from June places the share of foreign holdings in the LCY government bond market in the Republic of Korea market at around 11%.

Table 10: LCY Government Bond Survey Results—Republic of Korea

	Treasury Bonds	Treasury Bills	Central Bank Bonds	Central Bank Bills
On-the-Run				
Bid–Ask Spread (bps)	0.7	1.3	0.8	0.8
Average Trading Size (KRW billion)	10.5	8.5	8.9	8.9
Off-the-Run				
Bid–Ask Spread (bps)	1.1	1.5	1.1	1.1
Average Trading Size (KRW billion)	11.6	8.2	8.6	8.6

bps = basis points, LCY = local currency.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

Improved trading conditions in the Korean market in 2011—at a time when bid–ask spreads have widened for almost all other bond markets—reflects increased participation by both foreign and domestic investors. While the role of foreign investors has been well covered in the financial press, it is not as widely highlighted that domestic investors have become much more active in the government bond market. Domestic investors appreciate the fact that government bonds provide a safer alternative to other investment opportunities. Government efforts at increasing the size and liquidity of key benchmark bonds—often through re-openings—have made KTBs a more attractive investment. The Republic of Korea is one of the markets where investors would like to see a larger supply of government bonds.

India. The survey results indicate that Government of India (GOI) bonds are the most liquid government bond in India **(Table 11)**. The average bid–ask spread for on-the-run GOI bonds was 1.0 bps, followed by special government bonds at 2.8 bps and treasury bills at 4.3 bps. GOI bonds are issued by the Reserve Bank of India, but the proceeds are used mainly for funding budgetary expenditures and infrastructure projects. Special government bonds are issued to fertilizer and oil marketing firms to serve as a form of compensation for these companies in lieu of cash subsidies. The average trading size for GOI bonds and treasury bills was the same at INR56.3 million each, and is slightly higher for special government bonds at INR58.3 million.

The Indian LCY government bond market has garnered increased interest from fund managers in the region over the last several years due to its size

Table 11: LCY Government Bond Survey Results—India

	Treasury Bills	Government of India Bonds	Special Government Bonds
On-the-Run			
Bid–Ask Spread (bps)	4.3	1.0	2.8
Average Trading Size (INR million)	56.3	56.3	58.3

bps = basis points, LCY = local currency.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

and rapid growth. Government bonds outstanding reached the equivalent of US$948 billion at the end of 2Q11, making this market the third largest government bond market in the region after the PRC (US$3.2 trillion) and the Republic of Korea (US$1.3 trillion). More importantly, the Indian government bond market grew 32.1% year-on-year (y-o-y) in 2Q11, making it the most rapidly growing government bond market in the region. The only other major Asian government bond markets to approach this growth rate in 2Q11 were Malaysia and Viet Nam, which grew 20.9% and 18.8% y-o-y, respectively.

The Indian government has taken measures over the last year to open up both the government bond market and the corporate bond market to greater foreign participation. It also has taken steps to develop the repo market and to set up a domestic CDS market. These are positive initial steps, although it will likely take a few more years before these efforts reach fruition.

Indonesia. The most liquid government bond instruments in Indonesia are treasury bonds, with liquidity concentrated mainly in benchmark bonds. The Finance Ministry has chosen four state bonds—FR0055, FR0053, FR0056, and FR0054—as its benchmark series for 2011. There is less liquidity in treasury bills due to their small issue size. Liquidity is also limited for *Sertifikat* Bank Indonesia (SBI) because of the 6-month holding period that Bank Indonesia imposes upon investors who purchase these instruments.

The 2011 survey results for Indonesia showed an average on-the-run bid–ask spread of 32.9 bps for treasury bonds **(Table 12)**. This is the second-highest spread among all emerging Asian markets in this or past years' surveys. (The 33.5 bps spread for Viet Nam's government bonds in the 2011 survey is the highest.) Bid–ask spreads for treasury bills and SBI were slightly wider than for treasury bonds. The average off-the-run bid–ask spreads for all government bond instruments were almost double their comparable on-the-run spreads. The highest off-the run bid–ask spread was for SBI at 75.0 bps, while off-the-run spreads were slightly lower for treasury bills and treasury bonds.

Table 12: LCY Government Bond Survey Results—Indonesia

	Treasury Bills	Treasury Bonds	SBI
On-the-Run			
Bid–Ask Spread (bps)	36.4	32.9	36.5
Average Trading Size (IDR billion)	23.7	18.3	67.0
Off-the-Run			
Bid–Ask Spread (bps)	58.0	61.9	75.0
Average Trading Size (IDR billion)	15.1	10.1	36.3

bps = basis points, LCY = local currency, SBI = *Sertifikat* Bank Indonesia.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

The average on-the-run transaction size for treasury bonds stood at IDR18.3 billion in 2011, while SBI traded at a larger average size of IDR67 billion. The same trend was observed for off-the-run transaction sizes, with the SBI average trading size about three times larger than the average for treasury bonds.

Although government bond liquidity has improved in Indonesia in recent years, the turnover ratio still remains below 0.5. Survey respondents suggested a number of possible steps that the government could take to improve liquidity including (i) issuing treasury bills in larger sizes, (ii) issuing treasury bonds in "super long-dated" maturities well beyond the 40-year maturity that is currently the longest-dated bond in the market, and (iii) taking measures to develop a meaningful repo market to guard against sudden external shocks. While a repo market already exists in Indonesia, the government has yet to implement the regulatory measures needed to support its operation.

Malaysia. Unlike other governments in the region, the Malaysian government is still pursuing an aggressive fiscal stimulus program. The large increase in issuance by Bank Negara Malaysia (BNM) stands in stark contrast to most other central banks in the region that have reduced issuance sharply as they withdraw from sterilization measures pursued in the aftermath of the 2007–09 global financial crisis.

Malaysian bid–ask spreads on benchmark government bonds widened modestly to 3.3 bps in 2011 from 2.6 bps in 2010. The bid–ask spread for on-the-run Malaysian Government Securities (MGSs) was used as a proxy for Malaysian benchmark government bonds **(Table 13).** Bid–ask spreads for Government Investment Securities (GIIs) averaged a slightly wider 3.4 bps. The average trading size for MGSs was MYR11.7 million in 2011, almost twice as large as 2010's average trading size of MYR6.2 million. The combination of a much larger average trading size and bid–ask spreads that have widened suggests that the latest round of uncertainty in global financial markets has had only a modest negative effect on the Malaysian government bond market.

Philippines. The average bid–ask spread for Philippine treasury bonds widened modestly to 5.3 bps in 2011 from 3.1 bps in 2010 **(Table 14)**. Similarly, the average bid–ask spread for treasury bills climbed to 14.5 bps in 2011 from 10.3 bps in 2010. Average trading sizes for treasury bonds shrank to PHP161.9 million in 2011 from PHP225.6 million in 2010. Typical trading volumes for treasury bills were significantly larger in 2011 at PHP43.0 million compared with PHP28.8 million in 2010 as offshore investors bid actively for the limited supply of short-dated securities to speculate on the Philippine currency.

Bid–ask spreads for Philippine government bonds narrowed considerably during the course of 2011. The average bid–ask spread for government benchmark bonds during the week of 14–18 March was 20.9 bps. By the week of 29 August–2 September, the average bid–ask spread had fallen to 4.2 bps. The high point in spreads in March, which stood in stark contrast to an average bid–ask spread of only 3.1 bps in 2010, was the result of political and social unrest in the Middle East and global financial uncertainty compounded by the 11 March earthquake and tsunami in Japan. The trend toward tighter bid–ask spreads in the latter half of 2011 was noticeable after a July bond swap that created a new series of longer-dated benchmark bonds. This most recent bond exchange was similar to other previous exchanges over the last year in creating greater liquidity at the longer-end of the curve. Prior to 2011, investors in longer-dated bonds were mostly insurance firms and trust companies, and other buy-and-hold investors. The creation of the 20- and 25-year benchmarks in the recent bond exchanges has encouraged greater participation in

Table 13: LCY Government Bond Survey Results—Malaysia

	MGS	GII	BNM Bills	Treasury Bills
On-the-Run				
Bid–Ask Spread (bps)	3.3	3.4	3.9	5.3
Average Trading Size (MYR million)	11.7	13.0	31.9	26.7
Off-the-Run				
Bid–Ask Spread (bps)	5.9	5.5	4.2	4.9
Average Trading Size (MYR million)	8.4	10.0	24.6	26.7

BNM = Bank Negara Malaysia, bps = basis points, GII = Government Investment Issues, LCY = local currency, MGS = Malaysian Government Securities.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

Table 14: LCY Government Bond Survey Results—Philippines

	Treasury Bonds	Treasury Bills
On-the-Run (large-issued)		
Bid–Ask Spread (bps)	5.3	14.5
Average Trading Size (PHP million)	161.9	43.0
Off-the-Run		
Bid–Ask Spread (bps)	19.4	27.7
Average Trading Size (PHP million)	45.2	39.9

bps = basis points, LCY = local currency.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

the government bond sector by banks and other financial institutions.

Qualitative Indicators for Government Bond Markets

The 2011 *AsianBondsOnline* Bond Market Liquidity Survey asked participants in the region's LCY government and corporate bond markets for their views on market structure and ways to improve liquidity. The "spider charts" included in this section capture market participants' perceptions of the importance of the following structural and policy issues in strengthening and deepening LCY bond markets:

(i) greater diversity of investors and traders,
(ii) easing restrictions on market access,
(iii) easing foreign exchange regulations and restrictions,
(iv) availability of funding for market participants,
(v) tax treatment,
(vi) settlement and custody,
(vii) more efficient hedging instruments, and
(viii) transparency.

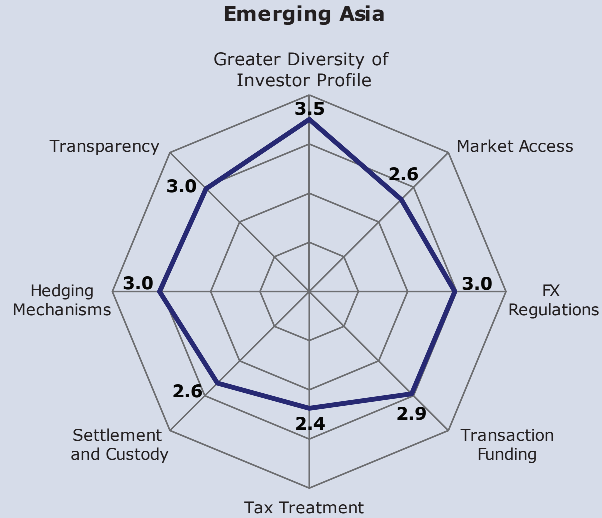
Market participants were asked to characterize each of the above issues by degree of importance, with a corresponding numerical score, as they affect market structure and liquidity:

(i) not important (1),
(ii) somewhat important (2),
(iii) important (3), or
(iv) very important (4).

Figure 16 summarizes the results as they relate to the structure of the region's LCY government bond market as a whole. The most important structural issue for market participants was investor diversity, which had a score of 3.5, followed by hedging mechanisms, transparency, and foreign exchange regulations, all with scores of 3.0, and transaction funding with a score of 2.9. The lowest scores were for settlement and custody (2.6), market access (2.6), and tax treatment (2.4).

Greater Diversity of Investors and Traders. Greater diversity of investors and traders was

Figure 16: Regional Averages—LCY Government Bond Market Structural Issues



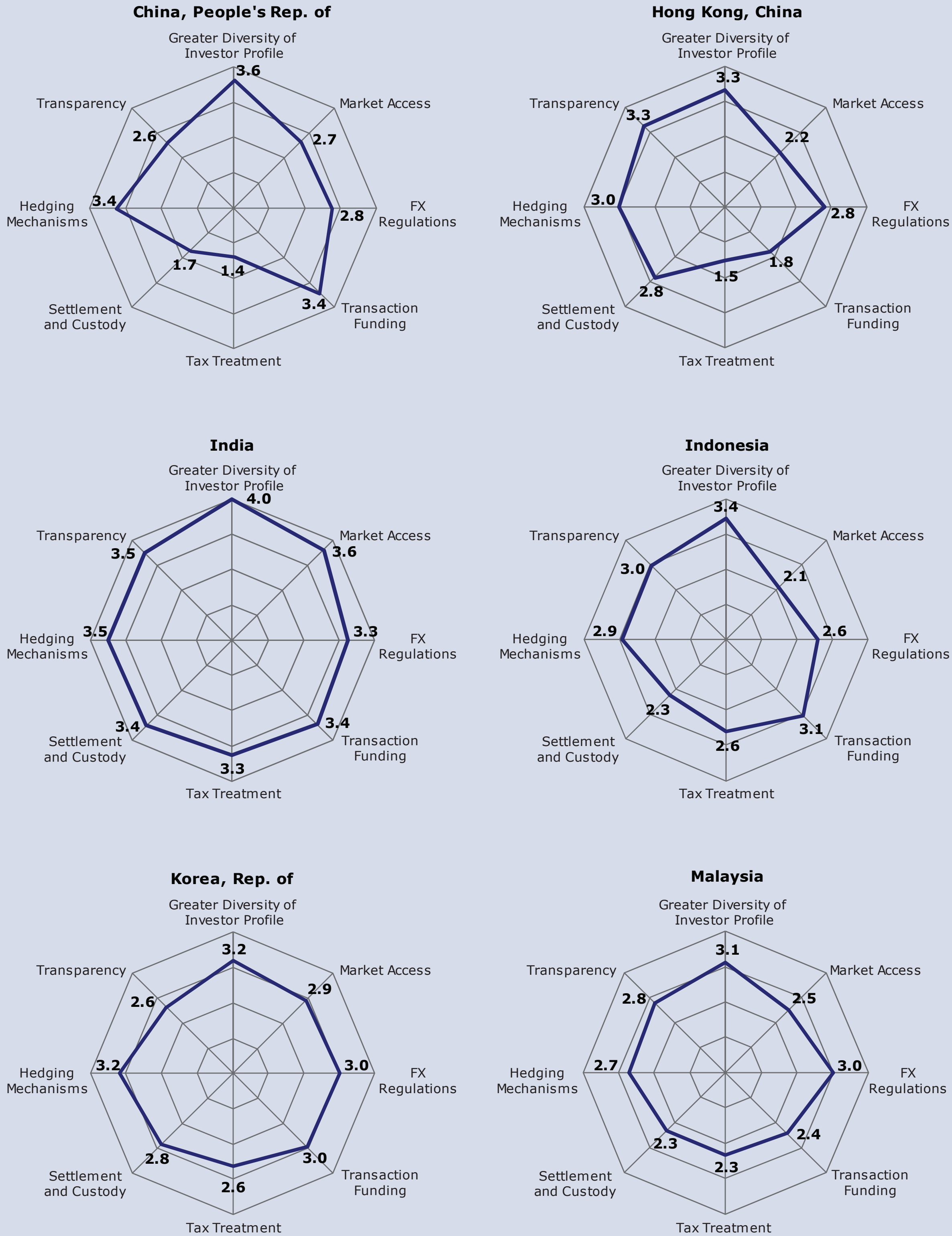
FX = foreign exchange, LCY = local currency.
Note: Emerging Asia comprises the People's Republic of China; Hong Kong, China; India; Indonesia; Republic of Korea; Malaysia; Philippines; Singapore; Thailand; and Viet Nam.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

viewed as especially important in India (4.0), Thailand (3.9), Viet Nam (3.8), the Philippines (3.6), and the PRC (3.6) **(Figure 17).** Banks and other financial institutions continued to dominate most government bond markets in emerging Asia. For example, at end-September banks' holdings of LCY treasury bonds in the PRC stood at 65% of the total. And in the Republic of Korea, financial institutions—banks, insurance firms, pension funds, and other financial institutions—held about 60% of all LCY government bonds.

Hedging Mechanisms. The availability of hedging or derivative instruments (e.g., forwards, futures, options, swaps) had an average score of 3.0 across the region, suggesting that the increased availability of such mechanisms is an important requirement for promoting greater bond market liquidity. This criterion had the highest scores in India and the PRC at 3.5 and 3.4, respectively, followed by the Republic of Korea at 3.2 and Hong Kong, China; the Philippines; Thailand; and Viet Nam at 3.0 each.

A number of hedging instruments are currently available in emerging Asian markets. For example, in

Figure 17: Structural Issues for Individual LCY Government Bond Markets



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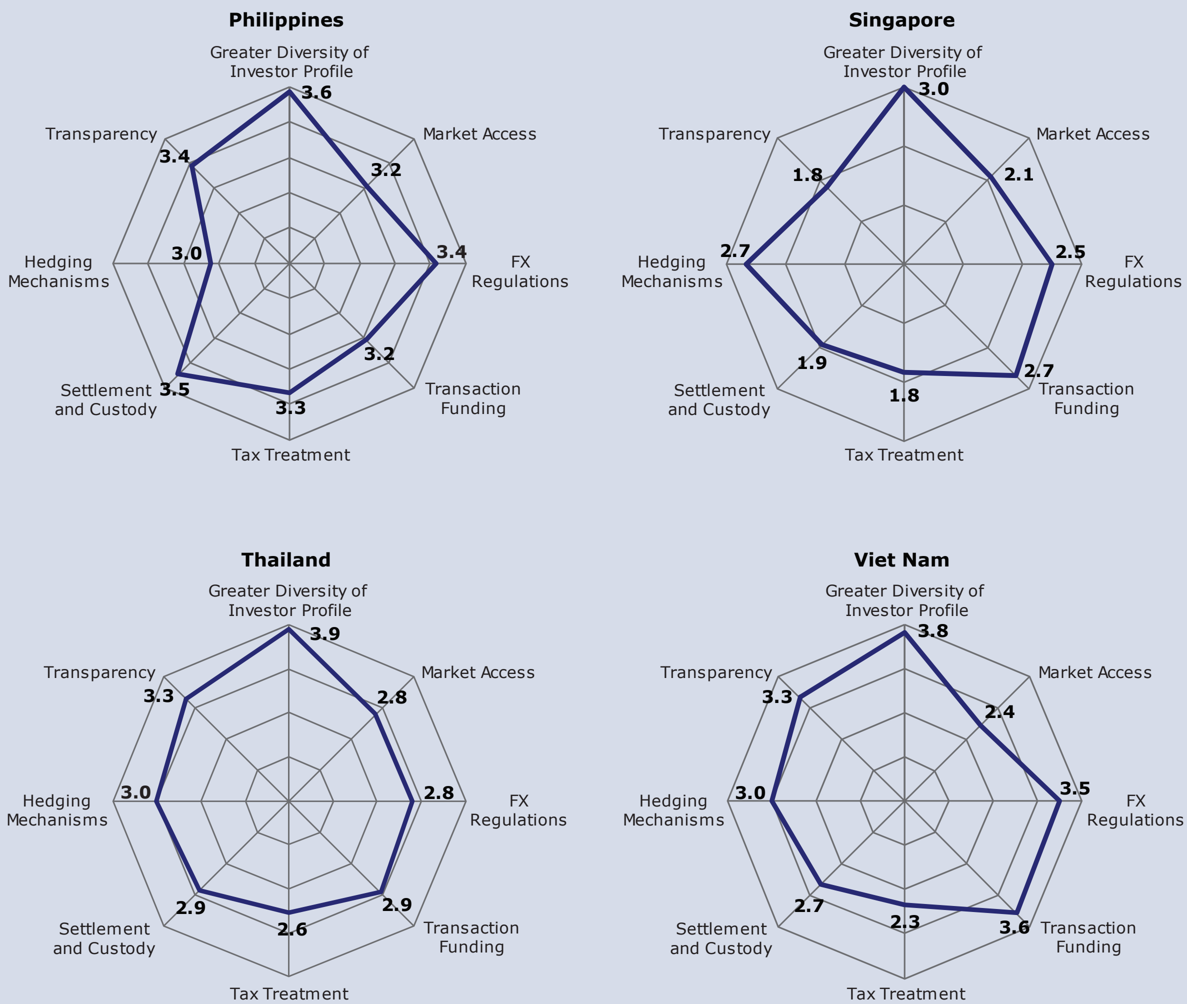


FX = foreign exchange, LCY = local currency.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

Hong Kong, China, interest rate and cross-currency swaps are available and relatively liquid, as are 3-year Exchange Fund Note (EFN) futures. Interest rate and cross-currency swaps are also offered in the PRC. In the Republic of Korea, 3-, 5-, and 10-year Korean Treasury Bond (KTB) futures are offered, but currently only the 3-year KTB futures are liquid. The Korean government, however, recently changed settlement procedures for 10-year KTB futures from a physical to a cash basis.

Foreign Exchange Regulations. Government bond market participants generally rated foreign exchange regulations as being an important factor in market liquidity, with a regional average score of 3.0. Participants in several markets in particular highlighted the importance of the relationship between foreign exchange regulations and bond market liquidity, including Viet Nam (3.5), the Philippines (3.4), and India (3.3). The importance of foreign exchange regulations as a structural obstacle to further development of the LCY bond market was given a score of 3.0 in the Republic of Korea and Malaysia, but only 2.8 in the PRC.

Transparency. Transparency was deemed an important issue by most government bond market participants in the region, garnering a score of

3.0. Specifically, participants rated transparency as being important in India (3.5); the Philippines (3.4); Thailand (3.3); Hong Kong, China (3.3); and Viet Nam (3.3).

Transaction Funding. Transaction funding rose to an average score of 2.9 this year from 2.6 in last year's survey-primarily due to an overall tightening of monetary policy and funding availability in most markets, especially the PRC and Republic of Korea.

Other Indicators. The other indicators included in the survey on bond market liquidity—market access, tax treatment, and settlement and custody—had a regional average of between 2.4 and 2.6, suggesting that these issues were less important for market participants when compared with the five indicators detailed above.

Corporate Bond Markets

Corporate bond market participants were asked to respond to questions similar to the ones put to government bond market participants, albeit with several differences. **Table 15** compiles the responses from corporate bond market participants with regard to average issue sizes, bid–ask spreads, and average trading sizes**.**

Average issue size. The largest average issue sizes were in the PRC (US$341 million), Singapore (US$201 million), and Malaysia (US$177 million).

Bid–ask spreads. Bid–ask spreads for corporate bonds are typically much wider than those for government bonds, reflecting lower levels of liquidity. In many cases corporate bond liquidity is limited to the months immediately following issuance.

The highest bid–ask spreads came from Viet Nam (103.1 bps), Indonesia (70.0 bps), and the Philippines (52.9 bps). The lowest bid–ask spreads came from the Republic of Korea (1.7 bps) and India (5.6 bps). Corporate bid–ask spreads for the PRC (6.9 bps), Malaysia (8.2 bps), and Thailand (9.9 bps) comprised the central range of the region's corporate bond market.

Average trading size. The largest average trading sizes for corporate bond trades were in the PRC (US$8.0 million); the Republic of Korea (US$7.3 million); and Hong Kong, China (US$5.1 million). Other markets ranged from highs of US$3.5 million in Viet Nam and US$2.1 million in Malaysia to lows of US$0.7 million in Indonesia and US$0.4 million in the Philippines.

Inter-Market Comparisons

The PRC. The survey results show that the PRC's medium-term notes (MTNs) and commercial paper were the most liquid instruments in the secondary market in 2011 with average bid–ask spreads of only 5.6 bps for MTNs. SOE bonds were the next most liquid, with bid–ask spreads of

Table 15: LCY Corporate Bond Market Quantitative Indicators

		PRC	HK	IN	ID	KR	MY	PH	SG	TH	VN	Regional
Typical Issue Size of Corporate Bonds (US$ million)	Average	340.5	33.7	44.5	70.2	52.5	176.6	144.3	200.8	65.0	87.4	121.6
Typical Bid-Ask Spread for New Corporate Issues (bps)	Average	6.9	28.1	5.6	70.0	1.7	8.2	52.9	19.0	9.9	103.1	30.5
	Count	13	4	4	8	5	3	21	5	9	4	76
	SD	3.6	13.3	3.1	42.2	0.5	6.5	27.1	8.4	6.4	50.4	34.0
Typical Transaction Size of LCY Corporate Bonds (US$ million)	Average	8.0	5.1	1.1	0.7	7.3	2.1	0.4	1.4	1.0	3.5	3.1
	Count	13	4	4	9	7	3	20	6	9	6	81
	SD	3.0	1.0	0.3	0.3	3.2	0.9	0.2	0.9	0.7	1.4	2.8

bps = basis points; HK = Hong Kong, China; ID = Indonesia; IN = India; KR = Republic of Korea; LCY = local currency; MY = Malaysia; PH = Philippines; PRC = People's Republic of China; SD = standard deviation; SG = Singapore; TH = Thailand; VN = Viet Nam.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

Table 16: LCY Corporate Bond Survey Results—People's Republic of China

	SOE Bonds	Local Corporate Bonds	MTN	Commercial Bank Bonds	Commercial Paper
Bid–Ask Spread (bps)	6.9	11.9	5.6	10.2	4.5
Average Trading Size (CNY million)	51.2	33.7	53.8	32.5	72.1

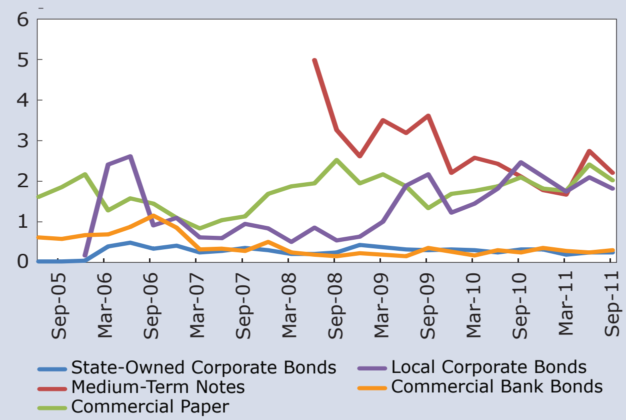
bps = basis points, LCY = local currency, MTN = medium-term notes, SOE = state-owned enterprise.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

6.9 bps **(Table 16)**. Compared with the previous year the bid–ask spreads for all types of corporate bonds widened, implying tighter liquidity and greater volatility in the overall bond market, which is consistent with the monetary tightening measures taken by the PBOC beginning in late 2010. The average trading size fell between 2010 and 2011 as well.

Local corporate bonds and commercial bank bonds are less liquid than the other three main types of corporate bonds in the PRC as reflected in their wider bid–ask spreads and lower average trading sizes. Commercial bank bonds are issued mostly in the form of subordinated debt for purposes of improving capital adequacy ratios. The higher level of liquidity seen in MTNs and commercial paper is attributed to the fact that the NAFMII approval process for MTNs and commercial paper is much faster than that of the National Development and Reform Commission (NDRC), which is the approval platform for SOE bonds. Furthermore, banks, which are the largest holder of bonds, prefer the shorter 3–5 year maturities that are the most common in the MTN market.

The survey's bid–ask spread data and average trading size data are consistent with current trends in turnover ratios for the main types of PRC corporate bonds: MTNs and commercial paper have the highest turnover ratios, while SOE bonds and commercial bank bonds have much lower turnover ratios. What is striking about the PRC's corporate bond market is that the turnover ratios for MTNs and commercial paper move in a range similar to or even higher than those for bonds in the more liquid government sector (e.g., policy bank bonds and PBOC bonds). The turnover ratio for bonds issued by SOEs was low at 0.23 at end-

Figure 18: Trends in the PRC's LCY Corporate Bond Turnover Ratios, September 2005-September 2011



LCY = local currency, PRC = People's Republic of China.
Source: *ChinaBond*.

September, while that for commercial bank bonds was only somewhat higher at 0.30 **(Figure 18)**. The turnover ratio for local corporate bonds, however, was significantly higher at 1.81 and the turnover ratios for MTNs and commercial paper were even higher at 2.19 and 2.02, respectively.

Republic of Korea. The survey results show that special public bonds and financial debentures are the most liquid types of corporate bonds in the Republic of Korea, with larger issue sizes and lower bid–ask spreads (1.4 bps and 1.3 bps, respectively) than corporate bonds issued by private sector companies (2.4 bps) **(Table 17)**. The bid–ask spreads for all three types of corporate bonds narrowed in 2011, implying a modest improvement in liquidity in the corporate bond market. As mentioned above, the private corporate sector is the most rapidly growing segment of the corporate bond market in the Republic of Korea, expanding at rates of around 22% y-o-y in recent quarters

Table 17: LCY Corporate Bond Survey Results—Republic of Korea

	Special Public Bonds	Financial Debentures	Private Corporate Bonds
Average Issue Size (KRW billion)	103.0	53.6	8.6
Bid–Ask Spread (bps)	1.4	1.3	2.4
Average Trading Size (KRW billion)	8.6	8.6	8.6

bps = basis points, LCY = local currency.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

compared with much slower or negligible y-o-y growth rates for special public bonds and financial debentures. However, private corporate bonds are issued in smaller sizes and typically are purchased by buy-and-hold investors.

The two largest LCY corporate bond issuances in the Republic of Korea in 3Q11 were both from Korea Land & Housing Corp: a 10-year bond worth KRW1,150 billion with a coupon rate of 3.25% and a 3-year bond worth KRW520 billion at a 4.21% coupon. The next two largest issues were from privately owned corporations: steel maker POSCO and the petrochemical company Honam at KRW500 billion each.

Malaysia. The Malaysian LCY corporate bond market's average bid–ask spread declined significantly from 16.0 bps in 2010 to 8.2 bps in 2011, while the average trading size fell from US$2.9 million to US$2.1 million. Furthermore, the typical issue size for Malaysian corporate bonds rose from US$131.8 million in 2010 to US$176.6 million in 2011. Finally, Malaysia's corporate bond turnover ratio rose slightly in 3Q11 to 0.09 from 0.08 in 2Q11.

The improvement in liquidity in the Malaysian corporate bond market seems to be largely the result of issuance that remains substantial at a time when issuance has slowed in most of the region's other markets. The size of the Malaysian corporate bond market rose 11.8% y-o-y to reach US$105 billion in 3Q11. Approximately 53% of total corporate bonds outstanding consist of MTNs—both conventional and Islamic. MTNs are the fastest growing segment of Malaysia's corporate bond market, rising by 25.0% y-o-y in 3Q11.

Some of the more important corporate bond issues in Malaysia in 3Q11 were subordinated debt issues from Public Bank (MYR3.0 billion), Maybank (MYR2.0 billion), and CIMB Bank (MYR1.5 billion). Malaysian issuance is actually more diversified than in some other Asian markets. For example, YTL Power International issued MYR2.2 billion in bonds, and public sector transport infrastructure company Prasarana issued MYR2.0 billion of Islamic bonds.

Indonesia. The overall rapid growth of the Indonesian corporate bond market in 2011—and the vastly increased supply of new bonds—pushed the average bid–ask spread down to 70.0 bps from 99.7 bps in 2010. Average trading size, however, has remained roughly the same: US$0.7 million this year compared with US$0.8 million last year.

Corporate bond issuance in 3Q11 totaling IDR5.8 trillion was dominated by banks and automotive financing companies. Bank Sumut issued IDR1.0 billion of conventional and subordinated bonds in July. Toyota Astra Financial Services issued IDR1.2 trillion of bonds in three tranches in July. Property firm Agung Podomoro Land issued IDR1.2 trillion of bonds in August for the purpose of funding its automotive financing business. Finally, automotive leasing company Serasi Autoraya raised a total of IDR900 billion in July.

Singapore. Singapore's average bid–ask spread for LCY corporate bonds widened in 2011 to 19.0 bps from 10.4 bps in 2010. The Singapore data was collected in late September and likely reflects the anxiety present in global financial markets at that time. Singapore's average trading size of US$1.4 million in 2011 was down from US$2.8 million in 2010. The widening of spreads and reduced trading sizes may reflect the 15.0% y-o-y reduction in corporate bond issuance in the first three quarters of 2011 to SGD12.3 billion.

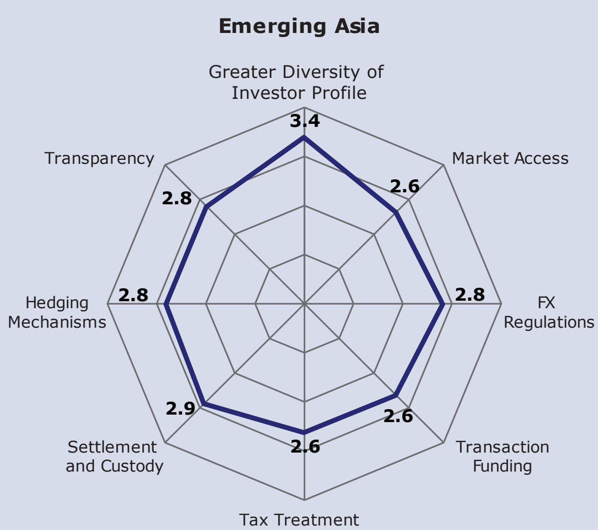
The largest drop in issuance in 2011 occurred among government-linked companies. The previous year saw a great deal of issuance from this sector, including a SGD1.0 billion 40-year issue from Temasek Financial. Total issuance from government-linked companies amounted to SGD5.3 billion in the first three quarters of 2010. On the other hand, the Housing and Development Board accounted for the entire SGD3.4 billion of issuance from government-linked companies in the first three quarters of 2011. The banking sector issued SGD1.1 billion of new bonds in the first three quarters of 2011, most notably a SGD1.0 billion subordinated bond from UOB Bank and a smaller SGD100 million certificate of deposit from OCBC Bank. Issuance from Singaporean firms other than banks and government-linked companies amounted to SGD17.8 billion in the first three quarters of 2011, representing a 15.8% decline from the same period in 2010.

Qualitative Indicators for Corporate Bond Markets

Figure 19 summarizes market participants' feedback on corporate bond market structures in the region. The results are broadly similar to those from the government bond survey. For example, the most important structural issue for participants in the region's LCY corporate bond market was once again greater diversity of investors based on a score of 3.4. Responses to the corporate survey for market access were identical to that of the government survey at 2.6. Tax treatment produced a score of 2.6 in the corporate bond survey compared with 2.4 in the government bond survey. Meanwhile, settlement and custody had a score of 2.9 in the corporate bond survey versus 2.6 in the government survey. Unique aspects of the region's corporate bond market that influenced participant responses are detailed below:

- Taxes paid on government bonds are waived for certain types of investors in government bonds in a number of jurisdictions, but only Malaysia exempts corporate bonds from taxes. Thus, tax payments are a more important issue for corporate, rather than government, bond investors.
- Settlement and custody is a more important issue in the corporate bond market than in the government bond market. Governments enforce a fair degree of uniformity for settlement and custody procedures for government bonds. Settlement and custody procedures for corporate bonds, however, are less standardized. In some markets they may even vary according to different settlement and custody procedures that have been set up by a particular bond's underwriters.

Figure 19: Regional Averages—LCY Corporate Bond Market Structural Issues



FX = foreign exchange, LCY = local currency.
Note: Emerging Asia comprises the People's Republic of China; Hong Kong, China; India; Indonesia; Republic of Korea; Malaysia; Philippines; Singapore; Thailand; and Viet Nam.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.

Scores from the corporate bond market survey were lower than scores from the government bond survey for all other categories: foreign exchange regulations, transaction funding, hedging mechanisms, and transparency.

Foreign exchange regulations are simply a lower priority for corporate bond investors, who typically have a wider range of concerns than government bond investors.

The lower scores for transaction funding and hedging mechanisms reflect the lower levels of liquidity in the corporate bond market compared with government bonds. Many corporate bonds eventually disappear from the market altogether once they end up being in the portfolio of buy-and-hold investors.

Transparency—stated in general terms for the market as a whole—is also somewhat less important to corporate bond market investors because they rely primarily upon the prospectuses that are provided when a new bond is issued.

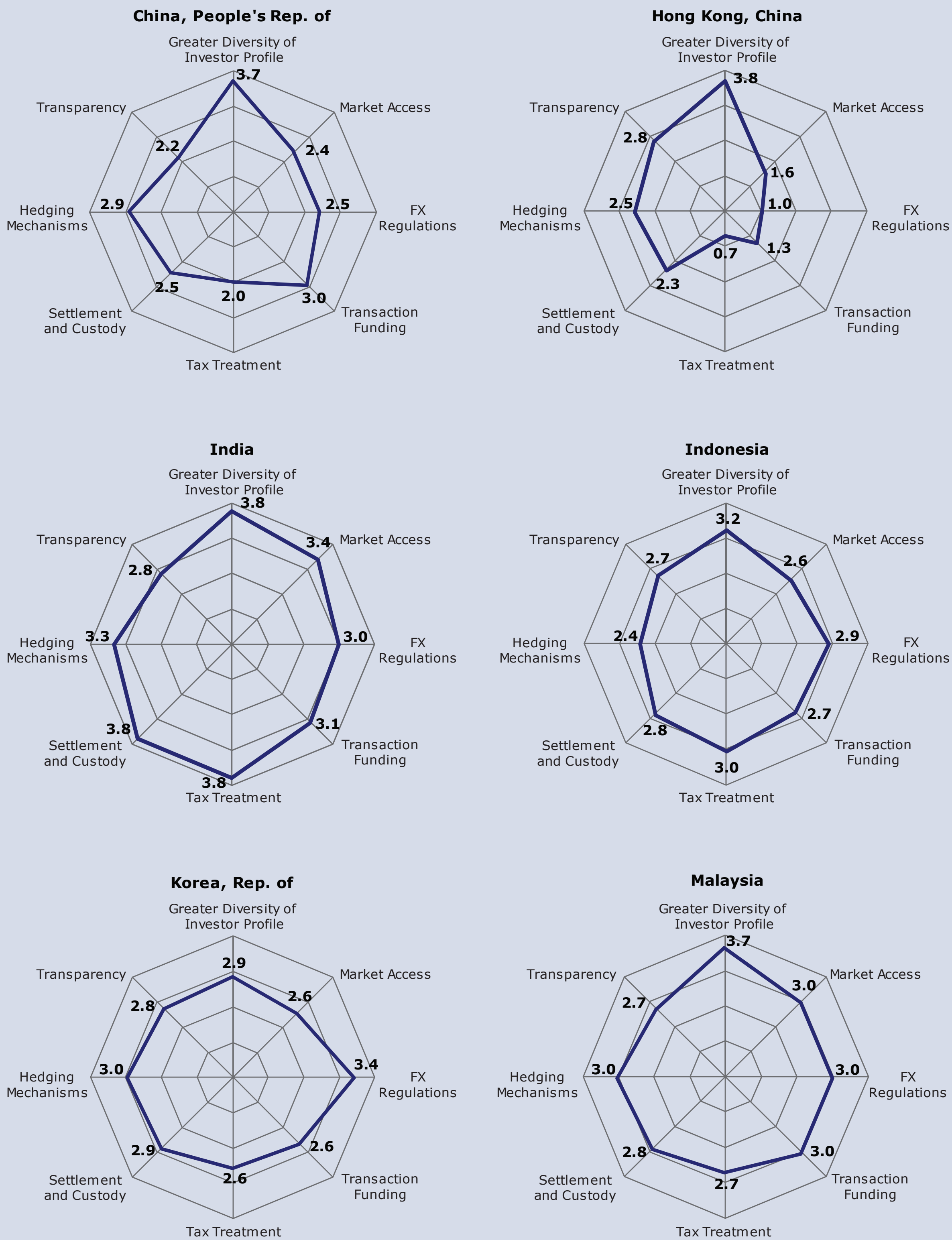
Responses on structural issues differed significantly across the region's corporate bond markets **(Figure 20)**. The four markets in which survey participants were seeking the most structural changes were India, the Philippines, Viet Nam, and Malaysia. Scores for India were above 3.0 for all structural issues except for transparency (2.8). Scores for the Philippines were above 3.0 for all categories except for transaction funding (2.7) and hedging mechanisms (2.7). Scores for Viet Nam were above 3.0 for all categories except for market access (2.7), tax treatment (2.8), and hedging mechanisms (2.8). Scores for Malaysia were above 3.0 for all categories except for tax treatment (2.7), settlement and custody (2.8), and transparency (2.7).

Thailand registered mixed results with scores of 3.0 or higher for diversity of investor profile, foreign exchange regulations, tax treatment, and transparency.

The lowest scores, which indicate less overall need for structural and policy reforms and adjustments, came from Singapore; the PRC; and Hong Kong, China. Among all categories, only diversity of investor profile attracted a score higher than 3.0 in any of these markets.

Scores for Indonesia were also quite low. The only categories rated 3.0 or higher by respondents were greater diversity of investor profile (3.2) and tax treatment (3.0). The Republic of Korea was the only corporate bond market to score diversity of investor profile at a level below 3.0. In fact, all of the Republic of Korea's scores were below 3.0 except for foreign exchange regulations (3.4) and hedging mechanisms (3.0).

Figure 20: Structural Issues for Individual LCY Corporate Bond Markets



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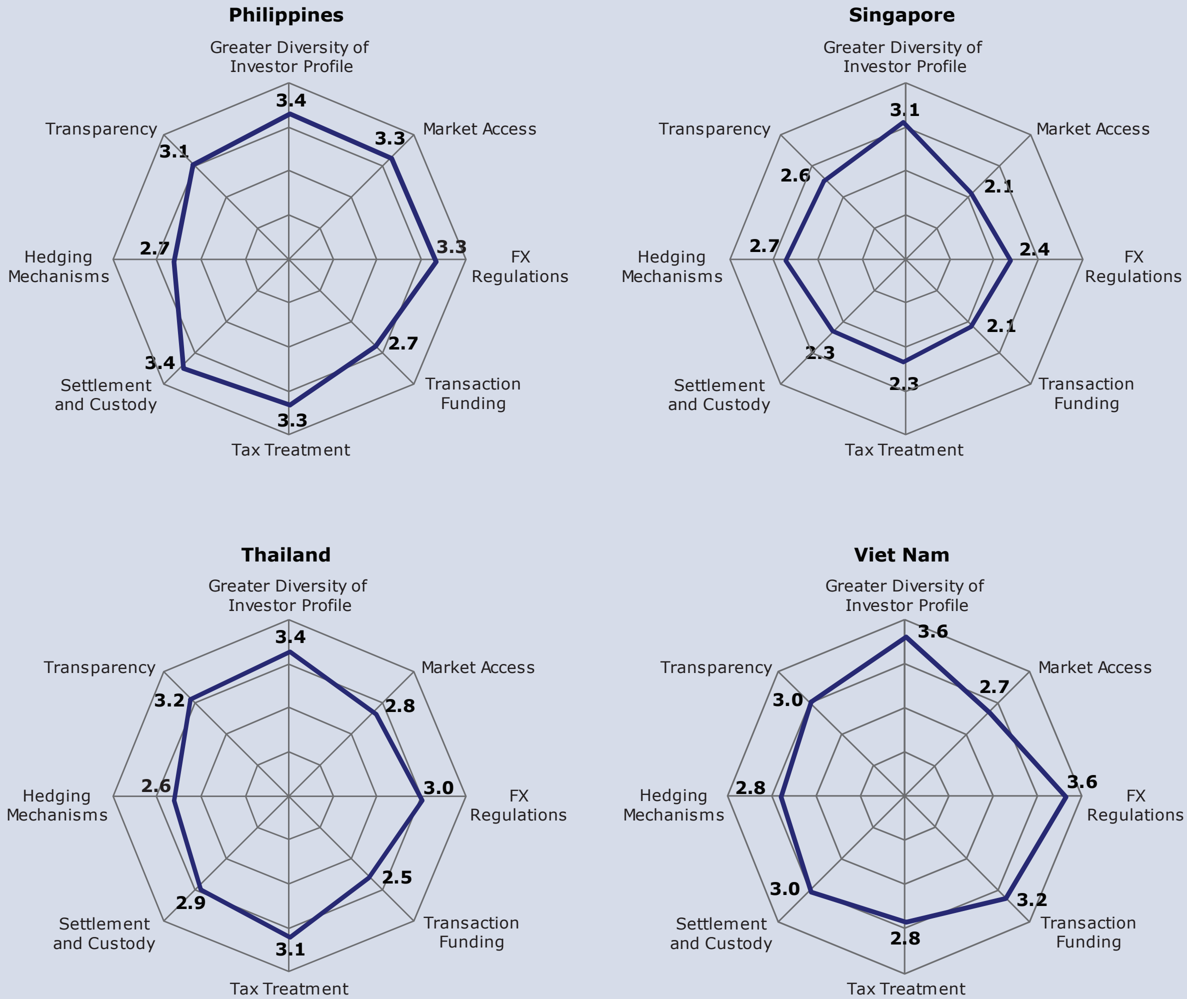

FX = foreign exchange, LCY = local currency.
Source: *AsianBondsOnline* 2011 LCY Bond Market Survey.