AsianBondsOnline Annual Bond Market Liquidity Survey

Introduction

AsianBondsOnline undertakes a bond market liquidity survey annually to assess liquidity conditions in emerging East Asian local currency (LCY) bond markets.[6] The survey aims to provide market participants and policy makers with a comprehensive perspective on the state of liquidity in individual markets in the region. Survey participants include, among others, fixed-income traders and dealers, brokers, portfolio and asset managers, bond market researchers and strategists, bond pricing associations, and regulatory agencies. *AsianBondsOnline* conducted the 2015 survey mostly through face-to-face interviews and meetings, and via email correspondence, in September and October. The survey was conducted after the September Federal Open Market Committee (FOMC) meeting of the United States (US) Federal Reserve to be able to better analyze the impact of its monetary policy decision on the region's LCY bond markets.

The survey comprises two sections. The first part relates to quantitative issues: market participants were asked to provide information on bid–ask spreads, transaction sizes, and trading volume. The second part covered qualitative issues: survey respondents were asked to rank in terms of importance structural issues and their contribution to deepening liquidity in the bond market.

The views of most market participants were mixed when asked whether liquidity conditions had improved over the last year. Some participants noted an improvement in liquidity, citing increased volume of transactions, higher turnover ratios, and larger bond issuance sizes. In the People's Republic of China (PRC), survey respondents noted an overall improvement in liquidity conditions due to bullish sentiments amid falling yields and easing monetary policy. Participants in markets such as Hong Kong, China and the Republic of Korea noted that liquidity has been stable this year as their markets are already fairly well-developed. In Indonesia, a good number of survey respondents mentioned that structural reforms helped to support liquidity conditions. Participants in some markets said there were no improvements or that liquidity had worsened. Overall, liquidity tends to decline during periods of market stress. In Malaysia, for example, liquidity tightened due to the sharp depreciation of the Malaysian ringgit versus the US dollar.

While a number of survey respondents cited that the long-awaited shift in the Federal Reserve's monetary policy had already been priced in by the market, uncertainty over the timing of the interest rate hike has led to volatility and selloffs in most markets in the region. In addition, the devaluation of the Chinese renminbi in August caught most markets off guard. Most of the region's currencies subsequently weakened versus the US dollar, contributing to negative sentiments in the region's bond market.

Negative sentiments reduced liquidity in LCY bond markets such as Indonesia, Malaysia, and the Philippines. In both Malaysia and Indonesia, foreign investors comprise a significant portion of the market, making them sensitive to capital outflows.

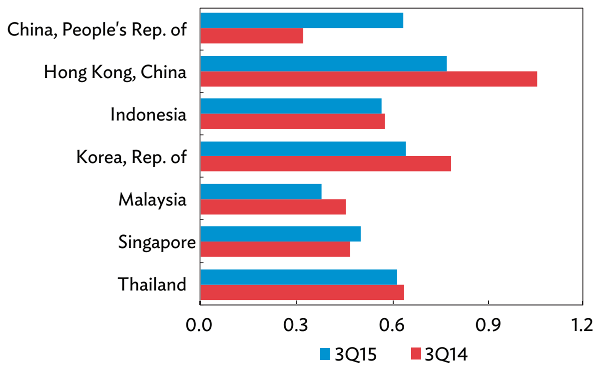
Government Bond Market Survey Results

Bond market liquidity can be measured using various indicators such as trading volume, turnover ratio, bid–ask spread, and transaction size. Trading volume is defined as the amount of bonds traded in the secondary market. The turnover ratio provides a better gauge of market liquidity, especially when the stock of outstanding bonds is rising rapidly. *AsianBondsOnline* computes turnover ratio by dividing the aggregate trading volume for a particular quarter with the average outstanding bond stock for the current and prior quarters. The higher the turnover ratio, the more liquid a market.

Government bond market turnover ratios for emerging East Asia are provided in **Figure 13**. Most markets in the region reported lower turnover ratios in 3Q15 compared with the same period in the prior year. Only in the PRC and Singapore were government bond turnover ratios higher in 3Q15 than in 3Q14. Liquidity in most bond markets was dragged down by negative sentiments driven by external

[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.

Figure 13: LCY Government Bond Turnover Ratios



LCY = local currency.
Notes:
1. Turnover ratios are calculated as LCY trading volume (sales amount only) divided by average LCY value of outstanding bonds during each 3-month period.
2. 3Q15 turnover ratios for the Republic of Korea and Thailand are based on *AsianBondsOnline* estimates.
Sources: People's Republic of China (*ChinaBond*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Indonesia Stock Exchange); Republic of Korea (EDAILY *Bondweb* and the Bank of Korea); Malaysia (Bank Negara Malaysia); Singapore (Monetary Authority of Singapore and Singapore Government Securities); and Thailand (Bank of Thailand and Thai Bond Market Association).

developments, including the September FOMC meeting in which it was anticipated that a rate hike would be announced, overall weakness in the region's currencies following the Chinese renminbi devaluation, and spillover effects from the slowdown in the PRC's economy.

Another liquidity indicator is the bid–ask spread, or bid–offer spread, which measures the cost of executing a trade. Bid–ask spreads are only valid for market-accepted transaction sizes and for a limited time only. **Table 5** presents the average bid–ask spreads for Treasury bonds in emerging East Asia. For this year's survey, the average bid–ask spread for on-the-run government securities rose to 5.0 basis points (bps) from 3.9 bps in the 2014 survey.

Bid–ask spreads widened in 2015 in all markets except the Republic of Korea, Singapore, and Thailand. The lowest bid–ask spreads for on-the-run government securities were recorded in the Republic of Korea (0.5 bps), Thailand (1.5 bps), Singapore (2.0) bps, and Malaysia (2.4 bps). All other markets in emerging East Asia reported bid–ask spreads higher than 3.4 bps. The widest spreads were recorded in Indonesia (9.2 bps) and Viet Nam (15.0 bps).

The regional average bid–ask spread for off-the-run government instruments was broadly stable at 7.8 bps in this year's survey compared with 7.1 bps in 2014. Only in Hong Kong, China (7.3 bps); Indonesia (13.5 bps); Malaysia (6.3 bps); and Viet Nam (15.0 bps) was the off-the-run bid–ask spread higher in 2015. All other markets showed a decline in the off-the-run bid–ask spread.

Table 5: LCY Government Bond Markets Quantitative Indicators

		PRC	HKG	INO	KOR	MAL	PHI	SIN	THA	VIE	Regional
Typical Bid–Ask Spread On-the-Run	Average (bps)	5.3	5.6	9.2	0.5	2.4	3.4	2.0	1.5	15.0	5.0
	SD	3.2	2.7	3.6	0.4	1.0	1.9	–	0.5	7.1	4.6
	CV	0.6	0.5	0.4	0.7	0.4	0.6	–	0.3	0.5	0.9
Typical Bid–Ask Spread Off-the-Run	Average (bps)	7.5	7.3	13.5	0.9	6.3	8.5	...	3.3	15.0	7.8
	SD	–	3.2	5.9	4.0	3.2	2.4	...	1.2	7.1	4.7
	CV	–	0.4	0.4	0.4	0.5	0.3	...	0.3	0.5	0.6
Accepted LCY Bond Transaction Size On-the-Run	Average (US$ million)	6.8	6.6	0.9	8.4	4.1	1.1	3.5	1.9	2.2	4.0
	SD	0.9	3.8	0.4	0.0	1.7	0.0	–	2.0	0.0	2.7
	CV	0.1	0.6	0.4	0.0	0.4	0.0	–	1.0	0.0	0.7
Accepted LCY Bond Transaction Size Off-the-Run	Average (US$ million)	6.8	5.6	0.8	8.4	2.7	1.1	...	1.2	2.2	3.6
	SD	0.9	4.9	0.5	0.0	0.7	0.0	...	0.9	–	2.9
	CV	0.1	0.9	0.6	0.0	0.2	0.0	...	0.7	–	0.8

... = data not available, – = not applicable, bps = basis points; CV = coefficient of variation; HKG = Hong Kong, China; INO = Indonesia; KOR = Republic of Korea; LCY = local currency; MAL = Malaysia; PHI = Philippines; PRC = People's Republic of China; SD = standard deviation; SIN = Singapore; THA = Thailand; VIE = Viet Nam.
Note: The bid–ask spreads for Indonesian Treasury bonds presented above are expressed in terms of yields or basis points to make them comparable with bid–ask spreads in other emerging East Asian markets. Bid–ask spreads for government bonds are most often expressed in terms of "cents" in the Indonesian market. In our 2015 survey, the average Treasury bond bid–ask spread was 54 cents.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

The region's average accepted bond transaction size for on-the-run government bonds stood at US$4.0 million in this year's survey, down from US$5.0 million in 2014. This suggests that large volume transactions had become more difficult to execute this year. The lowest average bond transaction sizes were noted in Indonesia (US$0.9 million) and the Philippines (US$1.1 million). The Republic of Korea again had the largest average bond transaction size among all markets in the region at US$8.4 million.

Characteristics of Individual Government Bond Markets

People's Republic of China

Overall, bid–ask spreads for the PRC were relatively unchanged in 2015, with the exception of Treasury bonds, which rose slightly by almost 2 bps, supported by easing monetary policy **(Table 6)**.

In terms of overall trading volumes, activity increased in 2015 versus 2014, owing to bullish sentiments as yields continued to fall. Liquidity also received a boost from monetary easing measures taken by the central bank in 2015, including reducing policy rates and reserve requirement ratios.

Among government bonds, policy bank bonds continued to be the most liquid as evidenced by the lowest bid–ask spreads. Treasury bills and bonds were not as liquid due to their inconsistent issuance as the government's healthy finances have reduced the need for the PRC to regularly tap the bond market. Among government bonds, there was a slight widening in Treasury bond bid–ask spreads.

Table 6: LCY Government Bond Survey Results—People's Republic of China

	Treasury Bills	Treasury Bonds	Policy Bank Bonds
On-the-Run			
Bid–Ask Spread (bps)	4.0	5.3	3.0
Average Trading Size (CNY million)	63.3	43.3	43.3
Off-the-Run			
Bid–Ask Spread (bps)	3.3	7.5	4.0
Average Trading Size (CNY million)	63.3	43.3	43.3

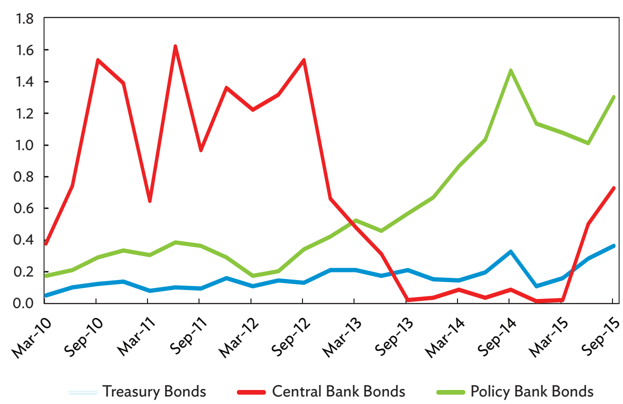
bps = basis points, LCY = local currency.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

Average trading sizes declined in 2015 from 2014 levels. The average trading size for Treasury bonds fell to CNY43.3 million from CNY61.7 million, consistent with the widening spread for Treasury bonds. Policy bank bonds' average trading size fell to CNY43.3 million from CNY61.7 million.

One reason for the lower trading volumes and slight rise in bid–ask spreads for Treasury bonds is that market participants were concerned with the large supply of local government bonds being issued. Issuance of local government bonds increased 82.5% quarter-on-quarter in 3Q15, putting pressure on liquidity, while activity was higher due to the bullish sentiments over bond prices.

Consistent with the fall in bond yields, trading volumes continued to rise in 2015 **(Figure 14)**. As the turnover ratios indicate, policy bank bonds remained more actively traded than Treasury bonds.

Figure 14: Turnover Ratios for the Spot Market in the People's Republic of China



Source: *ChinaBond*.

Hong Kong, China

Survey results from Hong Kong, China showed that Exchange Fund Bills (EFBs) remained the most liquid government bond **(Table 7)**. In 2015, the bid–ask spread for EFBs was narrower by 2.1 bps than the spread for Exchange Fund Notes (EFNs). The least liquid government instrument was the Hong Kong Special Administrative Region (HKSAR) bond, which had a bid–ask spread 6.0 bps higher than EFBs.

Table 7: LCY Government Bond Survey Results—Hong Kong, China

	Exchange Fund Bills	Exchange Fund Notes	HKSAR Bonds
On-the-Run			
Bid–Ask Spread (bps)	3.5	5.6	9.5
Average Trading Size (HKD million)	490.0	51.3	18.0
Off-the-Run			
Bid–Ask Spread (bps)	4.8	7.3	14.2
Average Trading Size (HKD million)	487.5	43.5	13.9

bps = basis points, HKSAR = Hong Kong Special Administrative Region, LCY = local currency.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

Trading volume in the secondary market tends to be significantly larger for EFBs on an absolute basis than for EFNs and HKSAR bonds. The outstanding amount of EFBs is also significantly larger.

According to market participants, liquidity in the government bond market has not changed significantly from the prior year. Of the three government bond types, HKSAR bonds are the least liquid and the government has sought to improve their liquidity by phasing out issuances of EFNs with tenors longer than 2 years. In addition, a repurchase facility was added for HKSAR bonds.

These measures have improved the liquidity of HKSAR bonds somewhat, though not significantly. One reason for this is that HKSAR bonds cannot be shorted, making it more difficult to make a market for this bond type.

Indonesia

The liquidity survey results for Indonesia showed that bid–ask spreads widened for Treasury bills and bonds in 2015, while spreads for *Sertifikat* Bank Indonesia (SBI) narrowed. Average trading size was also down for Treasury bills and bonds in 2015 as market activity has been relatively thin.

The bid–ask spread for Treasury bonds widened to 9.2 bps in this year's survey from 6.0 bps in the 2014 survey **(Table 8)**. The wider spread was driven by bearish investor sentiments as a number of negative external events weighed on Indonesia's bond market and drove yields significantly higher, particularly in 3Q15. In addition, the rise in yields also led to a notable decline in trading activity in 2015. **Figure 15** shows the quarterly

Table 8: LCY Government Bond Survey Results—Indonesia

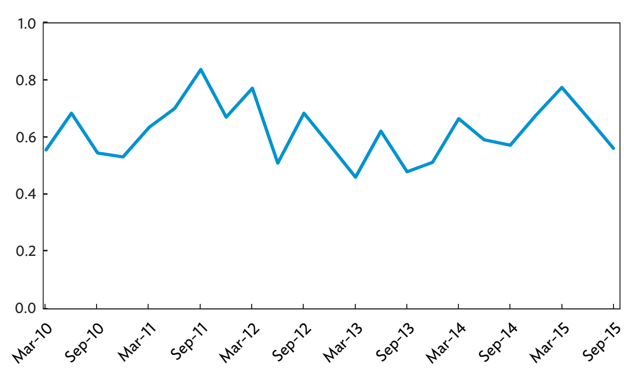
	Treasury Bills	Treasury Bonds	SBI
On-the-Run			
Bid–Ask Spread (bps)	27.9	9.2	8.3
Average Trading Size (IDR billion)	31.7	13.3	61.7
Off-the-Run			
Bid–Ask Spread (bps)	24.0	13.5	15.0
Average Trading Size (IDR billion)	30.0	12.1	55.0

bps = basis points, LCY = local currency, SBI = *Sertifikat* Bank Indonesia.
Note: The bid–ask spreads for Indonesian Treasury bonds presented above are expressed in terms of yields or basis points to make them comparable with bid–ask spreads in other emerging East Asian markets. Bid–ask spreads for government bonds are most often expressed in terms of "cents" in the Indonesian market. In the 2015 survey, the average Treasury bond bid–ask was 54 cents. The Indonesian market quotes bid–ask spread for Treasury bills and SBI in terms of yields or basis points.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

turnover ratio for Indonesia's government bonds. Bearish sentiments stemmed largely from uncertainties over the timing of the Federal Reserve's interest rate hike. Among emerging markets, the unexpected devaluation of the Chinese renminbi also weighed on investors, as many of the region's currencies depreciated in response. These factors caused a selloff in Indonesia's bond market, leading to foreign fund outflows in 3Q15. Indonesia's market is quite sensitive to capital outflows as foreign investors are the largest investor group, holding about 37% of the total LCY government bond stock.

Nonetheless, most survey participants indicated that while liquidity in the LCY government bond market was hampered due to risk aversion among investors, liquidity was helped in part due to a number of structural reforms

Figure 15: Quarterly Government Bond Turnover Ratio in Indonesia



Sources: Indonesia Stock Exchange and *AsianBondsOnline*.

initiated by the government. The Directorate General of Budget Financing and Risk Management of the Ministry of Finance extended the life of benchmark bond series for a period of 2 years, which resulted in larger outstanding volumes for each bond series. Increased issuance volumes and more transparent auctions, buybacks, and debt switch calendars also contributed to better liquidity conditions in 2015.

The most liquid government bond instruments were the fixed-rate benchmark bonds. In both 2014 and 2015, these comprised FR0069, FR0070, FR0071, and FR0068. The government has already issued the new series of benchmark bonds for next year and, together with the 2015 benchmark series, these were the most traded. For nonbenchmark bonds, maturities of 5 years or less were also attracting liquidity.

Some market participants noted an improvement in liquidity for *sukuk* (Islamic bonds), mostly for short-dated maturities (tenors of 5 year or less) such as retail *sukuk.* This may have been driven by the increased supply of *sukuk* as issuance has been more regular in 2015, with most auctions fully awarded unlike in previous years.

To help improve bond market liquidity, the government initiated regular meetings with market participants, particularly primary dealers, to improve information flows and calm market concerns. The government and Bank Indonesia have also been intervening in the foreign exchange and bond markets to reduce market volatility, especially in recent months.

In this year's survey, most market participants noted there was no longer much interest in SBI. At the end of September, SBI were held solely by banking institutions. The outstanding volume of SBI has also dwindled significantly as Bank Indonesia is using other policy tools to manage liquidity.

Most market participants believed that Indonesia's bond market will remain under pressure until the Federal Reserve finally decides to raise interest rates. Although a rate hike has long been priced in by the market, the period leading up to the next FOMC meeting is seeing market concern. Investors continue to be cautious over uncertainties associated with the impact of the Federal Reserve's policy decision and the PRC's weak growth spilling over into emerging markets. On the other hand, domestic macro conditions are beginning to improve as inflation in 2015 is expected to fall within Bank Indonesia's target corridor and the current account deficit is projected to be lower than earlier estimated. While the rupiah has slightly recovered from its 3Q15 lows, it still remains under pressure as the delay in the rate hike by the Federal Reserve is only temporary.

Bank Indonesia is widely expected to maintain its current tight monetary policy stance. Most market participants expect the benchmark interest rate to be kept at 7.5% for the rest of the year. While there may be some room for a rate adjustment, most survey participants expect it to come after the Federal Reserve's monetary policy action.

Republic of Korea

Korea Treasury Bonds (KTBs) and Monetary Stabilization Bonds (MSBs) remained the most liquid Korean government bond instruments in 2015, with average on-the-run bid–ask spreads of 0.5 bps and 0.6 bps, respectively **(Table 9)**. Central bank bills and Treasury bills recorded bid–ask spreads of 1.8 bps and 1.3 bps, respectively. This year's survey results showed that on-the-run KTBs and MSBs had lower bid–ask spreads than their off-the-run counterparts, while their average trading sizes were the same at KRW10 billion. Compared with the previous year's survey results, this year's bid–ask spreads for on-the-run debt instruments were lower for KTBs, unchanged for MSBs, and higher for central bank bills and Treasury bills. In contrast, this year's bid–ask spreads for most off-the-run debt instruments—specifically, central bank bills, central bank bonds, and Treasury bills—were higher than in the previous year, while the 2015 spread was lower for KTBs.

Table 9: LCY Government Bond Survey Results—Republic of Korea

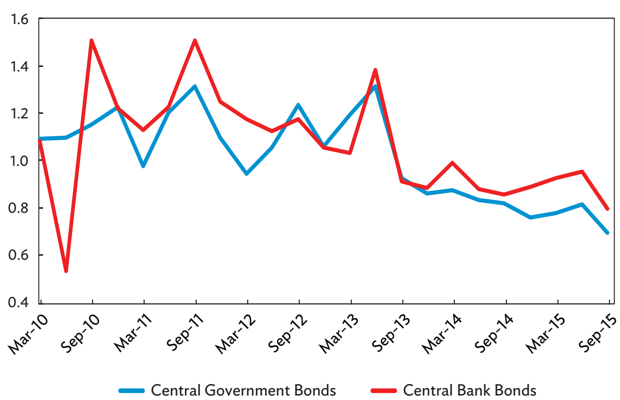
	Treasury Bonds	Treasury Bills	Central Bank Bonds	Central Bank Bills
On-the-Run				
Bid–Ask Spread (bps)	0.5	1.3	0.6	1.8
Average Trading Size (KRW billion)	10.0	10.0	10.0	10.0
Off-the-Run				
Bid–Ask Spread (bps)	0.9	1.4	0.9	1.9
Average Trading Size (KRW billion)	10.0	10.0	10.0	10.0

bps = basis points, LCY = local currency.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

Some survey respondents revealed that liquidity in the Korean LCY government bond market improved in 2015, with liquidity being most evident in the KTB market. Respondents perceived that US monetary policy decisions have a strong impact on Korean bond market liquidity. They also acknowledged that the recent devaluation of the renminbi and the slowdown in the PRC's economy were important liquidity factors. Most respondents forecast the policy interest rate in the Republic of Korea to remain unchanged through the end of 2015.

Quarterly turnover ratios for Korean central government and central bank bonds have been on a downward trend since 3Q14, leveling off in 3Q15 at 0.7 and 0.8, respectively **(Figure 16)**.

Figure 16: Quarterly Government Bond Turnover Ratios in the Republic of Korea



Note: For the Republic of Korea, central government bonds include Treasury bonds and National Housing bonds.
Source: The Bank of Korea.

Malaysia

The liquidity survey for Malaysia indicated market liquidity in 2015 to be at par, if not worse, when compared with the previous year due to both domestic and external factors. The average bid–ask spread for Malaysia Government Securities (MGS) slightly widened to 2.4 bps in 2015 from 1.7 bps in 2014 **(Table 10)**. The same trend can be observed for other government securities–Government Investment Issues (GII), Bank Negara Malaysia Bills, and Treasury Bills.

The market remained cautious as participants continued to monitor economic developments in the US that might signal the start of an interest rate hike by the Federal Reserve. The devaluation of the Chinese renminbi in August further contributed to volatility in the market. Survey respondents noted that this prompted the steep decline of the Malaysian ringgit versus the US dollar and reduced demand for LCY government bonds. On the domestic front, survey participants noted that the government's fiscal consolidation efforts were being closely monitored by foreign credit rating agencies. They also cited declining oil prices as a major risk to the government meeting its fiscal targets.

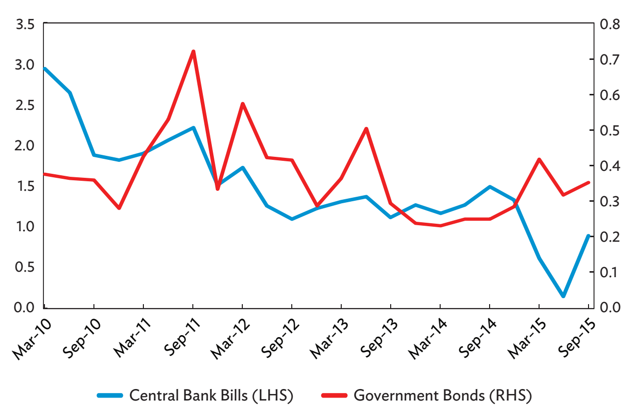
Table 10: LCY Government Bond Survey Results—Malaysia

	MGS	GII	BNM Bills	Treasury Bills
On-the-Run				
Bid–Ask Spread (bps)	2.4	5.3	5.2	4.5
Average Trading Size (MYR million)	18.0	16.0	15.0	22.5
Off-the-Run				
Bid–Ask Spread (bps)	6.3	10.1	2.7	5.7
Average Trading Size (MYR million)	11.7	11.7	...	15.0

... = data not available, BNM = Bank Negara Malaysia, bps = basis points, GII = Government Investment Issues, LCY = local currency, MGS = Malaysian Government Securities.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

Survey participants noted that despite the volatility, there continues to be support from domestic market players. This can be observed in the quarterly turnover ratios for central government bonds, which pointed to a pick-up in market activity in 2015 compared with 2014 **(Figure 17)**. Central bank bills, on the other hand, showed a sharp

Figure 17: Quarterly Government Bond Turnover Ratios in Malaysia



LHS = left-hand side, RHS = right-hand side.
Source: Bank Negara Malaysia.

decline in turnover ratios due to both lower trading volumes and a declining stock of bills outstanding as Bank Negara Malaysia ceased issuance at the start of the year. In August, the central bank resumed issuance of bills, albeit at a lower volume than in 2014, which resulted in an uptick in their turnover ratio in 3Q15.

In the near-term, market participants still expect volatility in government bonds as the Federal Reserve decided to leave its policy rates unchanged in its September FOMC meeting. With Bank Negara Malaysia expected to hold its policy rate steady, given manageable inflation and to support economic growth, the market will look to the Federal Reserve for direction. However, survey respondents maintained that in the event of a sell-off by foreign investors, demand from domestic institutional investors is expected to support the LCY bond market.

Philippines

The liquidity survey for the Philippines indicated market liquidity to be worse in 2015 compared with the previous year, mostly due to external uncertainties rather than domestic factors. The average bid–ask spread for Philippine Treasury bonds slightly increased to 3.4 bps from 3.3 bps. The average bid–ask spread for on-the-run Treasury bills fell to 4.7 bps from 7.4 bps **(Table 11)**. This reflects the continued preference of the market for the short-end of the curve as uncertainties over the timing of the impending rate hike by the Federal Reserve and the slowdown in the PRC has kept market participants risk averse.

Participants in the liquidity survey also noted less trading activity in 2015 compared with 2014, with the average trading size of on-the-run Treasury bonds declining to PHP50 million from PHP71 million. The average trading size of Treasury bills was unchanged at PHP50 million. The Philippine Dealing and Exchange Corporation's data on total trading volume of government securities also showed minimal growth in trading activity this year. The total trading volume for the first 3 quarters of 2015 of PHP3 billion was only 3.5% higher than the PHP2.9 billion recorded in the same period in 2014 **(Figure 18)**.

On the domestic front, the Philippines' macroeconomic indicators have been generally stable, which may have helped cap the rise in bid–ask spreads arising from recent volatility. Inflation has been on a downward trend as well, with September inflation at 0.4% year-on-year (y-o-y), which has allowed Bangko Sentral ng Pilipinas (BSP) to maintain its policy rates. The Philippine economy has exhibited strong economic growth supported by domestic demand. Gross domestic product growth in 2Q15 was 5.6% y-o-y, up from 5.0% y-o-y growth posted in 1Q15. In September, Fitch Ratings revised its outlook on the Philippines' issuer default ratings to positive from stable.

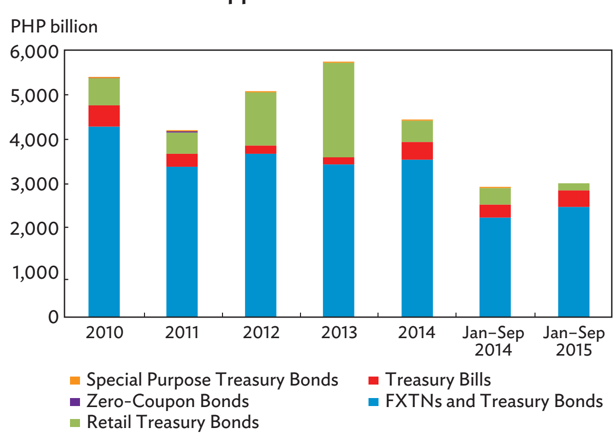
The most recent bond swap conducted by the Bureau of the Treasury in September was part of the government's efforts to deepen liquidity in the LCY bond market. The BSP also announced in September its plans to implement an interest rate corridor system by 2Q16 (see the Policy, Institutional, and Regulatory Developments section for more detail). The interest rate corridor system is expected to improve the liquidity management of financial

Table 11: LCY Government Bond Survey Results—Philippines

	Treasury Bonds	Treasury Bills
On-the-Run		
Bid–Ask Spread (bps)	3.4	4.7
Average Trading Size (PHP million)	50.0	50.0
Off-the-Run		
Bid–Ask Spread (bps)	8.5	9.3
Average Trading Size (PHP million)	50.0	50.0

bps = basis points, LCY = local currency.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

Figure 18: PDEx Trading Volume Trends—Government Securities in the Philippines



FXTNs = Fixed-Rate Treasury Notes.
Note: PDEx reports one side of the trade only.
Source: Philippine Dealing and Exchange Corporation (PDEx).

institutions by serving as an alternative for borrowing and lending activities, and is deemed to be beneficial to market liquidity as a whole.

Singapore

Bond market liquidity survey results for Singapore showed a narrowing in the bid–ask spread for Singapore Government Securities (SGS) bonds to 2.0 bps in 2015 from 2.3 bps a year earlier **(Table 12)**. Under normal market conditions, the most liquid debt instruments are the 5-year and 10-year SGS bonds. Currently, however, the most liquid are the longer tenors, particularly the 30-year SGS bond.

Market participants noted that trading has been mostly concentrated in SGS bonds as there has not been much trading in SGS bills in 2015. In 3Q15, the turnover ratio for SGS bills had fallen to 0.01 from 0.11 in 3Q14 **(Figure 19)**. The turnover ratio for SGS bonds, while higher, also recorded a decline in 2015.

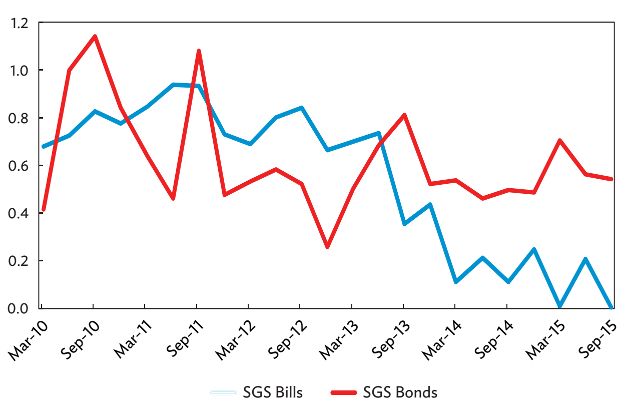
The Monetary Authority of Singapore (MAS) has shifted most of its short-term issuance in 2015 to MAS bills.

Table 12: LCY Government Bond Survey Results—Singapore

	SGS Bonds
On-the-Run	
Bid–Ask Spread (bps)	2.0
Average Trading Size (SGD million)	5.0

bps = basis points, LCY = local currency, SGS = Singapore Government Securities.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

Figure 19: Quarterly Government Bond Turnover Ratios in Singapore



SGS = Singapore Government Securities.
Source: Monetary Authority of Singapore (MAS), Singapore Government Securities (SGS), and *AsianBondsOnline*.

There were only two auctions of SGS bills scheduled for the whole year, while MAS bills are being auctioned every week.

Thailand

On-the-run central government and central bank bonds had the same average bid–ask spread (1.5 bps) in 2015 as in 2014, while central bank bills and Treasury bills had a slightly higher bid–ask spread of 1.7 bps each **(Table 13)**. Bid–ask spreads for on-the-run debt instruments were lower than their off-the-run counterparts. Average trading sizes were relatively high for short-term debt instruments, specifically central bank bills and Treasury bills. Comparing the 2015 survey results to the previous year, the bid–ask spreads for central government bonds and central bank bonds were lower, while bid–ask spreads were higher in the case of central bank bills and Treasury bills.

Table 13: LCY Government Bond Survey Results—Thailand

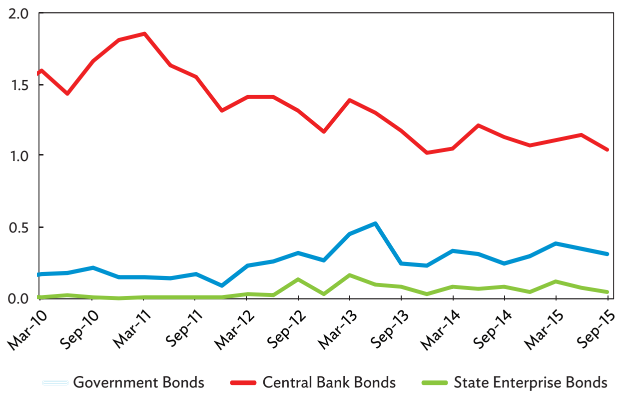
	Government Bonds	Treasury Bills	BOT Bonds	BOT Bills
On-the-Run				
Bid–Ask Spread (bps)	1.5	1.7	1.5	1.7
Average Trading Size (THB million)	70.0	286.7	170.0	286.7
Off-the-Run				
Bid–Ask Spread (bps)	3.3	1.8	2.5	1.8
Average Trading Size (THB million)	45.0	286.7	103.3	286.7

BOT = Bank of Thailand, bps = basis points, LCY = local currency.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

Market participants identified Bank of Thailand bonds and central government bonds as the most liquid type of government debt securities in Thailand in 2015. Most respondents identified the bid–ask spread as the best liquidity indicator in the Thai bond market. A majority also stated that US monetary policy decisions had the biggest impact on Thai bond market liquidity among all domestic and external factors, and that they expect the policy interest rate in Thailand to remain steady.

Quarterly turnover ratios for the three types of Thai government bonds—central bank bonds, central government bonds, and state-owned enterprise bonds—show that central bank bonds were the most liquid as

Figure 20: Quarterly Government Bond Turnover Ratios in Thailand



Source: Bank of Thailand and ThaiBMA.

evidenced by the highest turnover ratio in 3Q15 at 1.0 **(Figure 20)**.

Viet Nam

Liquidity survey results from Viet Nam indicated wider average bid–ask spreads in 2015 compared with the previous year. The average bid–ask spread for Viet Nam's Treasury bonds rose to 15.0 bps from 11.0 bps a year earlier **(Table 14)**. Liquidity in the bond market was largely affected by a new regulation effective in 2015 limiting issuance of government bonds to those with maturities of 5 years or more. Most investors deemed longer-dated bonds more risky, thus demanding higher returns. On the other hand, the government wanted to lower borrowing costs in 2015, resulting in failed auctions and making it difficult for the government to raise funds to support its budget. More recently, however, regulations allowing for the issuance of bonds with maturities of less than 5 years have been passed and are expected to improve liquidity in the government bond market.

Table 14: LCY Government Bond Survey Results—Viet Nam

	Treasury Bonds	Treasury Bills
On-the-Run		
Bid–Ask Spread (bps)	15.0	11.3
Average Trading Size (VND billion)	50.0	50.0
Off-the-Run		
Bid–Ask Spread (bps)	15.0	12.5
Average Trading Size (VND billion)	50.0	50.0

bps = basis points, LCY = local currency.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

Qualitative Indicators for Government Bond Markets

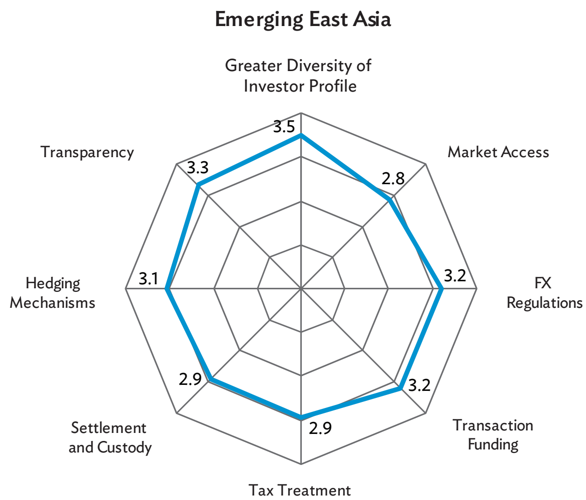
The 2015 *AsianBondsOnline* Liquidity Survey also examines qualitative indicators in emerging East Asian LCY bond market liquidity and assesses the degree of importance of select market structural issues in improving the liquidity of LCY bond markets in the region. The level of importance is based on the views of market participants. A brief description of each of the eight structural issues is shown below.

i. **Greater Diversity of Investor Profile:** the need to widen the investor base for LCY bonds.
ii. **Market Access:** the degree of ease or difficulty for investors to enter the LCY bond market, taking into account investor registration and investment quotas.
iii. **Foreign Exchange Regulations:** the extent of liberal or restrictive foreign exchange, capital investment, and repatriation policies.
iv. **Transaction Funding:** the need for funding availability through active and developed money and repurchase markets.
v. **Tax Treatment:** the significance of reducing withholding taxes on LCY bonds.
vi. **Settlement and Custody:** the importance of straight-through clearing processes, timely bond trade settlements, and a global custodian or accredited custodian(s).
vii. **Hedging Mechanisms:** the need to have a more active and efficient derivatives market.
viii. **Transparency:** the importance of having transparency in bond market activity, available bond prices, and ratings on bonds provided by credit rating agencies.

Each of the structural issues was rated by the survey respondents based on degree of importance, with numerical values being assigned four levels of importance: 1–Not Important, 2–Somewhat Important, 3–Important, and 4–Very Important.

The results show that market participants believed that greater diversity of investors was the most important factor, with a regional average of 3.5 **(Figure 21)**. Most markets ranked this issue as the most important among

Figure 21: Regional Averages—LCY Government Bond Market Structural Issues



FX = foreign exchange, LCY = local currency.
Note: 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: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

all structural issues as most government bonds are largely held and dominated by only one or two major investor groups. These are banking institutions in the markets of the PRC and the Philippines, and foreign investors in Indonesia and Malaysia.

The next most important issue was transparency, with an average of 3.3. Foreign exchange regulations and transaction funding scored a rating of 3.2, while hedging mechanisms scored 3.1. The lowest rated structural issues were market access at 2.8, followed by tax treatment and settlement and custody at 2.9 each.

Among the region's markets, the Philippines rated greater investor diversity the highest at a score of 4.0 **(Figure 22)**. This reflects the Philippines narrow investor base for government bonds. Banks own 35.8% of all outstanding government bonds and contractual savings institutions own 29.5%. Liquidity in the Philippine bond market is driven mostly by banks, as the contractual savings institutions tend to be buy-and-hold investors.

The Philippines also rated market access the highest among all markets at 3.5. This was because relative to other markets, the Philippines has a low share of foreign investors. In contrast, foreign investors in Indonesia comprise a 37.6% share, while Malaysia has a 30.5% share. One reason for this is that the Philippine central bank requires a number of documents for the registration of foreign investment.

For foreign exchange regulations, the PRC rated the highest among its peers with a score of 3.8. In the PRC, access to the domestic market is subject to registration and quotas. Repatriation and outward investment of portfolio funds are also regulated. The PRC also rated transaction funding the highest among its peers with a rating of 3.9. The importance placed on transaction funding reflects market perception due to past events, such as the Shanghai Interbank Offered Rate shock that occurred in 2013, and the fact that liquidity is sometimes strained by large initial public offerings that compete with bond investments. A summary of regulations on cross-border portfolio investments in emerging East Asian markets is provided in **Table 15**.

The Philippines rated taxation the highest in the region at 3.5, the result of the market's relatively high withholding tax rate of at least 20%. In Indonesia, taxation was ranked the lowest in the region as yields proved to be attractive despite the withholding tax, but survey participants also suggested that tax treaties for foreign investors should be made more equitable due to varying rates in the tax treaties. **Table 16** presents a summary of tax treatment in emerging East Asian bond markets.

The Philippines also rated settlement and custody at 3.7 and transparency at 3.9, both were the highest in the region. Transparency is an important factor in the Philippines as some government bond information, such as investor profile and trading volume, is not publicly available.

Viet Nam rated hedging mechanisms the highest at 3.5. Viet Nam currently lacks a derivatives market in which investors can hedge their risk. However, new regulations were passed in 2015 to allow the creation of a derivatives market. Indonesia also scored hedging mechanisms relatively high at 3.3 as market participants mentioned that the Indonesia Stock Exchange is set to launch a government bond futures market in December.

Figure 22: Structural Issues for Individual LCY Government Bond Markets

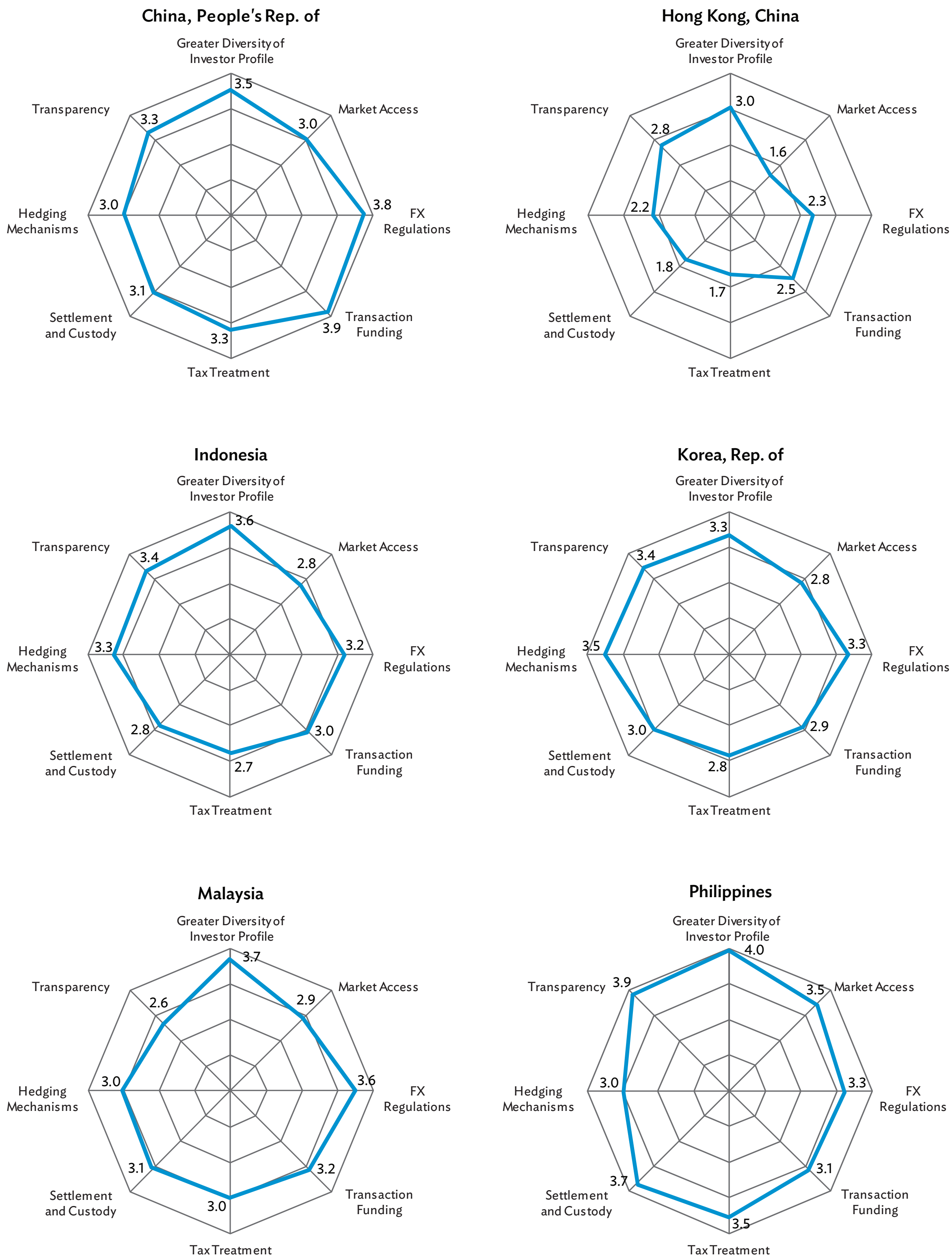


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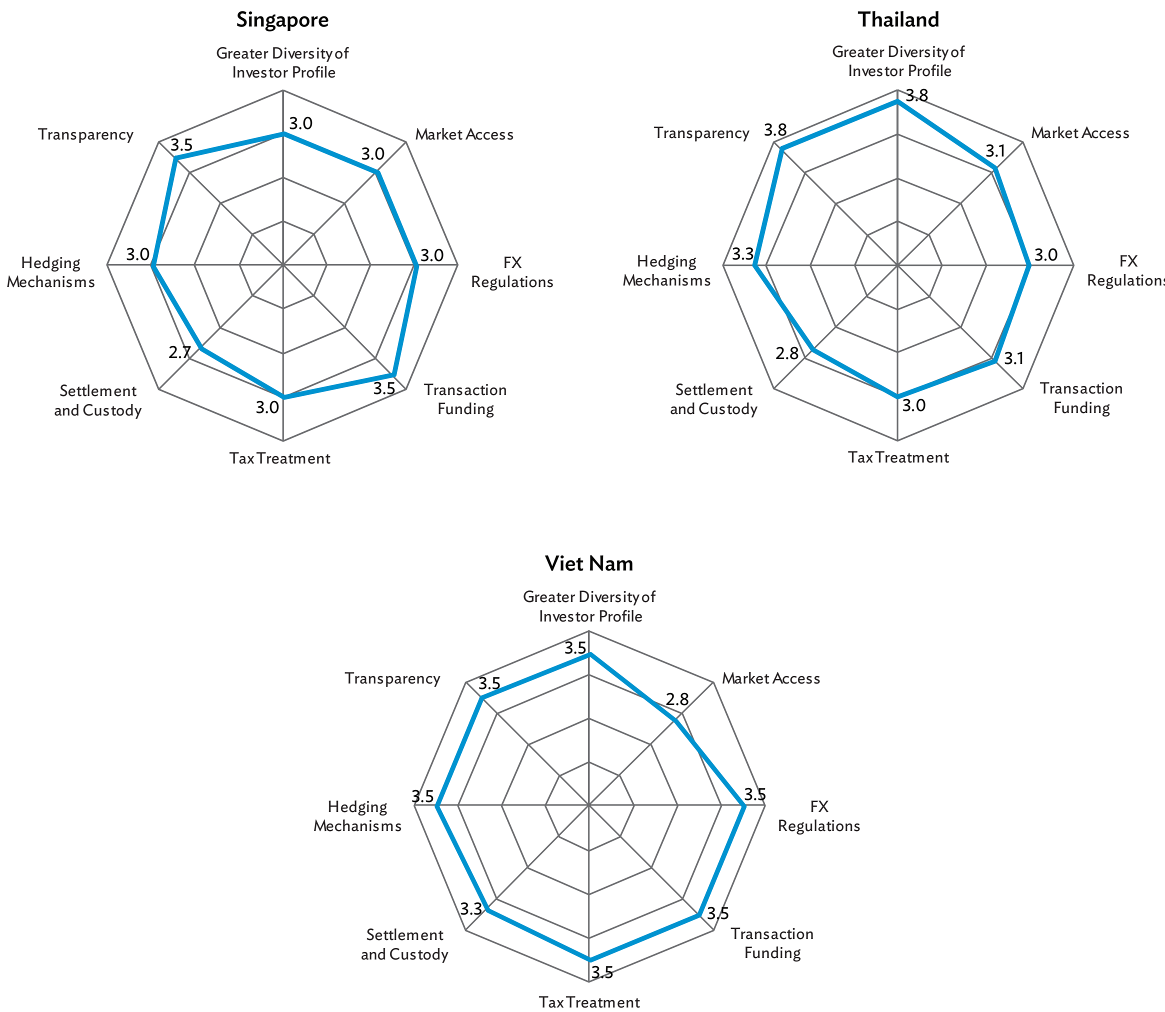
Figure 21 *continued*



FX = foreign exchange, LCY = local currency.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

Table 15: Cross-Border Portfolio Investment Regulation in Select Emerging East Asian Markets

Market	Capital Inflow			Capital Outflow	
	Money Market Instruments	Bond Market Instruments	Equity Instruments	Resident Investors	Nonresident Investors
China, People's Republic of	Qualified Foreign Instituional Investors (QFII) may purchase money market funds, subject to a lockup period.	Qualified Foreign Institutional Investors (QFII) are allowed to invest in exchange-traded and interbank-traded bonds subject to quotas. Renminbi Qualified Foreign Institutional Investors (RQFII) are allowed to invest in exchange-traded and interbank-traded bonds subject to quotas. Eligible financial institutions may invest in the interbank bond market subject to limits. Eligible institutions include foreign central banks engaged in cross-border renminbi settlement; Hong Kong, China's and Macau, China's central banks; and other monetary authorities seeking renminbi to diversify financial reserves.	QFIIs are allowed to invest in A-shares subject to quotas. No single QFII may hold more than 10% of a listed company. Foreign investors may not own more than 30% of a single company. Foreign investors may also make strategic investments in A-shares of listed companies subject to certain criteria and restrictions. Renminbi Qualified Foreign Institutional Investors (RQFII) are allowed to invest in listed equities subject to quotas. RQFIIs are allowed to fund investments using renminbi sourced abroad.	Qualified Domestic Institutional Investors (QDII) are allowed to buy and hold offshore securities subject to certain quotas.	QFII pension and insurance funds, mutual funds, charitable foundations, endowment funds, government investment management companies, and open-end funds have a principal lock-up of 3-months. Other QFIIs are required to keep their investments in the People's Republc of China (PRC) for 1 year. For RQFIIs, there is no holding period. Repatriation of foreign exchange requires the approval of the State Administration for Foreign Exchange.
Hong Kong, China	There are no specific restrictions on portfolio investments and foreign investors may place funds directly in money market instruments.	Nonresidents are free to purchase debt instruments.	Nonresidents are free to purchase equity securities. Investment in banks require Hong Kong Monetary Authority (HKMA) approval.	Residents are generally free to invest abroad. Overseas investment by institutional investors (e.g., insurance companies, banks) must be within certain limits and may require HKMA approval.	No restrictions on repatriation of capital and profits.
Indonesia	Foreign investors are allowed to purchase money market instruments in the secondary market. For Bank Indonesia Certificates, the minimum holding period is one week.	Foreign investors are allowed to purchase debt securities without limit except for retail bonds for which they are only allowed to purchase in the secondary market.	Foreign investors are allowed to purchase shares without limit with the exception of shares in finance company joint ventures.	Pension funds are not allowed to invest in securities abroad. Certain restrictions apply to investments by mutual funds, protected mutual funds, guaranteed mutual funds, insurance and reinsurance companies with regard to investments abroad.	No restrictions apply to repatriation of capital, remittance of dividends, and profits.
Japan	Nonresidents are free to purchase money market securities.	Nonresidents are free to purchase debt securities.	Controls will only apply if the purchase of equity instruments is affected by inward direct investment laws.	Residents are allowed to purchase capital instruments issued abroad.	No restrictions on repatriation of capital, profits, dividends, and interest.

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Table 15 *continued*

Market	Capital Inflow			Capital Outflow	
	Money Market Instruments	Bond Market Instruments	Equity Instruments	Resident Investors	Nonresident Investors
Korea, Republic of	Nonresidents are allowed to invest in domestic money market instruments. The sale of FCY-denominated money market instruments abroad requires notification to a designated foreign exchange bank. Sale of FCY-denominated money market instruments exceeding US$30 million or LCY-denominated money market instruments by residents abroad requires notification to the Ministry of Strategy and Finance (MOSF).	Nonresidents are allowed to buy bonds and other debt securities sold by residents, but notification to a foreign exchange bank or the Bank of Korea is required if the purchase is not made through an account exclusively for investment.	Nonresidents are freely allowed to invest in shares of local companies, but notification to a foreign exchange bank or the Bank of Korea is required if the purchase is not made through an account exclusively for investment. The purchase of listed shares issued by resident public sector utilities in the process of privatization is subject to controls.	Residents are allowed to buy bonds issued abroad, but notification to the Bank of Korea is required if the purchase is not made through an account exclusively for investment.	Effective December 9, 2015, proceeds from capital transactions in excess of US$500,000 or its equivalent must be repatriated within 3 years of the settlement date.
Malaysia	Nonresidents are allowed to purchase money market instruments without any restrictions.	Nonresidents are allowed to purchase bond market instruments without any restrictions.	Nonresidents are allowed to purchase equity instruments without any restrictions.	Residents with domestic borrowing, and has funded the investment through conversion of ringgit into foreign currency, may invest abroad but subject to certain limits.	Nonresidents are free to repatriate funds from divestment of LCY-denominated assets or profits and dividents arising from investments.
Philippines	Registration of money market instruments purchased by nonresidents is required only if the foreign exchange needed for capital repatriation and remittance of profits and earnings will be purchased from BSP's Authorized Agent Banks (AABs) and AAB-forex corporations.	Registration of bonds purchased by nonresidents is required only if the foreign exchange needed for capital repatriation and remittance of profits and earnings will be purchased from AABs and AAB-forex corporations.	Registration of equity instruments purchased by nonresidents is required only if the foreign exchange needed for capital repatriation and remittance of profits and earnings will be purchased from AABs and AAB-forex corporations.	A resident's investments abroad in excess of US$60 million a year requires prior regulatory approval.	No restrictions on repatriation of capital, profits, dividends, and interest.
Singapore	No restrictions for nonresidents to purchase money market instruments.	No restrictions for nonresidents to purchase bond market instruments.	No restrictions for nonresidents to purchase equity instruments.	No restrictions on investments by residents abroad.	Nonresident financial entities must convert Singapore dollar proceeds, from Singapore dollar loans (exceeding SGD5 million), equity listings, and bond issuances into foreign currency before using such funds to finance activities outside Singapore.

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Table 15 *continued*

Market	Capital Inflow			Capital Outflow	
	Money Market Instruments	Bond Market Instruments	Equity Instruments	Resident Investors	Nonresident Investors
Thailand	Nonresidents can invest in THB-denominated money market instruments. Investment of a nonresident group in THB-denominated money market instruments issued by a domestic financial institution is subject to the overall outstanding THB-denominated borrowing limit of THB10 million.	Nonresidents can invest in THB-denominated debt securities. Investment of a nonresident group in THB-denominated debt securities issued by a domestic financial institution is subject to an overall outstanding THB-denominated borrowing limit of THB10 million.	Nonresidents can invest in equities, but foreign equity participation may be limited if a company is subject to the provisions of the Foreign Business Act or other related laws. Financial institutions' foreign equity participation is limited to 25% of total shares in locally-incorporated banks, credit finance companies, and finance companies. Nonresidents can invest up to 100% of the shares of an asset management company or a securities company. For most other Thai corporations, foreign equity participation is up to 49%.	Institutional investors—the Government Pension Fund, Social Security Fund, companies listed on the Stock Exchange of Thailand (SET), insurance companies, mutual funds, provident funds, securities companies, specialized financial institutions, and Thai companies with asset size of at least THB5 billion—may invest freely in foreign securities issued abroad, up to a certain limit imposed by the directors, management, or supervisory authority of the institutional investors. In September 2014, Bank of Thailand authorized the Securities and Exchange Commission to allocate foreign investments within an overall limit of US$75 billion.	Proceeds of up to US$50,000 or its equivalent can be retained abroad, while proceeds exceeding the threshold must be repatriated on receipt and within 360 days of the transaction date.
Viet Nam	Foreign investors are allowed to purchase money market instruments locally. These transactions must be executed in VND through an account at a licensed back in Viet Nam.	Foreign investors are required to open a VND-denominated securities trading account to sell or purchase debt securities. These transactions must be executed in VND through an account at a licensed back in Viet Nam.	Foreign investors are required to open a VND-denominated securities trading account to sell or purchase listed securities on the stock exchange. Foreign investors are allowed to hold up to 49% of a company's current shares, except in the banking sector, which has a limit of 30%.	Residents may invest in shares and bonds abroad subject to regulation set by State Bank of Viet Nam (SBV). Institutional investors, upon acquiring a license for indirect investment abroad, must open an account to transfer capital overseas and transfer legal capital, profits, and earnings from offshore indirect investment to Viet Nam under the SBV regulations.	There is no provision for timeline on repatriation of profits. However, profits from foreign indirect investment must be repatriated via foreign exchange accounts at authorized credit institutions.

Sources: International Monetary Fund's *Annual Report on Exchange Arrangements and Exchange Restrictions 2015,* and local market sources.

Table 16: Tax Treatments in Emerging East Asian Markets

Market	Withholding Tax on Interest Income	
	Government	Corporate
China, People's Rep. of	Exempt from tax	Nonresident investors are subject to a 10% withholding tax, which is subject to reduction based on applicable treaties.
Hong Kong, China	Exempt from tax	Individuals are exempt from tax. Corporations are subject to a 16.5% tax on profits.
Indonesia	Residents and permanent establishments are subject to a 15% tax on bonds and a 20% tax on *Sertifikat* Bank Indonesia. Nonresidents are subject to a 20% tax, which is subject to reduction based on applicable treaties. For mutual funds registered with Otoritas Jasa Keuangan, the tax rate is 5% until 2020 and 10% thereafter.	Residents and permanent establishments are subject to a 15% tax. Nonresidents are subject to a 20% tax, which is subject to reduction based on applicable treaties. For mutual funds registered with Otoritas Jasa Keuangan, the tax rate is 5% until 2020 and 10% thereafter.
Korea, Republic of	Resident and nonresident investors are subject to a 15.4% tax. For nonresidents, the tax is subject to reductions based on applicable treaties.	Resident and nonresident investors are subject to a 15.4% tax. For nonresidents, the tax is subject to reduction based on applicable treaties.
Malaysia	Residents and nonresidents are exempt from tax.	Nonresidents are exempt from tax on interest payments on bonds issued by banks and financial institutions.
Philippines	Subject to a 20% tax withheld at source. Foreign corporations are subject to a 30% tax on the gross amount of income derived within the Philippines. Nonresident individuals not engaged in trade or business are subject to a 25% tax on the gross amount of income derived in the Philippines.	Subject to a 20% tax withheld at source. Foreign corporations are subject to a 30% tax on the gross amount of income derived within the Philippines. Nonresident individuals not engaged in trade or business are subject to a 25% tax on the gross amount of income derived in the Philippines.
Singapore	Exempt from tax except for resident institutional investors who are subject to a 10% tax.	Individual investors are tax exempt. Resident and nonresident institutional investors are exempt from withholding tax, subject to qualifying conditions.
Thailand	Individual resident investors are subject to a 15% withholding tax. Institutional resident investors are subject to a 1% withholding tax. Nonresident investors are exempt from tax.	Individual resident investors are subject to a 15% withholding tax. Institutional resident investors are subject to a 1% withholding tax. Nonresident investors are subject to a 15% withholding tax.
Viet Nam	Residents are exempt from tax. Nonresidents are subject to a 5% withholding tax, which is subject to reduction based on applicable treaties.	Subject to a 5% withholding tax.

Source: Local market sources.

Qualitative Indicators for Corporate Bond Markets

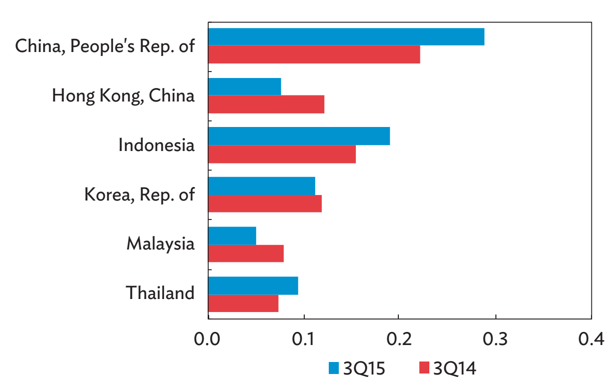
Corporate bonds in general are less liquid compared with government bonds as most investors are typically the buy-and-hold type. Meaningful liquidity for a new corporate bond issue normally concludes within a few weeks to 2 months. For corporate bonds, the name of the corporate issuer holds value as large corporates with an established reputation, a record of previous bond issuance, and high credit ratings attract the most liquidity.

Figure 23 shows the quarterly turnover ratios for LCY corporate bonds in emerging East Asia. Data are unavailable for the Philippines, Singapore, and Viet Nam. In 3Q15, the corporate bond turnover ratio was the highest in the PRC, while it was the lowest in Malaysia. Quarterly turnover ratios were higher in 3Q15 than in 3Q14 for the PRC, Indonesia, and Thailand.

Market participants were asked similar questions as those asked in the government bond market survey. The only difference was that bid–ask spreads in the corporate survey referred to spreads for a new corporate bond issue since liquidity for corporate bonds only extends for a limited time.

The quantitative survey results on the liquidity of LCY corporate bond markets in emerging East Asia are presented in **Table 17**. Bid–ask spreads for new LCY

Figure 23: 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.
Sources: People's Republic of China (*ChinaBond*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Indonesia Stock Exchange); Republic of Korea (EDAILY *Bondweb* and the Bank of Korea); Malaysia (Bank Negara Malaysia); and Thailand (Bank of Thailand and Thai Bond Market Association).

Table 17: LCY Corporate Bond Markets–Quantitative Indicators

		PRC	HKG	INO	KOR	MAL	PHI	SIN	THA	VIE	Regional
Typical Issue Size of Corporate Bonds	Average (US$ million)	216.1	35.7	41.3	110.9	7.7	106.7	99.5	43.7	...	82.7
Typical Bid–Ask Spread for New Corporate Issues	Average (bps)	5.5	13.3	29.5	3.6	8.5	22.5	6.0	4.2	...	11.8
	SD	1.8	2.9	4.8	3.6	3.4	53.0	–	0.8	...	9.6
	CV	0.3	0.2	0.2	1.0	0.4	2.4	–	0.2	...	0.8
Typical Transaction Size of LCY Corporate Bonds	Average (US$ million)	5.8	1.6	0.3	8.4	2.4	0.4	...	1.0	13.3	3.7
	SD	0.9	1.4	0.1	0.0	1.7	0.5	...	0.7	–	4.6
	CV	0.2	0.8	0.2	0.0	0.7	1.1	...	0.7	–	1.2

... = data not available, – = not applicable, bps = basis points; CV = coefficient of variation; HKG = Hong Kong, China; INO = Indonesia; KOR = Republic of Korea; LCY = local currency; MAL = Malaysia; PHI = Philippines; PRC = People's Republic of China; SD = standard deviation; SIN = Singapore; THA = Thailand; VIE = Viet Nam.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

corporate bond issues showed an average of 11.8 bps for the region as a whole. The lowest bid–ask spread was recorded in the Republic of Korea at 3.6 bps, while the economy's average transaction size was also the biggest at US$8.4 million, indicating that its corporate bond market is relatively more liquid compared with other emerging East Asian markets. This may be due to the size of its corporate bond market, which accounted for a higher share at 58.7% of its total LCY bond stock.

In contrast, Indonesia's LCY corporate bond market was the relatively least liquid in the region as its average bid–ask spread ranked the highest at 29.5 bps, while its average transaction size was the smallest at US$0.3 million. The average issue size of LCY corporate bonds varied across emerging East Asian markets, with the largest being in the PRC (US$216.1 million) and the smallest being in Malaysia (US$7.7 million).

Compared with the previous year's survey, average bid–ask spreads were up for most emerging East Asian corporate bond markets, the average transaction size showed mixed results, and the average issue size was lower for most markets in the region.

Characteristics of Individual Corporate Bond Markets

People's Republic of China

Market participants said that state-owned corporate bonds, commercial paper, and medium-term notes remained the most liquid corporate bonds. Bid–ask spreads for these types of bonds remained the lowest in this year's survey **(Table 18)**. Overall corporate bond turnover ratios have remained relatively stable in 2015 **(Figure 24)**.

The liquidity of medium-term notes and commercial paper was due to the fact that these instruments are traded on the interbank market, which is the most liquid market in the PRC.

Indonesia

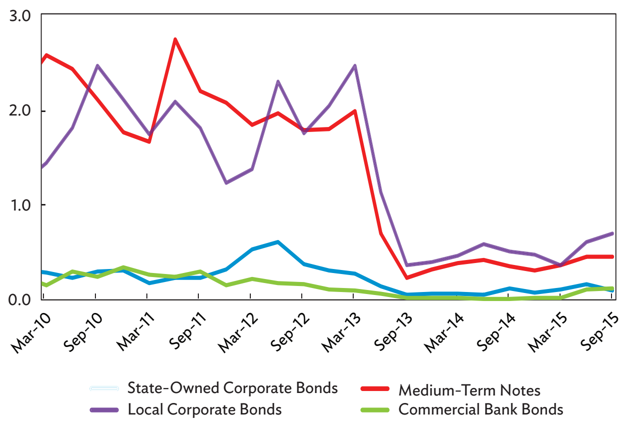
Indonesia's corporate bond market is still deemed highly illiquid and limited mostly to buy-and-hold type of investors. Liquidity survey results for the corporate bond market indicated a wider bid–ask spread for newly

Table 18: LCY Corporate Bond Survey Results—People's Republic of China

	SOE Bonds	Local Corporate Bonds	MTNs	Commercial Bank Bonds	Commercial Paper
Average Issue Size (CNY million)	4,000.0	1,032.0	1,373.8	2,593.6	1,246.5
Bid–Ask Spread (bps)	5.8	8.8	5.5	41.3	8.3
Average Trading Size (CNY million)	40.0	33.3	36.7	57.5	43.3

bps = basis points, LCY = local currency, MTNs = medium-term notes, SOE = state-owned enterprise.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

Figure 24: LCY Corporate Bond Turnover Ratios in the People's Republic of China



LCY = local currency
Source: *ChinaBond*.

issued corporate bonds this year compared with last year's survey. Market participants noted that liquidity for corporate bonds was largely dependent on the names of the corporate issuer. Corporate firms with established names and an extensive track record for issuing bonds attracted more liquidity, as well as firms from the banking and financial sectors, and state-owned corporations. Higher-rated bonds, particularly those rated AA and above, attracted the most liquidity.

Some market participants have suggested several factors to help improve liquidity in corporate bonds, including a more efficient and streamlined corporate bond issuance process, tax incentives for corporate bond issuers and investors, and active corporate bond transaction surveillance.

Republic of Korea

The 2015 survey results for the Korean LCY corporate bond market showed that special public bonds and financial debentures posted average bid–ask spreads of 1.6 bps each, emphasizing that both were relatively liquid **(Table 19)**. The average issue size for financial debentures was the biggest, followed by special public bonds and private corporate bonds. The average trading size was the same across all three types of Korean corporate bonds. In comparison with the previous year's survey results, the average bid–ask spread was lower this year for special

Table 19: LCY Corporate Bond Survey Results—Republic of Korea

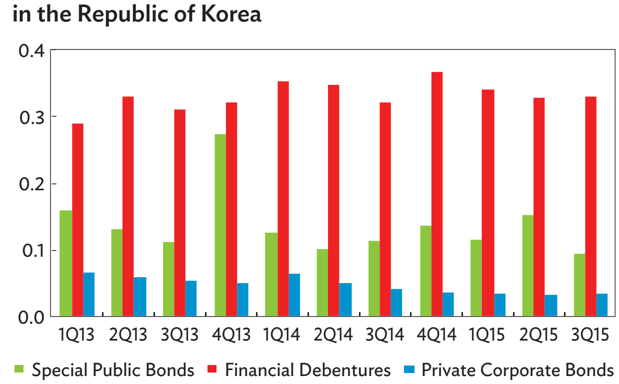
	Special Public Bonds	Financial Debentures	Private Corporate Bonds
Average Issue Size (KRW billion)	147.6	178.8	68.0
Bid–Ask Spread (bps)	1.6	1.6	7.5
Average Trading Size (KRW billion)	10.0	10.0	10.0

bps = basis points, LCY = local currency.
Note: Special public bonds are bonds issued by state-owned enterprises, financial debentures are issued mostly by banks and financing companies, and private corporate bonds are issued mostly by securities companies and by private nonfinancial corporates.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

public bonds and higher for financial debentures and private corporate bonds. Moreover, the average issue size was higher this year compared with last year for all three corporate bonds, while the average trading size remained the same for all.

Financial debentures continued to have the highest turnover ratio, bolstering their relatively liquid profile. Financial debentures' turnover ratio stood at 0.33 in 3Q15, the same as in 2Q15 and 1Q15 **(Figure 25)**. The turnover ratios for special public bonds and private corporate bonds were 0.09 and 0.03, respectively, in 3Q15. In the first three 3 quarters of the year, the turnover ratio for special public bonds exhibited fluctuating movements, rising from 0.11 in 1Q15 to 0.15 in 2Q15, then slipping to 0.09 in 3Q15. In contrast, the turnover ratio for private corporate bonds stayed at 0.03 throughout the first 3 quarters of the year.

Figure 25: Turnover Ratios for Special Public Bonds, Financial Debentures, and Private Corporate Bonds in the Republic of Korea



Source: EDAILY *BondWeb*.

Malaysia

The average bid–ask spread for Malaysian corporate bonds inched up to 8.5 bps in the 2015 survey compared with 7.5 bps in 2014 **(Table 20)**. The quarterly turnover ratio fell to 0.05 in 3Q15 from 0.08 in the same period in 2014. This reflected uncertainties brought about by the impending rate hike by the Federal Reserve.

Table 20: LCY Corporate Bond Survey Results—Malaysia

	Corporate Bonds
Average Issue Size (MYR million)	34.0
Bid–Ask Spread (bps)	8.5
Average Trading Size (MYR million)	10.5

bps = basis points, LCY = local currency.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

Participants in the survey noted that market liquidity of a corporate bond in Malaysia is highly dependent on the issuer's credit rating and the issue size. The market's preference, particularly this year as the local bond market continues to experience volatility, still remains on high-rated companies. For AAA-rated companies and government-guaranteed bonds, liquidity was healthy. Large corporate bond issues see more trading activity post-issuance.

Philippines

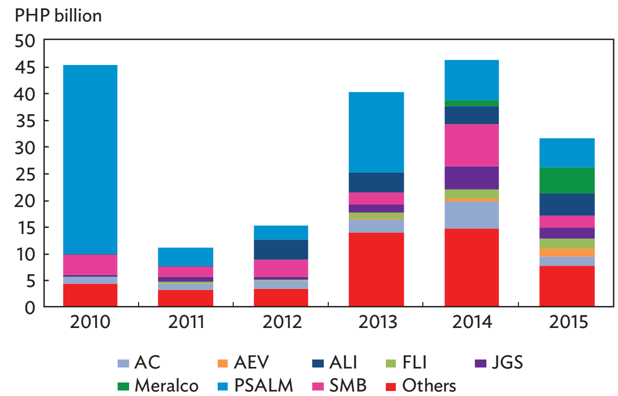
The average bid–ask spread for Philippine corporate bonds rose to 23 bps in the 2015 survey from 17 bps in 2014, while the average trading size slightly fell to PHP20.8 million from PHP21.6 million in 2014. Liquidity in the Philippine corporate bond market in terms of trading is still considered low; and it remains a buy-and-hold market, with most investors tending to hold corporate bonds up to maturity.

Trading volume data are not available for the Philippine corporate bond market. However, the Philippine Dealing and Exchange Corporation maintains a database on the secondary trading of corporate bonds listed on its platform. At the end of 3Q15, there were 36 Philippine companies that had their bonds listed with the exchange. This included bonds issued by the National Home Mortgage Finance Corporation (Bahay Bonds 2) and the Power Sector Assets and Liabilities Management Corporation (PSALM). *AsianBondsOnline* classifies the issuances of these two companies under government securities, since they are government-owned and -controlled corporations.

The secondary trading volume of corporate bonds remained negligible compared with that of government securities, accounting for 1% of total bonds (government and corporate) traded in January-September. Trading volume of corporate bonds for the first 9 months of 2015 amounted to PHP31.5 billion, 20% lower compared with the same period in 2014.

In 2010, trading volume was centered on PSALM bonds, comprising almost 78% of total trades that year. From 2011 to 2014, the trading volume of PSALM bonds declined to levels more comparable with those of the leading private sector issuers. The three other companies with the highest traded volumes in 2015 were (i) Meralco (PHP4.9 billion), (ii) Ayala Land (PHP4.1 billion), and (iii) San Miguel Brewery (PHP2.2 billion) **(Figure 26)**.

Figure 26: PDEx Trading Volume Trends—Corporate Bonds in the Philippines



AC = Ayala Corporation; AEV = Aboitiz Equity Ventures; ALI = Ayala Land, Inc.; FLI = Filinvest Land, Inc.; JGS = JG Summit Holdings; PSALM = Power Sector Assets and Liabilities Management Corp.; SMB = San Miguel Brewery, Inc.
Note: PDEx reports one side of the trade only.
Source: Philippine Dealing and Exchange Corporation (PDEx).

Singapore

For the 2015 survey, market participants quoted an average bid–ask spread of 6.0 bps for a new corporate issue **(Table 21)**. This was broadly comparable with a bid–ask spread of 6.3 bps in the 2014 survey. Average issue size, however, declined to SGD141.5 billion in 2015 from SGD188.3 million a year earlier.

Table 21: LCY Corporate Bond Survey Results—Singapore

	Corporate Bonds
Average Issue Size (SGD million)	141.5
Bid–Ask Spread (bps)	6.0

bps = basis points, LCY = local currency.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

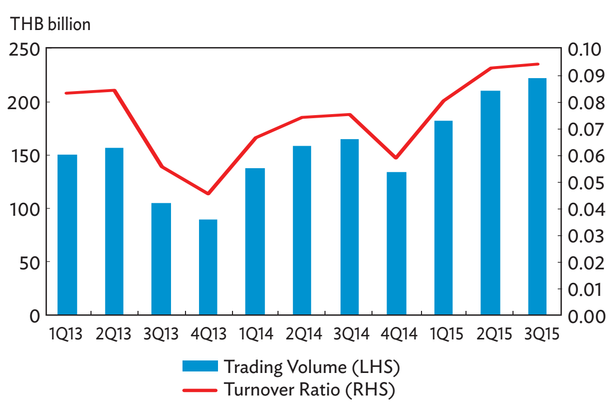
Typical of most corporate bond markets in emerging East Asia, Singapore's corporate bond market is viewed as illiquid by most market participants. In general, liquidity disappears immediately after issue except for a few high-grade issues. The market is largely dominated by buy-and-hold investors.

Thailand

Market respondents in this year's liquidity survey for Thailand LCY corporate bond market gave average results of 4.2 bps and THB36.0 million for the bid–ask spread and trading size of Thai LCY corporate bonds, respectively. The bid–ask spread was lower in 2015 than in the previous year, while the trading size was higher. Both results suggest that the Thai LCY corporate bond market was more liquid in 2015 than in 2014.

The survey results have been confirmed by the upward trend in the trading volume and turnover ratios for Thai LCY corporate bonds in the first 3 quarters of 2015 **(Figure 27)**. After posting a relatively low trading volume of THB133.3 billion in 4Q14, trading volume climbed to THB181.1 billion in 1Q15, THB208.7 billion in 2Q15, and THB220.7 billion in 3Q15. The turnover ratio for Thai LCY corporate bonds inched up from 0.06 in 4Q14 to 0.08 in 1Q15 and to 0.09 in 2Q15, where it held steady in 3Q15.

Figure 27: Trading Volume and Turnover Ratio for LCY Corporate Bonds in Thailand



LCY = local currency, LHS = left-hand side, RHS = right-hand side.
Source: Bank of Thailand and the Thai Bond Market Association (ThaiBMA).

Viet Nam

Viet Nam's bond market lacks liquidity due to the limited size of its corporate bond market, which accounts for only a 1.3% share of the LCY bond stock. Survey respondents had no quotes for bid–ask spreads for corporate bonds as most transactions are privately negotiated. Market participants also noted the absence of liquidity even for newly issued LCY corporate bonds, as investors were largely the buy-and-hold type.

To help improve liquidity, market participants cited a number of policy recommendations, including, among others, the need for more transparent information for issuing corporate bonds and the need for rating agencies.

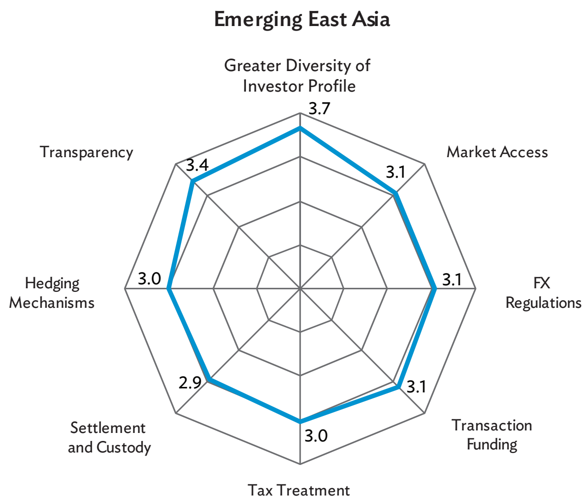
Qualitative Indicators for Corporate Bond Markets

Greater diversity of investor profile continues to be the most important structural issue for emerging East Asian LCY corporate bond market liquidity, according to the 2015 *AsianBondsOnline* liquidity survey results. At the regional level, it garnered a score of 3.7, the highest among the eight structural issues **(Figure 28)**. At the individual economy level, greater diversity of investor profile was the most important structural issue for the liquidity of corporate bond markets in Hong Kong, China; Indonesia; the Republic of Korea; and Singapore.

The second most important structural issue for the liquidity of the region's corporate bond markets was transparency, which received an overall score of 3.4. The importance of transparency highlights the fact that as corporate bonds carry credit risk, due diligence becomes increasingly more important. Transparency was found to be as equally important as investor diversity in Singapore, and was the second-most important structural issue in the PRC and Hong Kong, China. In contrast, this was the least important issue in Malaysia.

Four other structural issues—foreign exchange regulations, market access, and transaction funding—all received the third highest score of 3.1 at the regional level. This was followed by tax treatment (3.0), hedging instruments (3.0), and settlement and custody (2.9).

Figure 28: Regional Averages—LCY Corporate Bond Market Structural Issues



FX = foreign exchange, LCY = local currency.
Note: 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: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.

In the PRC, transaction funding was the most important compared with all the other structural issues receiving the highest score of 4.0, which means it was deemed a "very important" structural issue in deepening liquidity in the PRC's corporate bond market **(Figure 29)**. Meanwhile, market access was found to be more important than foreign exchange regulations, hedging instruments, and tax treatment, with the latter three receiving the same scores. The least important issue in the PRC was settlement and custody.

In Hong Kong, China, transaction funding was the third most important structural issue next to investor diversity and transparency. They were followed by hedging instruments (2.7), settlement and custody (2.4), foreign exchange regulations (2.3), tax treatment (2.0), and market access (1.8). The lower ranking for these structural issues reflected the developed market status of Hong Kong, China.

In Indonesia, market access and transparency were tied with the second highest score of 3.3 each after investor diversity. Tax treatment came in next at 3.1, followed by hedging mechanisms and transaction funding with 3.0 apiece. Foreign exchange regulations and settlement and custody were perceived to be relatively less important in Indonesia.

In the Republic of Korea, market access and transparency each got the second highest score of 3.2, while foreign exchange regulations and hedging mechanisms followed suit at 3.0 each. Tax treatment was the least important issue, transaction funding was the next least important.

In Malaysia, the most important structural issue was foreign exchange regulations with a score of 3.7. This was closely followed by investor diversity with 3.6. The rest of the structural issues ranged from 2.8 to 3.3.

For Philippine corporate bond market participants, tax treatment was found to be a very important structural issue in relation to market liquidity. Similar to government bonds, corporate bonds are subject to a 20% withholding tax. Tax treatment was followed by investor diversity, market access, and transparency, with all three posting the same score of 3.8. Settlement and custody received 3.5, while foreign exchange regulations, hedging mechanisms, and transaction funding were given scores of between 2.0 and 3.0.

Singapore's two most important structural issues were investor diversity and transparency, while the least important was settlement and custody. In Thailand, the highest score was 3.5 and five structural issues were given this same score: foreign exchange regulations, investor diversity, market access, tax treatment, and transparency. Similarly, in Viet Nam, three structural issues received scores of 3.5: foreign exchange regulations, investor diversity, and transparency.

Figure 29: Structural Issues for Individual LCY Corporate Bond Markets

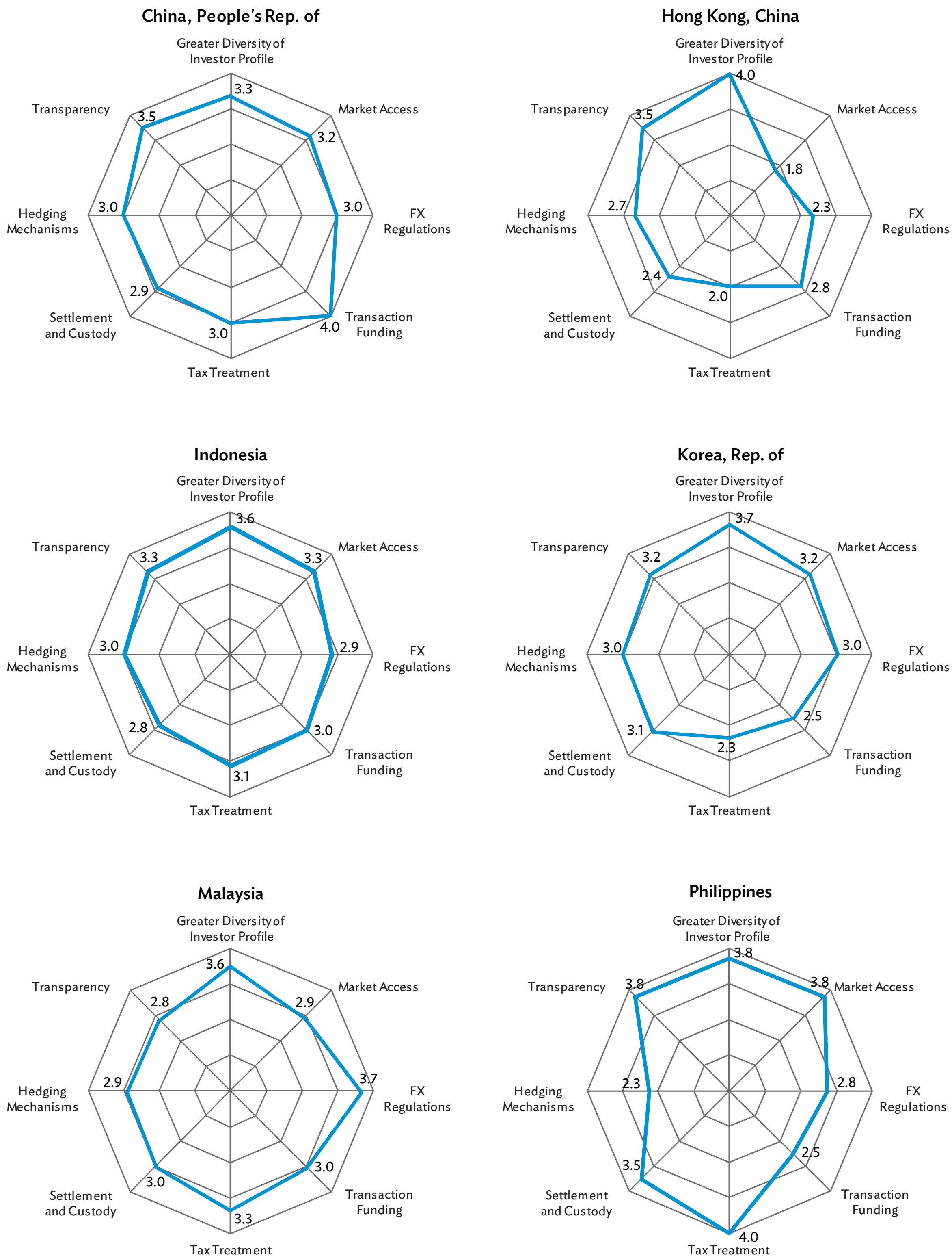


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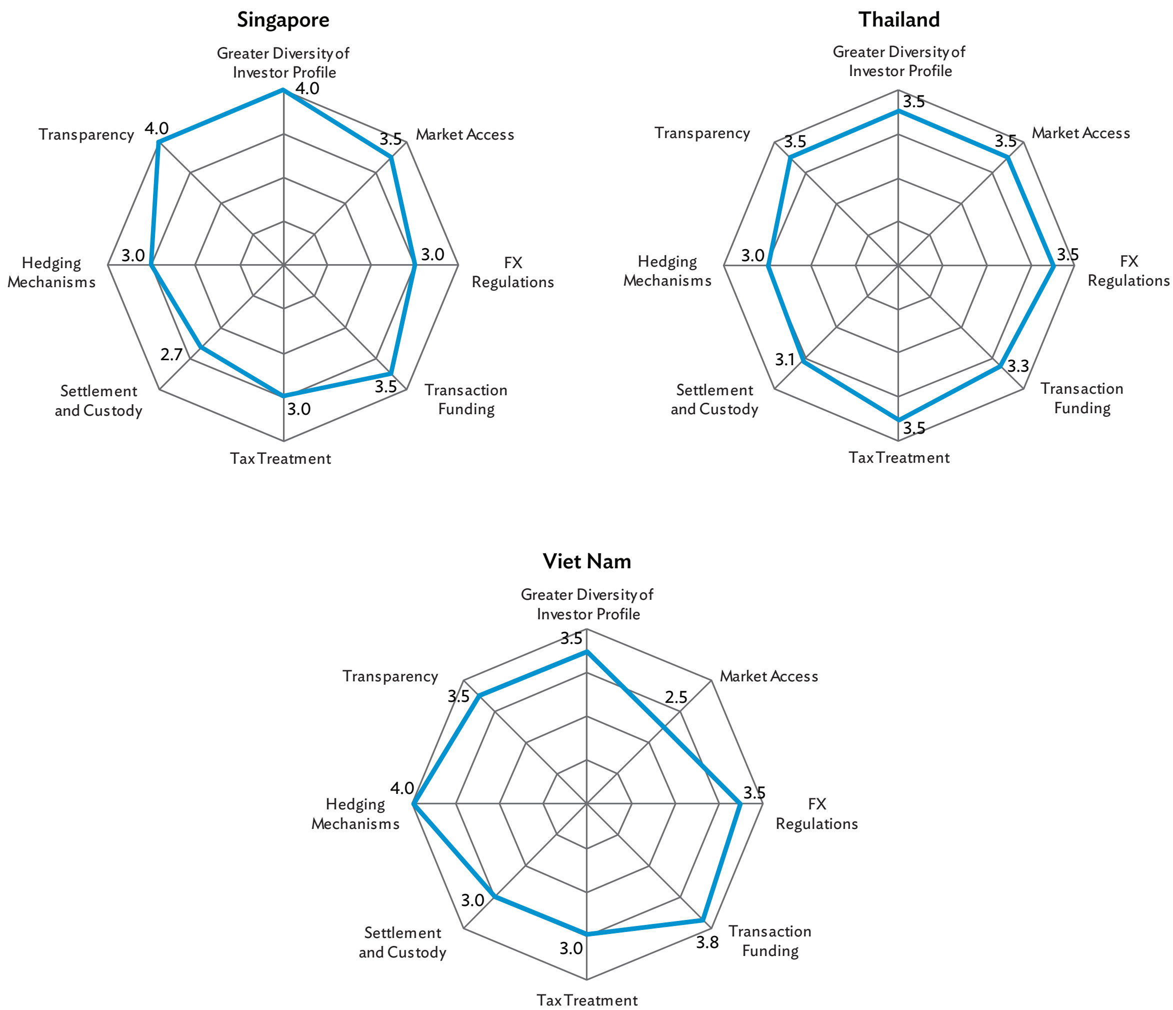
Figure 29 *continued*



FX = foreign exchange, LCY = local currency.
Source: *AsianBondsOnline* 2015 LCY Bond Market Liquidity Survey.