AsianBondsOnline Annual Bond Market Liquidity Survey

Introduction

In line with its mission to support the development of local currency (LCY) bond markets in emerging East Asia, *AsianBondsOnline* conducts an annual market survey to develop a deeper understanding of the current market environment.[7] The survey gathers information and insights from market participants on the liquidity conditions of each market and factors affecting the region as a whole. The results of the survey can help relevant stakeholders, particularly regulators and policymakers, identify areas to further develop and deepen LCY bond markets in the region.

The survey was conducted through meetings, phone interviews, and e-mail correspondence with bond market participants in the region. Participants include bond traders, brokers, research houses, fund managers, bond pricing agencies, and supervisory institutions. The survey was conducted simultaneously across markets from the last week of September to the second week of October, coinciding with the 25–26 September United States (US) Federal Reserve meeting in which it raised the policy rate by another 25 basis points (bps).

The survey covers LCY government and corporate bond markets, and is structured to address both the quantitative and qualitative aspects of each bond market. The quantitative section covers market-specific ratios and indicators, such as bid–ask spreads and transaction sizes, used to assess market liquidity conditions. The qualitative section provides an assessment of how developed each bond market is in terms of regulation and bond market infrastructure.

This year's survey produced a mixed assessment of liquidity conditions across the region given market-specific developments. Market participants in Indonesia, the Republic of Korea, and Malaysia noted unchanged, if not worsening, liquidity conditions in 2018 compared with the previous year. In Indonesia, market liquidity has been greatly affected by volatility driven by external developments, particularly the continued monetary tightening of the Federal Reserve, which resulted in a sharp rise in yields and a depreciation of the Indonesian rupiah. The Republic of Korea's market in 2018 has been characterized by a lack of trading activity due to continued uncertainty over the direction of yield movements amid an overall low-yield environment. Traders in Malaysia remained on the sidelines as market participants awaited the implementation of fiscal and macroeconomic policies by the new administration following the May elections. The Philippine bond market saw worsening liquidity conditions in 2018 due to high levels of inflation and a sharp rise in yields.

In the People's Republic of China (PRC) and Hong Kong, China, market liquidity improved in 2018 as increased volatility encouraged more trading activity and market participants saw opportunities to take profits in the short-term. The downward trend in yields provided support to the PRC's liquidity conditions amid rising bond prices, while in Hong Kong, China the high yields encouraged investors to buy bonds. In Viet Nam, liquidity also improved in the first half of 2018, given continued growth in its LCY bond market that is supported by government efforts to further develop the market. In Thailand, survey feedback was mixed but most participants noted an improvement in liquidity supported by foreign inflows and high demand for longer-tenored securities. In Singapore, trading remained active throughout the year.

Quantitative Indicators for Government Bond Markets

One of the indicators used to measure bond market liquidity is trading volume, or the value of bonds traded in the secondary market. However, in a region where bond markets are continually expanding in size, and with some markets still in the midst of development, the turnover ratio may be a more appropriate measure of trading activity. The turnover ratio allows us to determine how active trading is relative to bond market size. *AsianBondsOnline* calculates the turnover ratio by taking the quarterly trading volume (one side of the trade only) and dividing it by the average

[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.

amount of bonds outstanding during the current and previous quarters. A higher turnover ratio indicates a more liquid market and more trading activity.

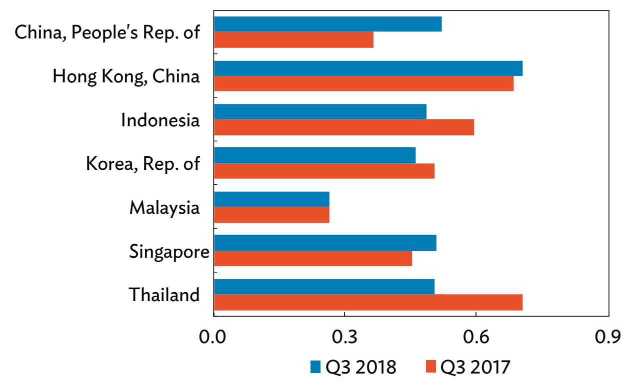
Figure 15 presents the quarterly turnover ratios for emerging East Asian markets in which data are available. In line with market sentiments, the observed changes in turnover ratios versus the same period last year were mixed. The turnover ratio in the third quarter (Q3) of 2018 was down in Indonesia, the Republic of Korea, and Thailand, while it was unchanged in Malaysia. Most participants in these markets noted no improvements in liquidity conditions and tepid trading activity. Thailand posted the largest drop in its turnover ratio, driven by less trading activity in central bank securities, which account for a large share of total trading volume, as a result of the cut in issuance in 2017.

Turnover ratios in 2018 were higher compared with last year in the PRC; Hong Kong, China; and Singapore. These three markets are also the most active in the region, with the highest turnover ratios in emerging East Asia being in Hong Kong, China at 0.70 and the PRC at 0.51.

Another indicator used to measure liquidity in a given bond market is the bid–ask spread, or the cost of executing a trade. This is the difference between the bid and ask price of a bond and is typically quoted in basis points (bps). A narrower spread indicates higher liquidity.

The average bid–ask spread for Treasury bonds for each market in the region is presented in **Table 5**. The regional average bid–ask spread for on-the-run government bonds for this year's survey rose to 4.7 bps from 3.2 bps in 2017 as most markets in the region posted higher average

Figure 15: Local Currency Government Bond Turnover Ratios



Q3 = third quarter.
Notes:
1. Turnover ratios are calculated as local currency trading volume (sales amount only) for the quarter divided by the average local currency value of outstanding bonds between the preceding and current quarters.
2. For the Republic of Korea and Thailand, Q3 2018 data 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).

Table 5: Local Currency Government Bond Markets Quantitative Indicators

		PRC	HKG	INO	KOR	MAL	PHI	SIN	THA	VIE	Regional
Typical Bid–Ask Spread On-the-Run	Average (bps)	1.9	12.6	5.3	0.5	2.3	6.9	2.1	2.5	8.3	4.7
	SD	1.3	11.9	2.1	0.3	1.4	2.5	0.7	1.2	2.9	3.9
	CV	0.7	0.9	0.4	0.7	0.6	0.4	0.3	0.5	0.3	0.8
Typical Bid–Ask Spread Off-the-Run	Average (bps)	4.0	17.6	8.6	0.7	4.9	17.5	2.1	7.6	13.8	8.5
	SD	2.2	21.7	2.8	0.3	2.9	3.8	0.7	2.1	2.5	6.4
	CV	0.6	1.2	0.3	0.5	0.6	0.2	0.3	0.3	0.2	0.8
Accepted LCY Bond Transaction Size On-the-Run	Average (USD million)	4.9	5.3	2.4	9.0	4.3	1.0	9.4	4.0	3.2	4.9
	SD	2.0	1.8	1.6	0.0	3.5	0.4	5.6	1.4	1.3	2.8
	CV	0.4	0.3	0.7	0.0	0.8	0.4	0.6	0.3	0.4	0.6
Accepted LCY Bond Transaction Size Off-the-Run	Average (USD million)	5.4	5.3	1.4	8.9	3.1	0.8	9.4	1.9	2.1	4.3
	SD	1.9	1.8	0.9	0.2	1.1	0.2	5.6	0.6	–	3.2
	CV	0.4	0.3	0.7	0.0	0.4	0.3	0.6	0.3	–	0.8

– = 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; USD = United States dollar; 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.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

spreads. Hong Kong, China; Viet Nam; and the Philippines posted the largest increases in bid–ask spreads, as well as the biggest spreads in the region, at 12.6 bps, 8.3 bps, and 6.9 bps, respectively. All of these markets experienced volatility in 2018, which resulted in widening spreads. In Hong Kong, China, the higher bid–ask spread was due to less trading activity in Hong Kong Special Administrative Region (HKSAR) bonds as market players traded more Exchange Fund Bills. The average bid–ask spreads in the Republic of Korea and Malaysia were barely changed from 2017 as no improvement in liquidity was noted this year. Across the region, only Singapore registered a slight decline in its bid–ask spread. The PRC (1.9 bps) and the Republic of Korea (0.5 bps) continued to post the lowest bid–ask spreads in the region.

The regional average bid–ask spread for off-the-run government bonds also rose in 2018 to 8.5 bps from 6.4 bps in the previous year as most markets posted higher bid–ask spreads. Similar to on-the-run government bonds, the markets that registered the largest increases and highest bid–ask spreads in 2018 were Hong Kong, China; Viet Nam; and the Philippines. The average bid–ask spread in Singapore narrowed, and was mostly unchanged in the Republic of Korea and Malaysia.

Transaction size is another measure of market liquidity. A higher average value for a single transaction indicates participation by large-scale market players, making the market more liquid. In line with mixed sentiment on liquidity conditions in the region this year, five out of nine markets registered lower average transaction sizes compared with 2017. This resulted in a regional average transaction size of USD4.9 million, almost unchanged from 2017's USD5.0 million. The PRC and Hong Kong, China posted the largest declines in average transaction size in 2018. However, in neither case was this because of less liquidity as trading remained active. Rather, relatively more market participants traded at the shorter-end of the yield curve and in smaller transaction sizes given volatility and uncertainties.

Characteristics of Individual Government Bond Markets

People's Republic of China

Respondents to the *AsianBondsOnline* 2018 liquidity survey in the PRC noted an increase in trading activity in 2018 versus the previous year. Market participants indicated that the increased liquidity was due to a number of factors such as rising government bond prices amid falling yields.

The fall in yields stemmed from concerns regarding the downward trajectory of the PRC's economy. For the first 3 quarters of 2018, the PRC's gross domestic product grew 6.7% year-on-year (y-o-y) compared with 6.9% y-o-y in the previous year. In 2017, bond liquidity lessened due to the deleveraging efforts of the government, which have since been eased given the economic slowdown.

While there have been a number of global shocks, including currency depreciation in emerging markets such as Argentina and Turkey, participants noted that the PRC has been largely insulated. Events that have affected local bond markets have either been largely domestic in nature or global events that potentially have a specific impact on the PRC economy such as trade tensions with the US.

Participants have noted that authorities in the PRC have taken steps to improve liquidity in local financial markets this year, but they still remain cognizant of risks in financial markets. For example, the People's Bank of China has taken steps to improve liquidity by easing reserve requirement ratios several times this year.

The People's Bank of China expanded the definition of accepted collateral for its medium-term lending facility to include corporate bonds with ratings of AA and above. It has also taken steps to open up local bond markets to foreigners through the use of the Bond Connect program with Hong Kong, China as well as the China Interbank Bond Market Direct channel. Participants noted that foreign participation in the PRC's bond markets has increased as a result of these initiatives. Foreign investor interest is also expected to increase following the implementation of delivery-versus-payment settlement via Bond Connect as well as a 3-year tax exemption on interest payments on corporate bonds for foreign investors.

At the same time, bond market liquidity was somewhat affected by increasing regulation on wealth management products as authorities in the PRC seek to exercise greater restrictions to limit the risks associated with these products. New regulations include the removal of implicit guarantees on wealth management products.

While government bond yields have largely fallen, uncertainties with regard to trade with the US and other domestic factors have led to greater volatility in the PRC's bond market. As a result, bid–ask spreads have risen (**Table 6**).

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

	Treasury Bills	Treasury Bonds	Policy Bank Bonds
On-the-Run			
Bid–Ask Spread (bps)	2.8	1.9	1.4
Average Trading Size (CNY million)	43.0	34.0	33.0
Off-the-Run			
Bid–Ask Spread (bps)	4.6	4.0	5.2
Average Trading Size (CNY million)	48.0	37.0	39.0

bps = basis points, CNY = Chinese renminbi.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

Bid–ask spreads have widened for Treasury bills, with on-the-run bid–ask spreads rising to 2.8 bps in 2018 from 1.8 bps in the previous year. Bid–ask spreads for Treasury bonds rose to 1.9 bps in 2018 from 1.0 bp in the previous year, while policy bank bond bid–ask spreads rose to 1.4 bps from 1.1 bps during the same period.

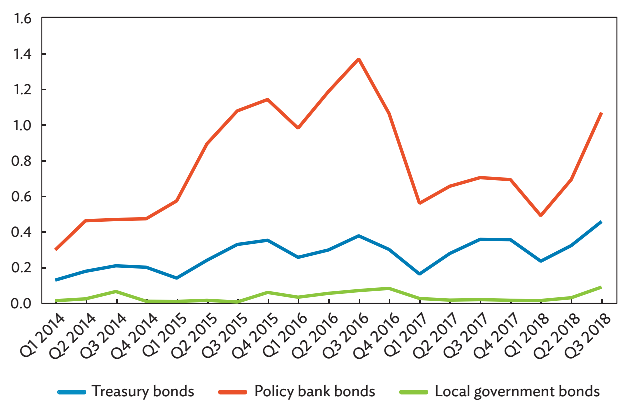
The highest bid–ask spreads came from local government bonds, with the bid–ask spreads rising to 5.2 bps in 2018 from 4.3 bps in the previous year. Local government bonds have considerably less liquidity as they are less actively traded, with investors tending to hold on to them rather than trading.

Off-the-run bid–ask spreads were shown to be consistently higher than bid–ask spreads for on-the-run securities, but showed fewer changes in 2018 compared with the prior year. The largest increase came from local government bonds, with off-the-run bid–ask spreads rising to 8.6 bps in 2018 from 7.5 bps in 2017, followed by policy bank bonds, with bid–ask spreads rising to 5.2 bps from 4.3 bps.

Average trading sizes declined across all types of government securities. The average trading size for on-the-run Treasury bills fell to CNY43.0 million in 2018 from CNY58.3 million in the previous year. The average trading size for Treasury bonds fell to CNY34.0 million from CNY51.7 million, while the average for policy bank bonds fell to CNY33.0 million from CNY51.7 million. The local government bond trading size average fell to CNY40.0 million from CNY45.0 million during the same period.

Increased volatility and demand for safer assets led to increased turnover in government bonds in 2018 as evidenced by higher turnover ratios for all three types of government bonds (**Figure 16**).

Figure 16: Turnover Ratios for the Spot Market in the People's Republic of China



Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter.
Source: *ChinaBond*.

Hong Kong, China

Market participants reported that Hong Kong, China's government bond market liquidity was roughly stable in 2018, but noted an increase in overall volumes amid heightened investor interest generated by higher yields. However, overall liquidity remained lower than in the years prior to the Federal Reserve's initiation of tapering.

Participants also noted that with the decline in the aggregate balance, a number of IPO issuances, and a rising Hong Kong dollar deposit rate and Hong Kong Inter-bank Offered Rate, overall interbank liquidity has declined.[8] The Hong Kong Monetary Authority (HKMA) noted that the decline in the aggregate balance is not

[8] Aggregate balance refers to the sum of balances in the clearing accounts and reserve accounts maintained by commercial banks with the Hong Kong Monetary Authority.

worrisome and that financial market participants still have ample liquidity.

Participants noted that in the government bond market, Exchange Fund Bills remain the most liquid instrument and carry the lowest bid–ask spread. The bid–ask spread for Exchange Fund Bills declined to 4.0 bps in 2018 from 5.0 bps in the previous year (**Table 7**). Exchange Fund Bills in 2018 experienced more demand than the other two types of government securities, owing to the ample supply and rising Hong Kong dollar interest rates. The average trading size also increased to HKD537.5 million in 2018 from HKD266.7 million in 2017.

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

	Exchange Fund Bills	Exchange Fund Notes	HKSAR Bonds
On-the-Run			
Bid–Ask Spread (bps)	4.0	6.6	12.6
Average Trading Size (HKD million)	537.5	100.0	41.7
Off-the-Run			
Bid–Ask Spread (bps)	4.4	7.6	17.6
Average Trading Size (HKD million)	512.5	66.7	41.7

bps = basis points, HKD = Hong Kong dollar, HKSAR = Hong Kong Special Administrative Region.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

Off-the-run bid–ask spreads for Exchange Fund Bills declined to 4.4 bps from 5.5 bps during the same period. An increase in the average trading size to HKD512.5 million from HKD233.3 million was also noted.

The spread for on-the-run Exchange Fund Notes declined to 6.6 bps from 7.8 bps during the review period. Trading activity for Exchange Fund Notes is generally lower than for Exchange Fund Bills due to lower supply. In an effort to align the Exchange Fund Notes market with the HKSAR bond market, the HKMA removed Exchange Fund Note auctions for tenors of longer than 2 years, resulting in fewer auctions. The amount of Exchange Fund Notes outstanding is less than that of Exchange Fund Bills.

As a result, the average trading size in 2018 of HKD100.0 million for Exchange Fund Notes was lower than for Exchange Fund Bills (HKD537.5 million) and slightly lower than in the previous year (HKD108.3 million).

HKSAR bond bid–ask spreads in 2018 rose to 12.6 bps from 9.0 bps in 2017. Despite efforts by the HKMA to improve the liquidity of HKSAR bonds by canceling longer-tenor Exchange Fund Notes, the liquidity of HKSAR bonds remains poor. The average trading size in 2018 fell to HKD41.7 million from HKD62.5 million in 2017.

Participants cited a number of reasons for poor liquidity such as investor preferences and a lack of familiarity with HKSAR bonds. The available supply of HKSAR bonds from dealers is also constricted by the inability of investors to short the bonds. The frequency of HKSAR bond issuance is another problem. The HKMA is taking additional steps to improve liquidity and announced an additional HKD1.5 billion 10-year HKSAR bond issuance scheduled for January 2019.

Participants noted that there was little structural change to Hong Kong, China's bond market in 2018 given its established position as a key financial center. Recent efforts by the government have attempted to capitalize on this by expanding Hong Kong, China's bond market, including the creation of a *sukuk* (Islamic bond) market and a green bond market, but whether these will become significant markets remains to be seen. While there already have been some issuances of these types of bonds, an active market has not yet emerged.

Hong Kong, China has an active Chinese renminbi bond market, which is known colloquially as the Dim Sum bond market or the CNH market, given its relationship with the PRC. However, survey respondents noted that interest in the CNH market has waned given the PRC's ongoing liberalization of its LCY bond market to foreign investors.

Indonesia

Most survey respondents noted that liquidity conditions in Indonesia's LCY bond market in 2018 either did not improve or were broadly unchanged from last year. After starting the year strongly, market conditions reversed in February as bond yields crept up and the Indonesian rupiah depreciated. The reversal in sentiment in the bond market stemmed from external risks that were driven largely by the Federal Reserve's normalization of monetary policy. Market participants noted a correlation between US Treasury rate movements and domestic bond yields. Indonesian government bond yields are quite sensitive to external developments, partly because foreign investors account for the largest investor group in government bonds, thus making its financial market vulnerable to capital flight in times of market stress.

At the end of September, the foreign holdings share in the Indonesian LCY government bond market had declined to 36.9% from about 40% at the start of the year. The decline in holdings was largely influenced by offshore investors' risk-off sentiment toward emerging market assets. Nonetheless, market participants noted that foreign investors are still attracted to Indonesian bond yields as they are the highest in emerging East Asia. In addition, real interest rates on Indonesian government bonds remained high in 2018 due to low inflation.

Ongoing volatility in the domestic bond market is a test for Indonesia's economic and financial resiliency. Despite the exchange rate hitting the IDR15,000–USD1 mark in recent months, market participants opined that today's economic backdrop is very different from the 1997/98 Asian financial crisis. Economic fundamentals are much stronger compared with the crisis period, as indicated by low inflation, stable economic growth, higher foreign exchange reserves, more liquidity in the banking system, and much-improved sovereign ratings. Survey respondents noted that risks emanating from the external side resulted in the declining IDR–USD exchange rate and widening current account deficit. However, with more active policy coordination and action by the government, particularly the regulatory and monetary bodies, survey respondents remain confident that ongoing market volatility will ease.

Market participants assessed Bank Indonesia's preemptive monetary policy as being adequate to support the bond market. Since the middle of May, Bank Indonesia has adjusted its policy rate by a cumulative 150 bps, bringing the 7-day reverse repurchase rate up to 5.75% on 27 September. Market participants agreed that there is still room for rates to go higher, with the possibility of one more rate hike toward the end of 2018. They also lauded the government's efforts to trim the current account deficit by postponing government projects with a heavy dependence on imports and by levying tariffs on a number of imported goods.

While there have been no new policies or regulations that could directly affect bond market liquidity, some new regulations introduced in 2018 may have indirect benefits on the domestic bond market. Among these are the introduction of a new interbank overnight reference rate, referred to as INDonia, and the introduction of domestic nondeliverable forward as an alternative hedging instrument for banks and corporates.

The government is also exploring reducing taxes on bonds, particularly on capital gains and coupons. This could have significant benefits as such incentives would make the domestic bond market more attractive to investors.

In line with the volatile market in Indonesia, the results of this year's survey indicated a widening of bid–ask spreads for Treasury bills and Treasury bonds compared with the 2017 survey results. The average bid–ask spreads quoted by market participants for on-the-run Treasury bonds inched up to 5.3 bps from 3.3 bps (**Table 8**). On the other hand, bid–ask spreads for off-the-run Treasury bonds were steady at 8.6 bps. For Treasury bills, the average on-the-run bid–ask spread rose to 23.8 bps in 2018 from 18.3 bps in 2017. Only a few survey respondents quoted an off-the-run bid–ask spread for Treasury bills as they are largely short-term in nature and thus trading is quite limited.

Table 8: Local Currency Government Bond Survey Results—Indonesia

	Treasury Bills	Treasury Bonds
On-the-Run		
Bid–Ask Spread (bps)	23.8	5.3
Average Trading Size (IDR billion)	66.4	35.5
Off-the-Run		
Bid–Ask Spread (bps)	20.0	8.6
Average Trading Size (IDR billion)	75.0	21.0

bps = basis points, IDR = Indonesian rupiah.
Notes: 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. The Indonesian market quotes bid–ask spread for Treasury bills in terms of yields or basis points.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

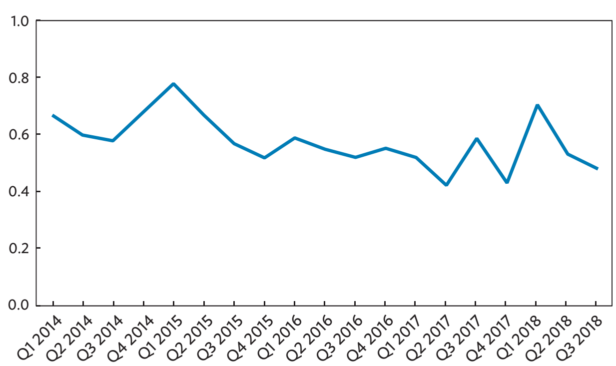
The average trading size for both on-the-run and off-the-run issues climbed for Treasury bonds. The average single ticket size for on-the-run Treasury bonds climbed to IDR35.5 billion in this year's survey from IDR25.0 billion in 2017. Most market participants quoted a range of IDR10 billion to IDR50 billion, with some participants quoting as high as IDR100 billion. The size of a single transaction depends on the type of investor.

But in Indonesia, the most active market players are foreigners and banks who are able to trade in larger sizes. For off-the-run Treasury bonds, the average trading size climbed to IDR21.0 billion in this year's survey from IDR17.0 billion in 2017.

The average trading size for Treasury bills on the other hand slid to IDR66.4 billion for on-the-run bills while it rose to IDR75.0 billion for off-the-run bills, compared with IDR78.6 billion and IDR35.0 billion, respectively, as quoted in the 2017 survey.

In the first 9 months of 2018, trading volume edged up 27.8% y-o-y to IDR3,765 trillion from IDR2,946 trillion in the same period in 2017. While higher trading volume is indicative of increased market activity, it also comes as a function of market size as the government has issued more bonds this year. A closer look at the turnover ratio indicated a declining trend, with the quarterly bond turnover ratio falling to 0.5 in Q3 2018 from 0.7 in the first quarter (Q1) of 2018 (**Figure 17**).

Figure 17: Quarterly Government Bond Turnover Ratio in Indonesia



Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter.
Sources: Indonesia Stock Exchange and *AsianBondsOnline*.

Republic of Korea

Survey respondents in the Republic of Korea noted liquidity conditions in the LCY government bond market to be the same in 2018 compared with last year, with no improvement in trading activity. The average bid–ask spread for on-the-run Korea Treasury Bonds (KTBs) was unchanged at 0.5 bps, while the spread for off-the-run KTBs fell slightly to 0.7 bps from 0.9 bps (**Table 9**). The average trading size for on-the-run KTBs was up slightly to KRW10.0 billion from KRW8.1 billion in 2017, while that of off-the-run KTBs was slightly down to KRW9.9 billion from KRW10.4 billion. Bid–ask spreads and average trading sizes for Monetary Stabilization Bonds issued by the Bank of Korea were almost unchanged between 2017 and 2018.

Table 9: Local Currency Government Bond Survey Results—Republic of Korea

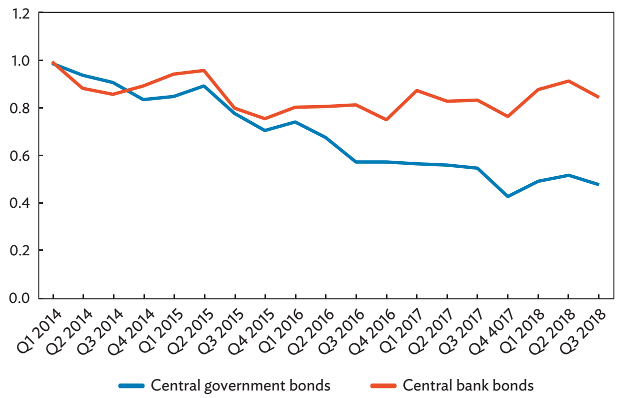
	Treasury Bonds	Central Bank Bonds
On-the-Run		
Bid–Ask Spread (bps)	0.5	0.5
Average Trading Size (KRW billion)	10.0	9.7
Off-the-Run		
Bid–Ask Spread (bps)	0.7	0.6
Average Trading Size (KRW billion)	9.9	9.7

bps = basis points, KRW = Korean won.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

Market participants were more hesitant to trade in 2018 given continued monetary tightening in advanced economies, particularly amid rate hikes by the Federal Reserve and the sharp rise in US Treasury yields. The relatively low domestic bond yields and corresponding returns to investors also contributed to less activity in the market.

Uncertainties over the direction of the Bank of Korea's monetary policy impacted domestic liquidity conditions. Following a rate hike in November 2017, another hike was expected in the first half of 2018 to address rising household debt. However, expectations dissipated amid a slowdown in economic growth, subdued inflation, and worsening employment conditions. Recently, however, statements by the Bank of Korea hinted at a possible rate hike before the year's end. All survey respondents foresaw a rate hike in 2018, but feedback was mixed on whether this would take place at the central bank's October or November monetary policy meeting. Market participants do not see such a hike as a move by the central bank to drive bond yields higher as they perceive that current macroeconomic conditions do not warrant a rate hike. Rather, the expected central bank move would be to address the household debt crisis amid excess liquidity that is shifting into the real estate market and driving up housing prices.

Figure 18: Quarterly Government Bond Turnover Ratios in the Republic of Korea



Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter.
Note: For the Republic of Korea, central government bonds include Treasury bonds and National Housing bonds. Data for Q3 2018 are based on *AsianBondsOnline* estimates.
Source: The Bank of Korea.

Reduced trading activity was also reflected in the low and declining turnover ratios, particularly for central government bonds (**Figure 18**). Quarterly trading volumes in 2018 were lower compared with 2017, while the size of the bond market continued to grow steadily. The turnover ratio of central bank bonds was slightly up in 2018 compared with 2017.

Net foreign flows into the Republic of Korea's LCY government bond market were generally strong in 2018, particularly for KTBs, despite low yields and a negative interest rate differential with US Treasuries. Survey respondents noted that the Republic of Korea's relative economic stability and healthy external balance position, compared with its peers and other advanced economies, continue to attract foreign investors. Favorable hedging costs and the relative strength and resiliency of the Korean won also contributed to strong foreign net inflows.

In the short-term, survey respondents continue to see yields and liquidity conditions as being range-bound. The market has priced in further rate hikes by the Federal Reserve and continued rise in US Treasury yields. However, any accelerated move by the Federal Reserve could cause volatility in the domestic bond market and affect the Bank of Korea's monetary policy stance given the widening (negative) interest rate differential with the US. The trade tensions between the PRC and US have had minimal impact on the domestic bond market to date, though the stock market and won–dollar exchange rate have been affected. Any sharp depreciation in the Korean won might result in capital outflows from the domestic bond market.

Survey respondents noted steps being taken by regulators to improve market liquidity in the Republic of Korea. These include, among others, policies to require further participation by primarily dealers in market-making, extended hours of market-making on the exchange, and more frequent issuance of 50-year and other longer-tenored KTBs. Suggestions from respondents for additional measures to improve liquidity included a regular issuance schedule for government bonds.

Malaysia

Liquidity in Malaysia's LCY bond market in 2018 was perceived by survey respondents as either broadly unchanged or somewhat decreased compared with last year, mainly due to investor uncertainties. The run-up to the May elections and the unexpected results moderated trading interest as investors adopted a wait-and-see approach. Investors are cautious on the developments of the new administration's election promises that will affect the economy's fiscal position such as the replacement of the goods and services tax by a sales and services tax, the review of numerous infrastructure projects in which a few have already been cancelled, and the plan to abolish highway toll collections. Such fiscal uncertainties can influence the credit quality of bonds, while the government's lack of forward guidance on its economic and fiscal strategies has held back investors from entering the market. The budget in 2019 is a signal to watch for as it can be a gauge for government policies that are crucial for investors.

Global risk developments such as the PRC–US trade tensions and the emerging market turmoil also contributed to uncertainties in the market. The trade tensions are seen as being a deterrent to global economic growth, while the rout in some emerging market economies has spread contagion fears.

Monetary policy tightening from advanced economies, such as the Federal Reserve's ongoing interest rate hikes and hints from the European Central Bank (ECB) that it will end its quantitative easing at the end of the year, have less bearing on the local bond market. The tightening measures have been on the radar for quite some time and, unless there will be drastic changes in policy direction, have already been priced into the market.

The continued low level of foreign investor participation was also cited by survey respondents to have contributed to subdued liquidity in the local bond market. Foreign fund inflows have not improved since Bank Negara Malaysia's (BNM) crackdown on Malaysian ringgit trading in the offshore nondeliverable forward market in November 2016. In Q3 2018, the foreign holdings share of local government bonds was about 25% versus about 28% in Q3 2017. Foreign investor sentiment has been weighed down by uncertainties in both the domestic and international scene, diminishing their risk appetite for emerging markets such as Malaysia and prompting a flight to safe havens.

Outflow pressures might still be observed as risk developments sway investor sentiment. Nonetheless, any fund outflows would not be expected to be significant or destabilizing, and would likely only cause short-term volatilities. Malaysia's LCY bond market remains well supported by domestic investors, while the liberalization of certain measures to allow for foreign investor hedging could lessen the outflow bias. Additionally, Malaysia's stable macroeconomic fundamentals and ample external buffer provide resilience from contagion risks and an economic hard landing.

Survey participants agreed with the BNM's neutral monetary policy stance, saying that it is ideal given decelerating economic growth in recent quarters and the muted inflationary trend. Although a rate cut is increasingly likely, it would be viewed as perilous in the face of capital outflows and depreciating local currency. The BNM may decide to reduce the benchmark interest rate in 2019 if the economy continues to be sluggish.

The Securities Commission of Malaysia is currently focused on developing the retail bond market and has recently released revised guidelines to boost this segment by making it easier for retail investors to trade in the market, which mainly comprises institutions at present. Aside from this, survey respondents also cited interest rate derivatives and the short-selling framework as new regulatory developments that can affect the bond market.

The average on-the-run bid–ask spreads for Malaysian government securities was little changed in 2018. On-the-run bid–ask spread for Malaysian Government Securities averaged 2.3 bps compared with 1.9 bps in 2017 (**Table 10**). For Government Investment Issues, the average bid–ask spread was 2.5 bps in 2018, up from 2.2 bps from a year earlier. On-the-run average trading sizes for Malaysian Government Securities and Government Investment Issues were marginally lower in 2018 at MYR18.0 million and MYR14.9 million, respectively, compared with MYR19.4 million and MYR17.0 million in 2017.

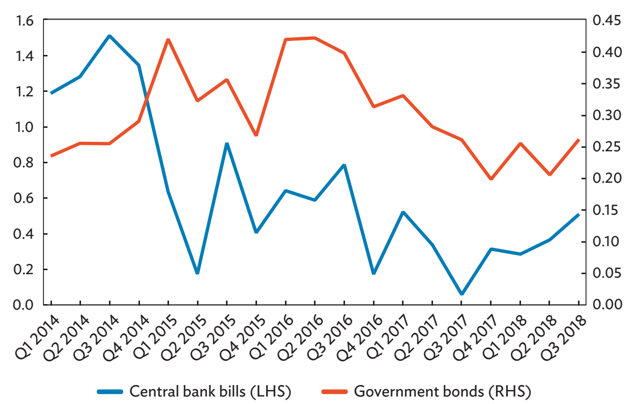
Table 10: Local Currency Government Bond Survey Results—Malaysia

	MGS	GII	BNM Bills	Treasury Bills
On-the-Run				
Bid–Ask Spread (bps)	2.3	2.5	2.7	5.7
Average Trading Size (MYR million)	18.0	14.9	48.3	49.2
Off-the-Run				
Bid–Ask Spread (bps)	4.9	6.7	6.4	6.4
Average Trading Size (MYR million)	12.7	12.3	36.3	43.1

BNM = Bank Negara Malaysia, bps = basis points, GII = Government Investment Issues, MGS = Malaysian Government Securities, MYR= Malaysian ringgit.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

The government bond turnover ratio was 0.26 in Q3 2018, the same as a year earlier despite movements in both directions during the review period (**Figure 19**). This is in line with market participant perceptions that liquidity has not improved. It is notable that the turnover ratio fell in Q2 2018 to 0.21, which reflected election-related market jitters. During the period, lower trading activity

Figure 19: Quarterly Government Bond Turnover Ratios in Malaysia



LHS = left-hand side, RHS = right-hand side. Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter.
Source: Bank Negara Malaysia.

was observed even as the amount of government bonds outstanding was increasing. Trading activity for central bank securities was active in Q3 2018, with the turnover ratio climbing to 0.51 from 0.06 in Q3 2017. The rising trend in the turnover ratio, which has been observed since the fourth quarter of 2017, can be traced to increased issuance from the BNM with the introduction of Bank Negara Interbank Bills in November 2017.

Philippines

Liquidity in the Philippines' LCY government bond market worsened over the past year. Spreads have widened and trading has been tepid. Amid rising interest rates and increasing inflation, market sentiment has been bearish.

The average bid–ask spread for on-the-run Treasury bonds increased to 6.9 bps from 3.7 bps in 2017 (**Table 11**). Spreads for on-the-run Treasury bills jumped to 14.3 bps from 5.3 bps. The average bid–ask spread for off-the-run Treasury bonds rose to 17.5 bps from 12.0 bps, while that for Treasury bills went up to 24.4 bps from 15.6 bps. The widening spreads show the difficulty in trading Treasury bills and bonds as investors continue to be wary of inflation.

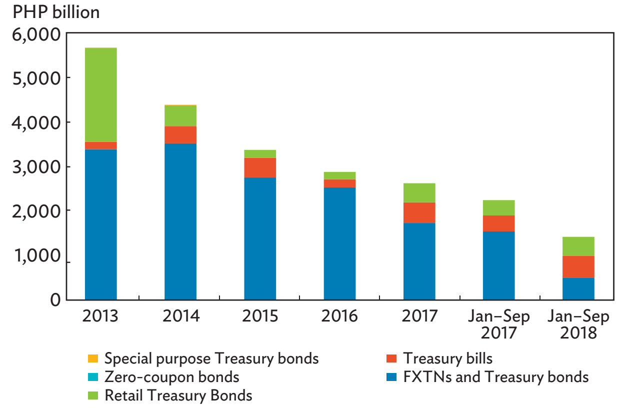
Table 11: Local Currency Government Bond Survey Results—Philippines

	Treasury Bonds	Treasury Bills
On-the-Run		
Bid–Ask Spread (bps)	6.9	14.3
Average Trading Size (PHP million)	56.1	53.8
Off-the-Run		
Bid–Ask Spread (bps)	17.5	24.4
Average Trading Size (PHP million)	42.5	41.7

bps = basis points, PHP = Philippine peso.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

Bearish market sentiment has caused investors to trade less this year. The average trading size for on-the-run Treasury bonds was PHP56.1 million, down from PHP85.7 million in 2017. The average declined to PHP53.8 million from PHP85.0 million for Treasury bills. Off-the-run Treasury bonds were trading on average PHP42.5 million, down from PHP43.3 million the previous year. The only improvement was the average trading size for off-the-run Treasury bills at PHP41.7 million, up from PHP34.0 million from 2017.

Figure 20: Philippine Dealing and Exchange Corporation Trading Volume Trends—Government Securities in the Philippines



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

Based on data from the Philippine Dealing and Exchange Corporation, trading volume continued to trend downward in 2018 (**Figure 20**). For January to September, trading volume dropped to PHP1,425 billion from PHP2,250 billion during the same period a year earlier. Increases in the trading of Treasury bills and Retail Treasury Bonds were not enough to offset the dip in trading of fixed rate Treasury notes and Treasury bonds, which dropped to PHP494 billion from PHP1,545 billion. Zero coupon bonds and special purpose Treasury bonds have not been traded since 2012 and 2015, respectively.

One of the factors that affected the liquidity of the LCY government bond market was the frequent rejection of auction bids by the Bureau of the Treasury. This decreased the volume of benchmark bonds that auctions provide. The lack of price guidance also caused lackluster performance by the LCY government bond market.

According to survey participants, the adoption of the Philippine Financial Reporting Standard 9 has affected liquidity as it updated its guidelines on the accounting treatment of securities held by banks. The reclassification of some financial instruments from available-for-sale to hold-to-collect limited the ability of banks to trade these instruments. On the other hand, a factor that may affect liquidity positively in the near future is the switch from using Philippine Dealing and Exchange Corporation rates to Bloomberg valuation in banks' daily marking-to-market of its investments. The

Bloomberg valuation methodology will also help lead to better benchmark rates and price discovery. Shifting platforms, however, for trading bonds will have minimal effect on liquidity.

Taxes dominate the concerns of investors in the LCY government bond market as the Philippines has one of the highest tax rates imposed on LCY government securities in the region, which acts as a deterrent for foreign investors. Investors have expressed a desire for lower taxes and a more efficient process for tax rebates for qualified participants.

Developments in the Philippines' financial market have been affected by recent global events. Investors believe that the rate hikes of the Federal Reserve will continue to put upward pressure on bond yields in the Philippines. The effects of the tapering of quantitative easing by the ECB are not viewed as being as significant as the rate hikes of the Federal Reserve. On the other hand, the continuing trade war between the PRC and the US affects the LCY bond market in the Philippines directly, albeit not as much as the equity and foreign exchange markets. Most global events affect emerging markets as a sector rather than as individual member economies.

Survey respondents correctly foresaw the 50-bps interest rate hike by the Bangko Sentral ng Pilipinas on 27 September, supported by their views on inflation, the PHP–USD exchange rate, trade data, and a strongly worded pronouncement by the central bank. In order to address inflation, respondents believe that nonmonetary policies must also be utilized such as rice tariffication, rice importation, and price caps for rice.

Bearish sentiment is expected to dominate the LCY government bond market in the next few months as investors wait and see if inflation has already peaked for the year. Interest rate hikes are also expected to continue.

Singapore

Liquidity in Singapore's LCY government bond market did not change significantly over the past year. The LCY government bond market has been relatively stable over the years and few developments have emerged. Market participants view Singapore Government Securities (SGS) bills and Monetary Authority of Singapore (MAS) bills the same way, with both being considered to be very liquid securities.

Table 12: Local Currency Government Bond Survey Results—Singapore

	SGS Bonds	SGS Bills	MAS Bills
On-the-Run			
Bid–Ask Spread (bps)	2.1	1.5	1.5
Average Trading Size (SGD million)	12.9	35.0	35.0
Off-the-Run			
Bid–Ask Spread (bps)	2.1	1.5	1.5
Average Trading Size (PHP million)	12.9	35.0	35.0

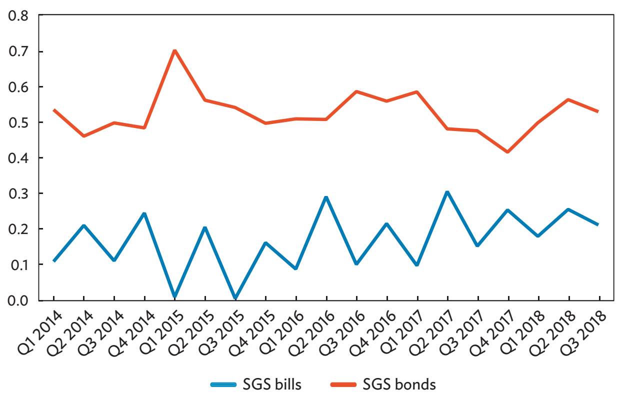
bps = basis points, MAS = Monetary Authority of Singapore, SGD = Singapore dollar, SGS = Singapore Government Securities.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

Average bid–ask spreads for on-the-run SGS bonds, SGS bills, and MAS bills in 2018 were 2.1 bps, 1.5 bps, and 1.5 bps, respectively, all of which were down from 3.0 bps, 2.8 bps, and 4.4 bps in 2017 (**Table 12**). The average trading size for SGS bonds was SGD12.9 million in 2018 (up from SGD10.0 million a year earlier), while it was SGD35.0 million for both SGS and MAS bills, up from SGD17.5 million for both a year earlier. The same values were observed for off-the-run SGS bonds, SGS bills, and MAS bills in 2018. Compared with the previous year, spreads tightened in 2018. Generally, investors preferred short-term instruments; hence, spreads are wider at the long-end of the yield curve. Trading activities were roughly unchanged in 2018 since the Singapore government bond market is fairly well developed already. Survey respondents noted, however, that investors have an increased appreciation for Singapore Savings Bonds as retail investors seek safe long-term investments.

The turnover ratio for SGS bonds increased to 0.53 in Q3 2018 from 0.48 in Q3 2017 (**Figure 21**). This was due to the SGD10.0 billion increase in quarterly trading volume to SGD59.7 billion in Q3 2018 from SGD49.7 billion during the same period a year earlier. The quarterly average for government bonds outstanding increased to SGD112.7 billion from SGD104.3 billion. The turnover ratio for SGS bills increased to 0.21 from 0.15 in Q3 2017 as the quarterly trading volume increased to SGD2.1 billion from SGD1.6 billion. Quarterly average government bonds outstanding, however, declined to SGD10.0 billion from SGD10.4 billion.

Tighter spreads and increased bond turnover ratios support the view of a stable and liquid LCY government bond market. Survey respondents believe that the

Figure 21: Quarterly Government Bond Turnover Ratios in Singapore



SGS = Singapore Government Securities, Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter.
Source: Monetary Authority of Singapore, Singapore Government Securities.

market will continue to be stable and liquid over the next 6 months. Although already well developed, some market participants wish for an active futures bond market for the Singapore LCY government bond market to allow investors to hedge their risks better.

Yields in the Singapore bond market are highly correlated with the rates of the Federal Reserve. Therefore, rate hikes in the US in 2018 caused increases in Singapore bond yields. However, recent monetary tightening by the Federal Reserve has not significantly affected Singapore's bond market because investors had already priced in the moves, which were telegraphed by the Federal Reserve.

Participants correctly anticipated monetary tightening by the MAS on 12 October when it slightly increased the slope of the Singapore dollar nominal effective exchange rate. Singapore's increasing price pressures amid robust (albeit slower) growth supported their view.

Thailand

The survey respondents' perception of LCY government bond market liquidity conditions in Thailand is mixed with most saying that it has improved compared with 2017, which is largely attributed to fund inflows from offshore investors. Thailand saw an inflow of THB225.8 billion to its bond market in the first 9 months of the year, notwithstanding concerns over external risk as the economy maintains its strong macro fundamentals. Thailand enjoys a stable currency, low inflation, high international reserves, a current account surplus, and low external debt, making the Thai bond market a safe haven for foreign investors. Survey respondents expected foreign funds to continue to flow into the market in 2018, although not in the same quantity as a year earlier and marked with episodes of volatility due to external uncertainties.

Improvement in liquidity in the government bond market was mainly seen for long-term tenors, according to survey respondents. Most offshore funds are invested in long-term government bonds due to the economy's upbeat prospects supported by strong fundamentals. Thailand's aging population also supports liquidity in long-term government bonds as demand for such paper from pension funds is high. On the other hand, survey participants noted that liquidity for short-term tenors was broadly unchanged from last year and most investors in this segment are local investors.

The average bid–ask spread for on-the-run government bonds is 2.5 bps, while for on-the-run Treasury bills it is 2.1 bps (**Table 13**). For central bank securities, Bank of Thailand (BOT) bonds' average bid–ask spread is 3.7 bps, while for BOT bills it is 1.8 bps. The average trading size is THB130 million for government bonds and THB117 million for Treasury bills. Average trading sizes for BOT bonds and BOT bills are THB125 million and THB83 million, respectively. Survey respondents noted that the typical transaction size this year compared with 2017 has increased for government bonds but declined for BOT bonds. On the other hand, for Treasury bills and BOT bills, the trading sizes are about the same as in the previous year.

Table 13: Local Currency Government Bond Survey Results—Thailand

	Government Bonds	Treasury Bills	BOT Bonds	BOT Bills
On-the-Run				
Bid–Ask Spread (bps)	2.5	2.1	3.7	1.8
Average Trading Size (THB million)	130.0	116.7	125.0	83.3
Off-the-Run				
Bid–Ask Spread (bps)	7.6	3.3	4.3	2.4
Average Trading Size (THB million)	60.7	87.5	82.1	62.5

BOT = Bank of Thailand, bps = basis points, THB = Thai baht.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

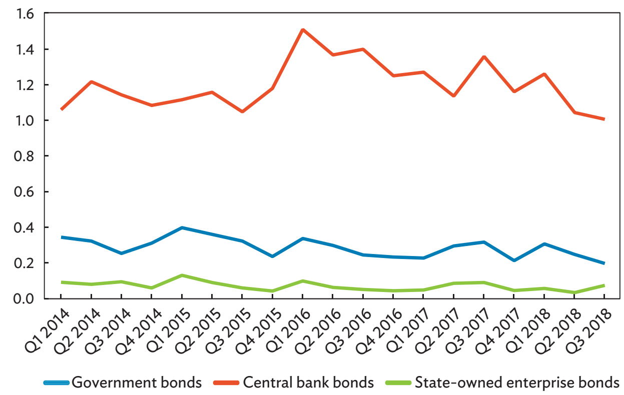
There were no new regulatory measures in 2018 that significantly affected the liquidity of the bond market. Survey participants, however, cited the impending tax on mutual funds that might be finalized and implemented in the second half of 2019. Most respondents think that the regulation will not have much impact on the bond market, saying that investors will invest regardless of whether the tax will push through; a few respondents believe that implementation of the tax would reduce liquidity in the market.

The continued rate hikes by the Federal Reserve and the ECB's announcement that it would end its quantitative easing by the end of the year are seen as having a limited impact on Thailand's bonds market. For one, monetary policy normalization in the US has been underway for years and is relatively well priced-in by the market absent an unexpected change in its policy direction. The ECB's winding up of its quantitative easing has also been on investors' radar, thus the effect will be restrained to some extent.

Global risk events such as the rout in emerging market equity markets and PRC–US trade tension will have an (albeit limited) impact on Thailand's bond market. As with monetary policy tightening, the impact will mostly take the form of affecting investor sentiment, with some volatility in the short run due to a sell-off. Nonetheless, any sell-off would not take a heavy toll on the bond market as Thailand has a low foreign holdings share of only about 15%. Thailand also has a strong external financial position, making it less vulnerable to contagion from emerging market crises. The concern is more the potential for a slowdown in the global economy brought about by these events, which would translate into lower external demand. Thailand has an export-driven economy and thus decreased external demand would affect growth prospects, especially now that the economic expansion is starting to gain traction.

Despite the perceived improvement in liquidity conditions, the government securities turnover ratio was lower in Q3 2018 than in Q3 2017. Turnover ratios inched down for government bonds to 0.19 in Q3 2018 from 0.31 from Q3 2017, for state-owned enterprises bonds to 0.07 from 0.09, and for BOT bonds to 1.00 from 1.36 (**Figure 22**). The declining ratios are the result of lower trading volumes for government securities even as the outstanding amount of government securities increases. The diminished trading activities can be

Figure 22: Quarterly Government Bond Turnover Ratios in Thailand



Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter
Sources: Bank of Thailand and Thai Bond Market Association.

attributed to the uncertainties surrounding global financial markets.

Regarding the BOT's monetary policy, market participants agree with the central bank's stance to maintain economic growth momentum amid subdued inflation, despite two members of the monetary policy committee voting to increase the policy rate to curb financial risk at the BOT's policy meeting in September. Market participants expect the BOT to start tightening monetary policy in 2019 to maintain financial stability close the interest rate gap between Thailand and the US, and acquire some policy space in the event of an eventual economic slowdown. The rate hike pace is viewed as being slow as current inflation seems to be less responsive to economic growth.

Viet Nam

Liquidity conditions in Viet Nam's LCY government bond market generally improved in 2018 compared with 2017, per survey respondents. Trading activities continued to increase in 2018, albeit the pace of growth somewhat moderated from a year earlier. Improved liquidity conditions stemmed from the larger stock of outstanding bonds and the government's policy initiatives and reforms to support the further development of the LCY bond market.

Through the first half of 2018, the bond market was performing quite well as bond yields were held low. However, the Vietnamese bond market came under pressure toward the end of June as trade tensions heightened between the PRC and the US, which adversely impacted the VND–USD exchange rate. Subsequently, this resulted in a sharp rise in interest rates. Monthly inflation remained high, further weighting on the overall bullish sentiment that marked the first half of the year. Nonetheless, Viet Nam's economic performance remained strong, with gross domestic product growth in Q3 2018 rising to 6.9% y-o-y from revised 6.7% y-o-y growth in Q2 2018.

The average on-the-run bid ask spread for Treasury bonds widened to 8.3 bps in 2018 from 5.0 bps in 2017 (**Table 14**). However, survey respondents noted if calmer market conditions persisted, the bid–ask spread for Treasury bonds would have remained about 5 bps. The on-the-run bid–ask spread for government-guaranteed bonds was also higher in 2018 at 18.3 bps from 15.0 bps a year earlier.

Table 14: Local Currency Government Bond Survey Results—Viet Nam

	Treasury Bonds	Government Guaranteed Bonds
On-the-Run		
Bid–Ask Spread (bps)	8.3	18.3
Average Trading Size (VND billion)	75.0	64.3
Off-the-Run		
Bid–Ask Spread (bps)	13.8	17.5
Average Trading Size (VND billion)	50.0	50.0

bps = basis points, VND = Vietnamese dong.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

Among government securities, Treasury bonds are the most liquid and account for about 85% of the total government bond stock. Government-guaranteed bonds also attract some liquidity, albeit not at par with Treasury bonds. In contrast, central bank instruments issued by the State Bank of Vietnam are deemed as being largely illiquid, owing to their shorter maturities (from 7 days to 3 months).

Some market participants shared that there was no distinction between on-the-run and off-the-run bonds in the Viet Nam bond market. However, other respondents quoted bid–ask spreads for off-the-run bonds. In line with the trend for on-the-run Treasury bonds, the bid–ask spread for off-the-run Treasury instruments widened from 2017 to 2018. In contrast, off-the-run bid–ask spreads for government-guaranteed bonds narrowed in this year's survey. As in past surveys, off-the run bid–ask spreads tended to be higher than on-the-run spreads.

In terms of transaction size, the average single trade climbed to VND75.0 billion for Treasury bonds and VND64.3 billion for government-guaranteed bonds. Transaction size for Treasury instruments vary from as low as VND50 billion to as high as VND200 billion, depending on the type of investor. Government bonds in Viet Nam are largely held by commercial banks, which is reflective of their capacity to transact in larger volumes. Smaller transaction sizes, however, are mostly prevalent for other type of (mostly retail) investors.

Most participants observed that Viet Nam's bond market was not directly impacted by the rate hikes undertaken by the Federal Reserve as domestic investors were the major players in the market. Survey respondents also opined that the trade rift between the PRC and the US would translate into some economic gains if some manufacturers in the PRC move production to Viet Nam. However, such developments would still take some time to materialize.

Survey respondents welcomed the government's active role in deepening Viet Nam's bond market. The goals envisioned in the Bond Market Roadmap, 2017–2020 were generally viewed as reasonable and achievable. The Ministry of Finance introduced several regulations in 2018 to support the further deepening of the bond market. In June, Decree 95 was issued, which outlined the process for issuance, registration, depository, listing, and trading of government bonds in the stock exchange. The decree identified the role of the State Bank of Vietnam for the issuance of Treasury bills and tasks when engaging in repurchase transactions for government bonds. The government also defined the role of primary dealers in the secondary market, allowing them to provide daily quotes for bond yields. Finally, the government is set to launch a bond futures market by the end of this year.

Qualitative Indicators for Government Bond Markets

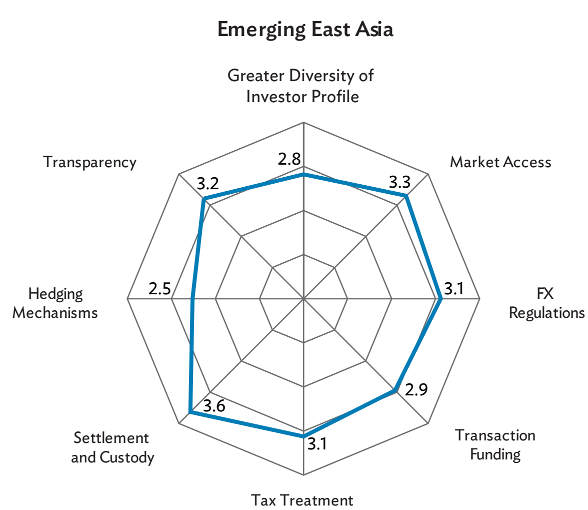
The second section of the *AsianBondsOnline* liquidity survey pertains to the assessment of structural issues that can influence liquidity conditions in the region's bond market. Participants in the survey were asked to provide their perception of the degree of development of their respective markets for a set of identified qualitative indicators. A higher rating would indicate that a structural factor is already available or developed in the market, while a lower score reflects underdevelopment and the need for further policy action. A description of each structural factor is given below:

i. **Greater Diversity of Investor Profile: the extent of participation from various investor groups.** A low rating means only a few participants hold all outstanding bonds in a market, while a high rating means the investor profile is diversified.
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.** A low rating indicates there are restrictions or limits to investments, while a high rating indicates the absence of restrictions or limits.
iii. **Foreign Exchange (FX) Regulations: the extent of liberal or restrictive foreign exchange, capital investment, and repatriation policies.** A low rating is reflective of restrictive access to purchase foreign currency, while a high rating means there are no restrictions on capital inflows and outflows.
iv. **Transaction Funding: the need for funding availability through active and developed money and repurchase markets.** A low rating means there is no or limited access for funding, while a high rating means easy access and availability of funding options.
v. **Tax Treatment: the importance of reducing withholding taxes on LCY bonds.** A low rating indicates high taxes on income, while a high rating would mean reasonable tax rates or no taxes.
vi. **Settlement and Custody: the significance of straight-through clearing processes, timely bond trade settlements, and a global custodian or accredited custodian(s).** A low rating indicates slow settlement procedure, while a high rating indicates efficient settlement process.
vii. **Hedging Mechanisms: the need to have an active and efficient derivatives market.** A low rating means the absence of or limited hedging options, while a high rating means the availability of derivative instruments to hedge risks.
viii. **Transparency: the importance of gaining accessibility to daily information on bond market activity, including bond prices, as well as of bonds having credit ratings.** A low rating indicates that pricing and trading information is limited, while a high rating means pricing and trading information is available and reliable.

Survey participants were asked to rate each structural indicators—on a scale from 1 to 4—regarding their view on the degree of its development. The ratings are defined as follows: 1 = not available or not developed, 2 = somewhat developed, 3 = fairly developed but still needs enhancement, and 4 = developed and existing.

Among the structural issues, Hedging Mechanisms obtained the lowest rating for government bonds with a regional average of 2.5 (**Figure 23**). This reflects the need for the development of more hedging tools and derivatives products to protect government bond market investors against risks. This is particularly true for the region's smaller markets such as Viet Nam (1.4), the Philippines (2.0), and Indonesia (2.2). In Viet Nam, most participants cited the lack of available hedging tools as the reason for the low rating. Although, a bond futures market is set to be launched by the end of this year. In Indonesia, hedging tools are quite limited and the market is illiquid. The PRC also obtained a low rating of 2.3 as banks are not allowed to purchase bond futures.

Figure 23: Regional Averages—Local Currency Government Bond Market Structural Issues



FX = foreign exchange.
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* 2018 Local Currency Bond Market Liquidity Survey.

Hedging Mechanisms were rated an average of 2.8 to 2.9 in all other emerging East Asian markets, with the exceptions being Hong Kong, China and the Republic of Korea. These two markets obtained fairly developed ratings, owing to the relative maturity and depth of their respective bond markets.

Greater Diversity of Investor Profile obtained a fairly low regional average of 2.8, with most government bond markets in the region perceived to have a somewhat diverse mix of investors. Most markets in the region tallied a rating average of between 2.3 to 2.9 as bond investor holdings remain dominated by only a few investor groups (**Figure 24**). The only exceptions were the Republic of Korea, Singapore, and Thailand, which each obtained a rating above 3.0.

Transaction Funding was the next least developed structural issue in the region with an average of 2.9. Survey respondents from Malaysia gave it the lowest rating in the region (2.4) due to a nonexistent repurchase (repo) market. Low ratings were also observed in the Philippines (2.5), Singapore (2.7), and Thailand (2.8). All other emerging East Asian markets garnered an average rating of 3.0 and above, with the Republic of Korea obtaining an average of 3.7.

Figure 24: Structural Issues for Individual Local Currency Government Bond Markets

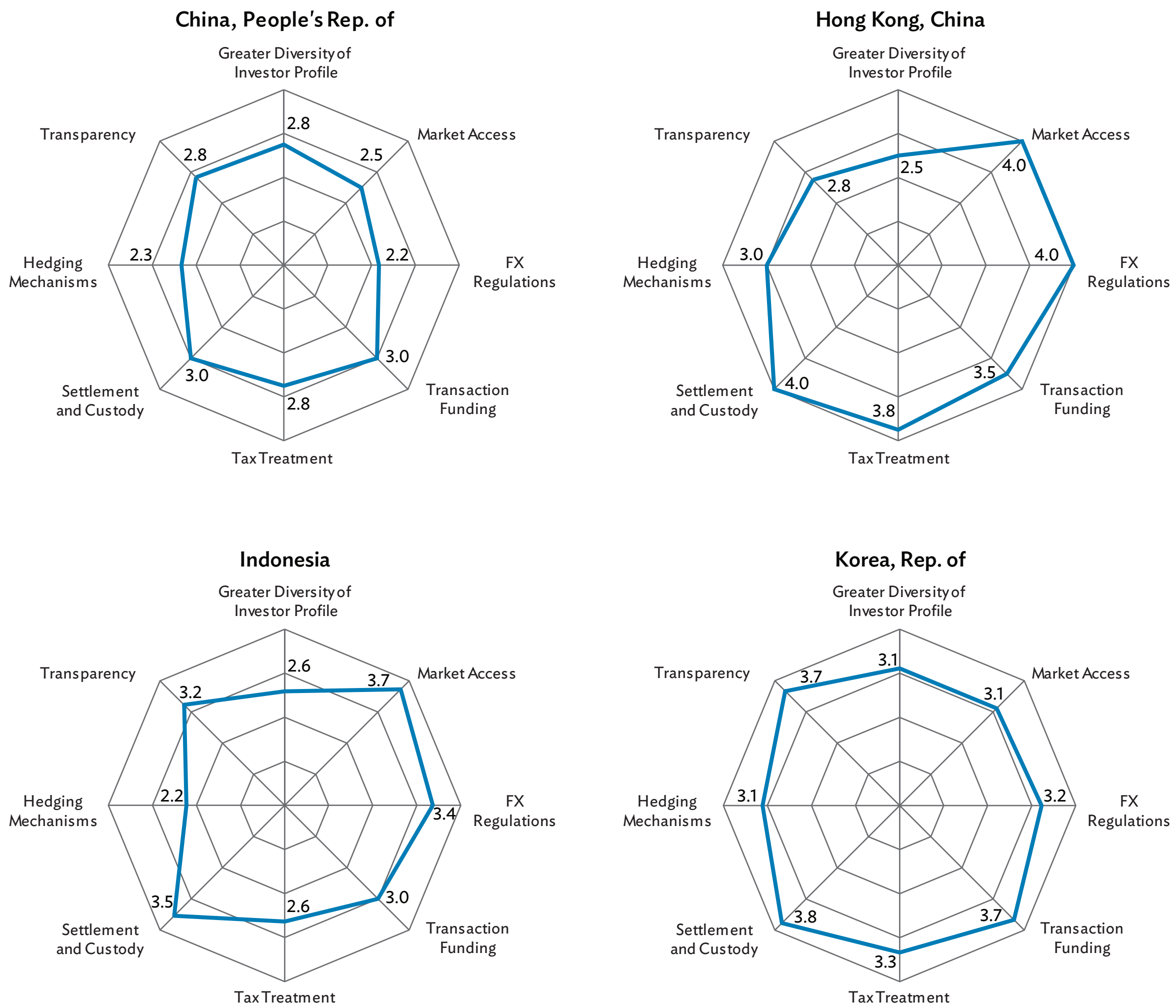


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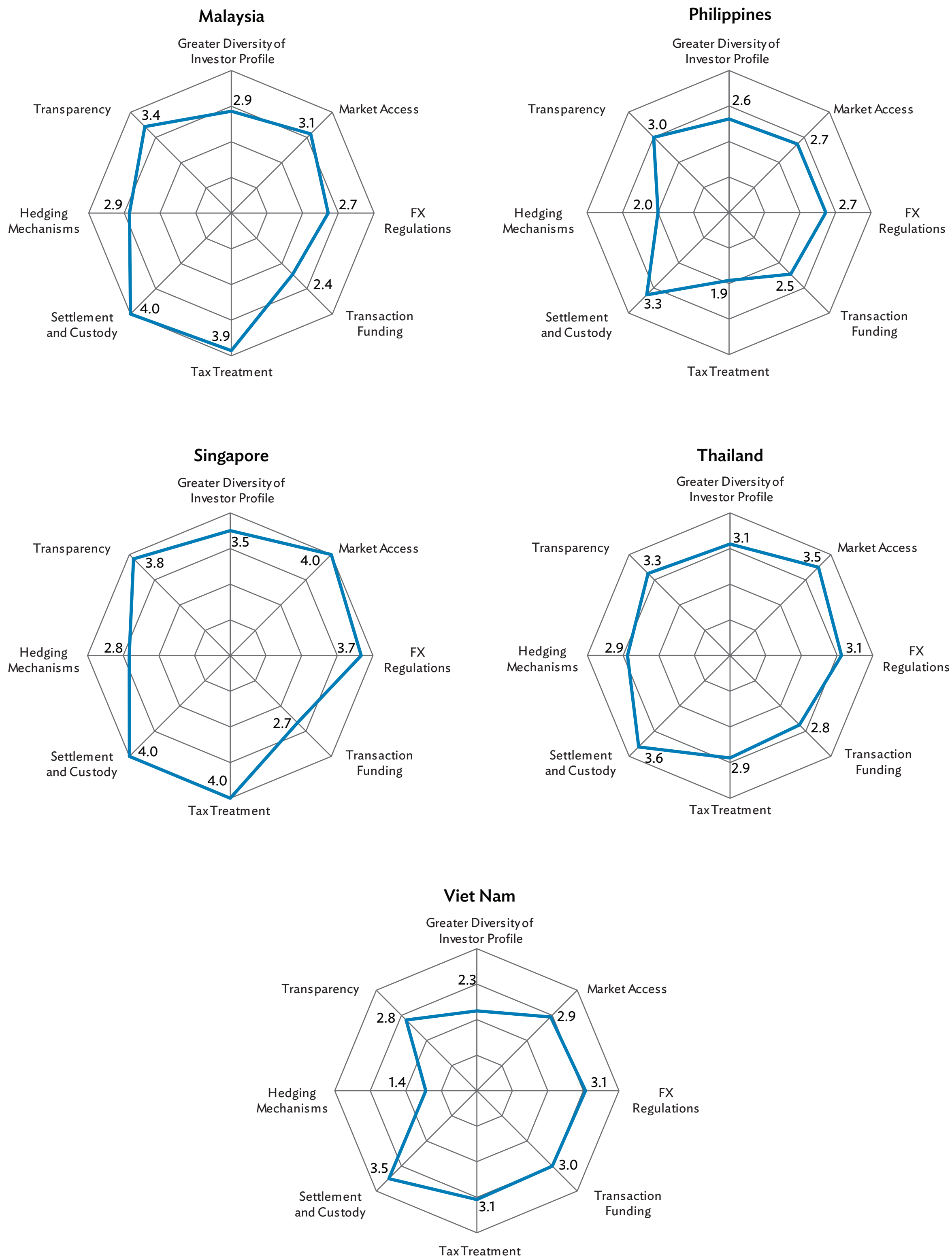
Figure 24 *continued*



FX = foreign exchange.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

Similar to the results of the 2017 survey, Settlement and Custody obtained the highest rating among all structural factors, with a regional average of 3.6. This indicates that the region's bond markets have invested in more sophisticated platforms and systems to facilitate the timely settlement of bond trade transactions. Hong Kong, China; Malaysia; and Singapore obtained an average rating of 4.0 each, while all other markets obtained an average of 3.0 and above.

The next highest rating was observed for Market Access at a regional average of 3.3. All emerging East Asian markets obtained a rating of 3.1 and above, except for the PRC (2.5), the Philippines (2.7), and Viet Nam (2.9). The PRC obtained the lowest rating as investors were still concerned over the possibility of sudden changes in regulations after having opened its market to foreigners in recent years. In Viet Nam, commercial banks, who are the major holders of government bonds, need to comply with certain ratios on investments as required by the State Bank of Vietnam.

Transparency garnered a regional average of 3.2, with all markets obtaining a rating of 3.0 and above except for the PRC; Hong Kong, China; and Viet Nam. The latter three markets each received a rating of 2.8. In Viet Nam, market participants opined that while pricing information is available, the concern is more on the reliability of information.

FX Regulations and Tax Treatment both tallied a regional average of 3.1. A summary of regulations on cross-border portfolio investments in emerging East Asia's bond markets is presented in **Table 15**. Information on tax treatments for the region's bond markets is also provided in **Table 16**.

Quantitative Indicators for Corporate Bond Markets

Most economies in emerging East Asia have an active secondary market for trading corporate securities, but liquidity there remains limited based on this year's survey. As in the previous year, only the Philippines and Viet Nam were seen with the absence of an active secondary market. Trading activity in the corporate bond market remains lower compared with the government bond market, which can be attributed to the corporate segment's smaller size versus the government segment. Despite this, some respondents noted that trading size has continually increased over the years. Most respondents observed improvement in the corporate segment's trading activities from last year, while a few respondents noted that it was lower due to risks factors surrounding the market.

The liquidity in the corporate bond market is restrained by several factors. Trading activities remained concentrated in higher investment-grade papers such as the quasi-government, AAA- and AA-rated paper, generally due to internal compliance by entities to invest in credit-worthy bonds. Participation is also limited despite the active trading in the secondary market. Market participants who have the capability to access the market are mostly limited to financial institutions such as pension funds and asset management companies, who typically tend to buy and hold the securities until maturity. Moreover, most investors would prefer to buy corporate bonds in the primary market where they can get higher premiums compared with the secondary market where it is possible that yields are volatile or likely lower. Higher liquidity is mostly seen in shorter-tenor bonds, traded by money market funds, which invest in short-term instruments and actively trade them for profit.

The average bid–ask spread in emerging East Asia's corporate bond market increased to 16.9 bps in 2018 from 14.6 bps in the previous year (**Table 17**). The PRC; Hong Kong, China; the Republic of Korea; and Singapore saw their bid–ask spreads decline in 2018, while in Indonesia, Malaysia, the Philippines, and Thailand, the spreads increased. Survey respondents in Viet Nam quoted a bid–ask spread of 45 bps, while no quote was given last year due to the corporate market being too small in size and largely illiquid. The bid–ask spreads quoted for the Philippines and Viet Nam were based on newly issued bonds, as both markets lack the presence of an active secondary bond market.

The Philippines had the largest increase in its corporate bond bid–ask spread in 2018, which also remained the widest spread in the region. This is because the secondary market for trading corporate bonds is almost nonexistent as it is characterized as a buy-and-hold type. The largest drop in the bid–ask spread was seen in Singapore due to improvement in corporate bonds' secondary market trading. The Republic of Korea again had the narrowest bid–ask spread among emerging East Asian markets, reflecting the economy's well-developed corporate bond market.

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 Institutional Investors (QFII) may purchase money market funds, subject to a lockup period.	QFIIs are allowed to invest in exchange-traded bonds subject to quotas but interbank-traded bonds purchases have no limits. Renminbi Qualified Foreign Institutional Investors (RQFII) are allowed to invest in exchange-traded bonds subject to quotas and in interbank-traded bonds without limits. Financial institutions, such as commercial banks, insurance companies, securities companies, fund management companies, other asset management institutions and People's Bank of China-approved institutions such as pension funds, charitable funds, endowment funds, and other medium- and long-term institutional investors may invest in the interbank bond market without limits.	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. The overall limit for all QFIIs is USD150 billion, and the upper limit of a single QFII is a certain ratio of its base quota, subject to a USD5 billion ceiling. Foreign investors may also make strategic investments in A-shares of listed companies subject to certain criteria and restrictions. RQFIIs 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. Insurance companies may invest subject to approval and total overseas investment cannot exceed 15% of the insurance company's total assets.	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 Republic 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 requires 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 Sertifikat Bank Indonesia (SBI), domestic and foreign investors are required to comply with a 1-week holding period.	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 joint securities companies that are also finance companies. Insurance and reinsurance companies' may invest up to 40% of their total investment in equity investment abroad.	Pension funds are not allowed to invest in securities abroad. Mutual fund investments are limited to 15% of their net asset value while protected mutual fund has a limit of 30% of their net asset value. Insurance and reinsurance companies are allowed to invest up to 20% of total investment in a single bond issuer.	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. For residents, the sale of foreign currency-denominated money market instruments abroad requires notification to a designated foreign exchange bank. Sale of foreign currency-denominated money market instruments exceeding USD30 million or local currency-denominated money market instruments by residents abroad requires notification to the Ministry of Strategy and Finance.	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. The purchase of shares of unlisted or unregistered corporations may be subject to laws on inward direct investment and establishment.	Residents are allowed to buy capital instruments issued abroad, but notification to The Bank of Korea is required if the purchase is not made through an account exclusively for investment.	Effective 18 July 2017, no restrictions apply to repatriation on proceeds from capital transactions. Nonresidents may issue bonds in the domestic capital market but a notification to the Ministry of Strategy and Finance is required.
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 listed in Bursa Malaysia.	Residents with domestic borrowing are subject to certain limits.	Nonresidents are free to repatriate funds from divestment of local currency-denominated assets or profits and dividends 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 Bangko Sentral ng Pilipinas' (BSP) Authorized Agent Banks (AAB) and AAB-forex corporations.	Nonresidents are allowed to purchase bond market instruments without any restrictions.	When one of the parties in a transaction is a bank or a nonbank financial institution, securities purchased must be held by a BSP-accredited securities custodian or Securities and Exchange Commission-authorized central securities depository that is a third party. Registration of equity instruments purchased by nonresidents is required if the foreign exchange needed for capital repatriation and remittance of dividends, profits and earnings will be purchased from AABs and AAB-forex corporations.	A resident's investment abroad in excess of USD60 million a year requires prior regulatory approval.	No restrictions on repatriation of capital, profits, dividends, and interest if the foreign exchange needed will be purchased from AABs and AAB-forex corporations.
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 insitutions are required to convert Singapore dollar proceeds from equity listings and bond issuances into foreign currency before using the funds to finance activities outside Singapore. Nonresidents may undertake equity and bond offering subject to submission of prospectus to investors with approval from the Monetary Authority of 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, except bills of exchange issued by domestic financial institutions. Investment of a nonresident group in THB-denominated money market instruments issued by a domestic financial institution is capped at 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 capped at THB10 million.	Nonresidents can invest in equities, but foreign participation may be limited if a company is subject to the provisions of the Foreign Business Act or other related laws. Nonresident financial institutions may hold up to 25% of the total shares of a locally-incorporated bank, credit finance company, and finance company. Nonresidents may hold up to 100% of the shares of an asset management company or a securities company subject to approval by the Bank of Thailand. For most other Thai corporations, foreign equity participation is up to 49%.	Institutional investors may invest in foreign securities issued abroad up to a certain limit imposed by the directors, management, or supervisory authority of the institutional investors. Qualified investors with financial assets worth THB100 million may invest in securities abroad up to USD5 million a year without the need for local intermediaries. Other individual and corporate investors may invest through private funds or securities companies or commercial banks holding relevant securities business licenses.	Proceeds of up to USD50,000 or its equivalent can be retained abroad, while proceeds in excess of this amount must be repatriated on receipt 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 bank in Viet Nam. Nonresidents are required to register and obtain a trading code with a depository member of the Vietnam Securities Depository (VSD) before engaging in trading transactions in the stock market.	There is no limit on investments however 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 bank in Viet Nam. Nonresidents are required to register and obtain a trading code with depository member of the VSD before investing and trading.	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%. Nonresidents are required to register and obtain a trading code with a depository member of the VSD before engaging in trading transactions in the stock market.	Residents may invest in shares and bonds abroad subject to regulation set by the State Bank of Vietnam. Resident investors other than credit institutions are required to obtain license for indirect investment abroad and open an account to transfer capital offshore and transfer legal capital, profits, and earnings from offshore indirect investment to Viet Nam under the State Bank of Vietnam 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.

SGD = Singapore dollar, THB = Thai baht, USD = United States dollar, VND = Vietnamese dong.
Sources: Country Reports from International Monetary Fund's *Annual Report on Exchange Arrangements and Exchange Restrictions Online*.

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	Domestic and nonresident enterprises are subject to a 10% withholding tax. For nonresident enterprises, a reduced rate is applied based on applicable tax treaties. A 6% value-added tax also applies to interest payments.
Hong Kong, China	Exempt from tax	Beginning with year assessment 2018/19, a two-tiered profits tax regime was implemented. For corporations (excluding financial institutions), the first HKD2 million of assessable profits is subject to 8.25% profits tax, and the exceeding amount is subject to the standard tax rate of 16.5%. For unincorporated businesses, the first HKD2 million is subject to 7.5% profits tax, and the exceeding amount is subject to the standard tax rate of 15%. For corporate groups, only one member of the group will be able to apply the reduced rate.
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. For sovereign foreign currency bonds, residents and nonresidents are exempted from tax.	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, Rep. of	Resident and nonresident investors are subject to a 15.4% tax. For nonresidents, the tax is subject to reductions based on appliable 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 individuals and companies are tax exempt.	Resident individuals or companies are tax exempt. Nonresident individuals are tax exempt. Nonresident companies are exempt from tax on MYR-denominated sukuk and debentures approved by the Securities Commission.
Philippines	Citizens, resident and nonresident individuals engaged in trade or business are subject to a 20% final withholding tax. Noresident individuals are subject to a 25% final tax. Domestic and resident foreign corporations are subject to 20% final withholding tax. Nonresident foreign corporations not engaged in trade or business are subject to a 30% final tax (i.e. to be deducted from the gross amount of income derived in the Philippines).	Citizens, resident and nonresident individuals engaged in trade or business are subject to a 20% final withholding tax. Nonresident individuals are subject to a 25% final tax. Domestic and resident foreign corporations are subject to 20% final withholding tax. Nonresidents foreign corporation not engaged in trade or business are subject to a 30% final tax.
Singapore	Resident and nonresident individuals, institutions and corporations are tax exempt. Resident and nonresident institutions and corporations are subject to a 10% concessionary tax.	Resident and nonresident individuals are tax exempt. Resident institutions and corporations are exempt from tax, while Nonresident institutions and corporations are exempt from withholding tax, subject to qualifying conditions. Resident institutions and corporations are subject to a 10% concessionary tax.
Thailand	Domestic individual investors are subject to a 15% withholding tax. Foreign individual investors are tax exempt. Domestic corporate investors are subject to a 1% withholding tax; tax exempt when the bondholder and issuer are a commercial bank, finance company, securities company, or credit foncier company; tax exempt when the bondholder is a foundation or association prescribed by the minister and the issuer is a registered partnership which does business in Thailand. Foreign corporate investors are tax exempt.	Domestic individual investors are subject to a 15% withholding tax. Foreign individual investors are tax exempt. Domestic corporate investors are subject to a 1% withholding tax; tax exempt when the bondholder and issuer are a commercial bank, finance company, securities company, or credit foncier company; tax exempt when the bondholder is a foundation or association prescribed by the minister and the issuer is a registered partnership which does business in Thailand. Foreign corporate investors are subject to a 15% withholding tax.
Viet Nam	Exempt from tax	Resident and nonresident investors are subject to a 5% withholding tax. For nonresidents, the applicable tax rate is subject to reduction based on applicable tax treaty.

HKD = Hong Kong dollar, MYR = Malaysian ringgit.
Source: *AsianBondsOnline*.

Table 17: Local Currency Corporate Bond Markets Quantitative Indicators

		PRC	HKG	INO	KOR	MAL	PHI	SIN	THA	VIE	Regional
Typical Issue Size of Corporate Bonds	Average (USD million)	175.1	57.7	36.3	50.8	96.1	109.1	189.5	69.7	45.1	92.1
Typical Bid–Ask Spread for Corporate Bonds	Average (bps)	9.2	14.2	24.0	1.9	8.0	65.0	6.0	6.6	45.0	16.9
	SD	2.5	13.8	4.5	1.1	4.2	20.6	2.1	1.8	3.0	20.6
	CV	0.3	1.0	0.2	0.6	0.5	0.3	0.4	0.3	22.9	1.2
Typical Transaction Size of LCY Corporate Bonds	Average (USD million)	4.0	7.0	0.8	8.7	1.2	0.1	3.4	0.6	75.1	11.2
	SD	1.7	5.7	0.2	0.8	0.1	0.03	2.4	0.3	41.4	24.1
	CV	0.4	0.8	0.2	0.1	0.1	0.3	0.7	0.5	0.5	2.1

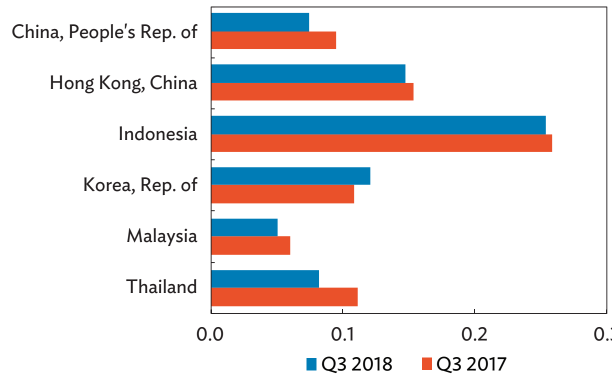
bps = basis points; CV = coefficient of variation; HKG = Hong Kong, China; INO = Indonesia; KOR = Republic of Korea; LCY = local currency; MAL = Malaysia; PHI = Philippines; PRC = People's Republic of China; SD = standard deviation; SIN = Singapore; THA = Thailand; USD = United States dollar; VIE = Viet Nam.
Note: For the Philippines and Viet Nam, bid-ask spread and typical transaction size for corporate bonds refer to the spread when the bonds were newly issued due to limited liquidity.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

The region's average corporate bond transaction size based on this year's survey amounted to USD11.2 million, almost tripling from last year. Most markets saw declines in their transaction size, but the regional average was lifted by Viet Nam, which had the largest transaction size in the region, averaging USD75.1 million. However, Viet Nam's transaction size was based on newly issued bonds, which generally at the time of issuance attract high demand from the market. The Philippines, as in 2017, had the smallest average transaction size in the region at USD0.1 million. In terms of issue size, the regional average was USD92.1 million, with the PRC having the largest issue size of USD175.1 million, while Indonesia had the smallest at USD36.3 million.

Credit rating and issuer name continue to be the major determinants of liquidity in the corporate bond market. Highly rated corporate bonds such as government-guaranteed and AAA- and AA-rated issuances are more liquid compared with lower and unrated bonds. Institutional investors, which are the most active participants in the secondary market, are mostly obliged to follow internal compliance to purchase high-grade corporate securities. Government-guaranteed bonds also command high buying interest from the market due to their implied government support. Well-known corporate names, especially those with relationships with banks, are assured of obtaining better liquidity in the market. In addition, corporates who frequently issue bonds are favored by investors as they become more confident to hold bonds with larger volumes of outstanding bonds. Meaningful liquidity is also observed in corporate bonds with larger issuance sizes as smaller-sized issuances tend to create imbalances between supply and demand. Other factors cited by survey respondents that determine liquidity in the corporate bond market are frequency of issuance, tenor, yields, industry of issuer, market-making by lead arranger, and market sentiment.

Turnover ratios in emerging East Asia's corporate bond markets declined in all economies for which data are available except in the Republic of Korea. The reduced trading activity can be traced to the diminished interest of investors in emerging market assets as they are cautious over uncertainties. Thailand experienced the largest decline in its turnover ratio, which dipped to 0.08 in Q3 2018 from 0.11 in Q3 2017 (**Figure 25**). Indonesia had the smallest decline in its turnover ratio, which marginally dipped to 0.25, and the highest corporate bond turnover ratio in the region in Q3 2018.

Figure 25: Local Currency Corporate Bond Turnover Ratios



Q3 = third quarter.
Notes:
1. Turnover ratios are calculated as local currency trading volume (sales amount only) divided by average local currency value of outstanding bonds between the preceding and current quarters.
2. For Hong Kong, China and Thailand, Q3 2018 data 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); and Thailand (Bank of Thailand and Thai Bond Market Association).

Characteristics of Individual Corporate Bond Markets

People's Republic of China

Market participants indicated that the PRC corporate bond market is fairly liquid. But liquidity in corporate bonds is uneven depending on the type of corporate bond as well as the issuer name. This disparity increased in 2018 given the greater volatility in the corporate bond market. Risk aversion for lower-rated credit bonds increased following the deleveraging measures implemented by the Government of the PRC as well as rising corporate bond defaults in 2018.

As a result, investors prefer better rated corporate bonds as well as bonds issued by state-owned entities, owing to their implied government support. Among the different corporate bonds, state-owned enterprise bonds, medium-term notes, and commercial paper continue to enjoy high liquidity. Corporate bonds on the PRC's exchange market have also seen increased trading due to demand from funds and asset managers.

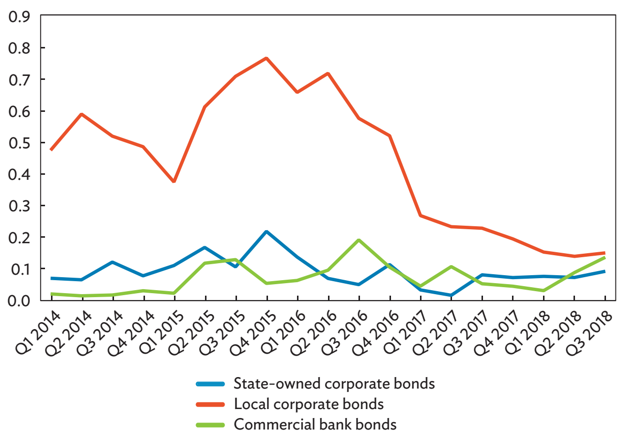
As a result, bid–ask spreads for state-owned enterprise bonds fell to 6.1 bps in 2018 from 7.3 bps in 2017, while

Table 18: Local Currency 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)	3,000.0	890.1	1,202.7	3,786.6	1,096.9
Bid–Ask Spread (bps)	6.1	11.4	9.2	8.9	7.9
Average Trading Size (CNY million)	33.3	27.2	27.2	44.4	37.8

bps = basis points, CNY = Chinese renminbi, MTNs = medium-term notes, SOE = state-owned enterprise.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

Figure 26: Local Currency Corporate Bond Turnover Ratios in the People's Republic of China



Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter
Source: *ChinaBond*.

local corporate bonds bid–ask spreads also fell to 11.4 bps from 11.7 bps (**Table 18**). Commercial bank bonds showed a large decline in bid–ask spreads to 8.9 bps in 2018 from 20.8 bps in 2017, while bid–ask spreads for medium-term notes were largely unchanged.

This is also evident in the slight rise in corporate bond turnover ratios for 2018 versus 2017 (**Figure 26**). However, corporate bond defaults remain a concern and turnover ratios are still lower than in 2016. Similar to government bonds, average trading sizes for most corporate bonds showed a decline in 2018.

Indonesia

As in 2017, most respondents to this year's survey observed that there is an active secondary market for corporate bonds. However, they observed that trading is less active for corporate bonds relative to government bonds. This may be due to the small size of Indonesia's corporate bond segment.

Table 19: Local Currency Corporate Bond Survey Results—Indonesia

	Corporate Bonds
Average Issue Size (IDR billion)	540.9
Bid–Ask Spread (bps)	
Corporate Bond	24.0
Newly-Issued Corporate Bond	11.9
Average Trading Size (IDR billion)	
Corporate Bond	12.5
Newly-Issued Corporate Bond	8.8

bps = basis points, IDR = Indonesian rupiah.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

Consistent with trends in Indonesia's government bond market, the corporate bond segment also saw wider bid–ask spreads in the secondary market and for newly issued corporate bonds in this year's survey. The average bid–ask spread in the secondary market climbed to 24.0 bps this year from 15.9 bps in 2017 (**Table 19**).

On the other hand, for newly issued corporate bonds, the bid–ask spread narrowed to 11.9 bps from 17.4 bps during the same period. The much lower bid–ask spread for newly issued corporate bonds is indicative of much higher liquidity it attracts after issuance. Liquidity for a newly issued corporate bond lasted for a short period of only a few (1–3) months.

The average single-trade transaction size for corporate bonds and newly issued corporate bonds climbed in this year's survey. However, the typical issue size for corporate bonds declined to IDR540.9 billion in 2018 from an average of IDR686.5 billion in 2017. Trading activities in the first 9 months of the year rose 17.9% to IDR255.1 trillion. The quarterly turnover ratio had also been on an uptrend in 2018 after rising from 0.16 in Q1 2018 to 0.25 in Q3 2018. Nonetheless, the turnover ratio for corporate bonds lags behind its government counterpart.

Survey respondents noted that issuer name is an important factor for determining liquidity in corporate bonds. Bonds issued by corporates with guarantees from the government and/or state-owned enterprises usually enjoy good liquidity. Banks and multifinance companies attract good liquidity, especially those rated AAA. Frequent issuers of corporate bonds are also preferred by investors as it makes them more confident in holding bonds with larger volumes.

Republic of Korea

Liquidity in the Republic of Korea's corporate bond market registered a slight improvement this year, with most survey respondents noting a pick-up in trading activity. The average bid–ask spread fell to 1.9 bps from 3.8 bps in 2017 (**Table 20**). Meanwhile, the average trading size was unchanged at KRW9.7 billion.

Table 20: Local Currency Corporate Bond Survey Results—Republic of Korea

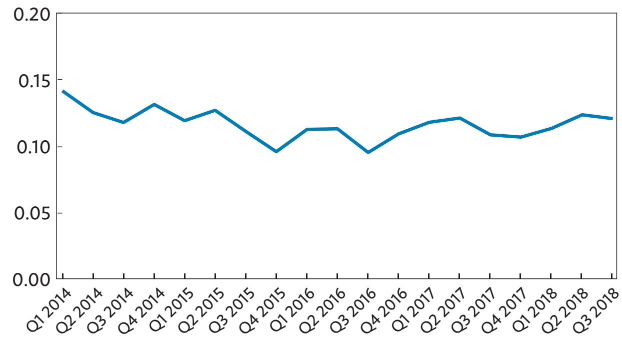
	Corporate Bonds
Average Issue Size (KRW billion)	56.3
Bid–Ask Spread (bps)	1.9
Average Trading Size (KRW billion)	9.7

bps = basis points, KRW = Korean won.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

Improved liquidity was also reflected in the slightly higher quarterly turnover ratios in 2018 compared with the previous year (**Figure 27**). Moreover, the aggregate trading volume for the first 9 months of 2018 amounted to KRW912 trillion, 14.3% y-o-y, up from KRW856 trillion recorded in the same period in 2017. The average outstanding size of corporate bonds at the end of September posted minimal growth of 2.7% y-o-y.

Survey respondents noted that the trading of corporate bonds is still much lower compared with government bonds. However, 2018 saw more trading activity in the corporate bond market given uncertainties driving the government bond market. Corporate bond trading is very much concentrated in financial bonds and high-rated corporate bonds, as liquidity is still driven by credit ratings due to internal compliance requirements for investors. Issue size and the industry of the issuer also drive liquidity of a specific corporate bond. A survey respondent noted measures being worked on by policymakers to improve liquidity in the corporate bond market. There are plans to allow small and medium-sized enterprises, which have lower credit ratings, to issue bonds.

Figure 27: Turnover Ratio for Corporate Bonds in the Republic of Korea



Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter.
Note: Corporate bonds include equity-linked securities and derivatives-linked securities.
Source: EDAILY *BondWeb*.

Malaysia

Liquidity conditions in Malaysia's corporate bond market were mostly unchanged in 2018 compared with last year. Survey respondents also indicated that there is a secondary market for trading corporate bonds in Malaysia; however, it is not as active as trading in the government bond market. Trading activities remained highly concentrated in higher investment-grade paper such as the quasi-government, AAA-rated, and AA-rated paper. In Q3 2018, the typical bid–ask spread increased to 8.0 bps from 7.2 bps in Q3 2017, and the average transaction size decreased to MYR5.1 million from MYR7.6 million (**Table 21**). The relatively diminished trading interest in the corporate bond market can be associated with the policies of the new government, especially amid the review and cancellation of a few mega projects.

The corporate bond market's quarterly turnover ratio was barely changed at 0.05 in Q3 2018 from 0.06

Table 21: Local Currency Corporate Bond Survey Results—Malaysia

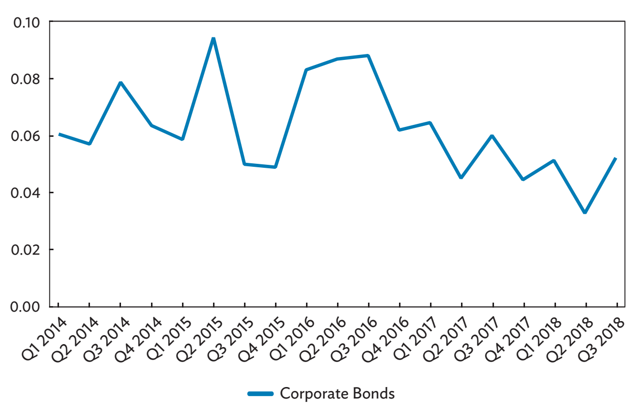
	Corporate Bonds
Average Issue Size (MYR million)	397.6
Bid–Ask Spread (bps)	8.0
Average Trading Size (MYR million)	5.1

bps = basis points, MYR = Malaysian ringgit.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

in Q3 2017 (**Figure 28**). While trading activity was marginally changed at the end of the review period from a year earlier, the turnover ratio declined in Q2 2018 to 0.03, the lowest level since data are available, before recovering somewhat. This corresponded to the election period in which the result was unexpected, sending uncertainty into the market that led market participants to hold back on trading.

The average bid–ask spread for newly issued bonds is 7.9 bps in 2018, while the average transaction size is MYR27.5 million. Typically, liquidity for newly issued bonds is relatively low relative to government bonds and short-lived, lasting for between 2 days and 1 month. Newly issued bonds tend to have meaningful liquidity if the yields are more attractive than peers, when the supply is limited in the particular credit segment, and when issuance size is reasonably large. Liquidity will also depend on issuer name, credit rating, bond tenor, market-making by lead arranger, and principle where Islamic bonds tend to be more liquid.

Figure 28: Quarterly Corporate Bond Turnover Ratio in Malaysia



Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter
Sources: Bank Negara Malaysia–Bond Info Hub.

Philippines

The LCY corporate bond market in the Philippines did not fare better than the LCY government bond market. Survey respondents noted that the Philippines has a secondary market for trading corporate bonds, however, it is not active.

The average bid–ask spread increased to 65.0 bps from 41.7 bps in the previous year, while average trading size decreased to PHP6.9 million from PHP14.3 million (**Table 22**). Average issue size, however, increased to PHP5,894.7 million compared with PHP5,394.4 million in the previous year. Issuances increased as companies try to borrow and lock in current interest rates, as market participants anticipate an increasing interest rate environment.

Table 22: Local Currency Corporate Bond Survey Results—Philippines

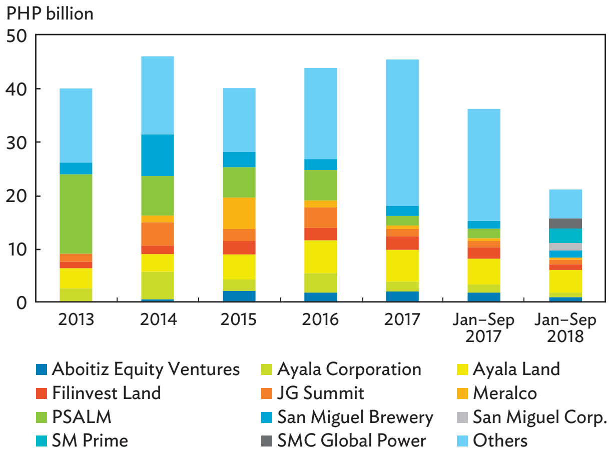
	Corporate Bonds
Average Issue Size (PHP million)	5,894.7
Bid–Ask Spread (bps)	65.0
Average Trading Size (PHP million)	6.9

bps = basis points, PHP = Philippine peso.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

There is limited participation in the LCY corporate bond market as very few names are active in the scene. Also, investors tend to choose corporate bonds based on issuer name and the size of the issuance. Spreads are wide as most investors prefer to hold bonds up to maturity due to there being a healthy premium over government securities. Hence, newly issued corporate bonds tend to be liquid for only about 2 months from their issuance.

Trading volume for corporate bonds continued to decline. During the January–September period, trading fell to PHP21.0 billion from PHP36.1 billion during the same period in 2017 (**Figure 29**). The trading of corporate bonds of most issuers declined over the past year. Ayala Land continued to dominate activity in the LCY corporate bond market with PHP4.2 billion in trading volume during the first 9 months of 2018. Shopping mall and retail operator SM Prime followed with trading volume PHP2.7 billion during the same period. The third-largest trading volume was recorded for power generator SMC Global Power whose trading volume more than doubled from the same period in the previous year.

Figure 29: Philippine Dealing and Exchange Corporation Trading Volume Trends—Corporate Bonds in the Philippines



PSALM = Power Sector Assets and Liabilities Management Corporation.
Note: PDEx reports one side of the trade only.
Source: Philippine Dealing and Exchange Corporation.

One of the recommendations for the LCY corporate bond market is to make it accessible to retail investors. Survey respondents hope that this will help increase investor diversity, market participation, and price discovery. Also, as trading has been poor, it was noted that increasing market-making in the LCY corporate bond market will help narrow the bid–ask spread.

Investors are not expecting any significant event or market developments in the next few months. Even the effects on the LCY corporate bond market of the administration's second package of tax reforms that include the lowering of corporate income tax are uncertain.

Singapore

The performance of the Singapore LCY corporate bond market has improved. Survey participants noted that Singapore has an active secondary market for trading corporate bonds. It is, however, limited to several issuer names.

Compared with the previous year, the average issue size increased to SGD259.0 million from SGD218.1 million (**Table 23**). Furthermore, the average bid–ask spread declined to 6.0 bps from 14.2 bps, and the average trading size increased to SGD4.7 million from SGD2.5 million. Although liquidity in the Singapore LCY corporate bond market improved in 2018, it remained lower than in the LCY government bond market and is generally issuer-specific. Investors consider the name of the issuer when buying corporate bonds, in addition to yields and their investment needs.

Table 23: Local Currency Corporate Bond Survey Results—Singapore

	Corporate Bonds
Average Issue Size (SGD million)	259.0
Bid–Ask Spread (bps)	6.0
Average Trading Size (SGD million)	4.7

bps = basis points, SGD = Singapore dollar.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

In order to improve the LCY corporate bond market and increase investor confidence, survey respondents want most corporate issuers to have their bonds rated. To be more accessible to and to attract more retail investors, the minimum transaction size must be lowered.

Investors in the Singapore bond market are taking a wait-and-see stance regarding global events. They trade as events unfold and not as speculations rise. The escalating trade war between the PRC and the US has not yet affected the Singapore bond market, but its effects may be seen once data show that the trade war is impacting the overall economy. Generally, global events affect market sentiment only, not fundamentals. Thus, the Singapore bond market is quite resilient on this front.

Thailand

Thailand's corporate bond market is not as liquid as the government bond market. While there exists a secondary market for corporate bonds, the trading activity there remains limited according to survey respondents. Market participants who have the capability to access the market are limited to financial institutions such as pension funds and asset management companies. For retail investors, most of them tend to buy and hold the securities until maturity. Moreover, the trading of corporate bonds in the secondary market is concentrated in high investment-grade bond categories. A survey respondent noted that despite the low level of liquidity, the trading size has continuously increased over the years.

The average bid–ask spread for trading corporate bonds in the secondary market in 2018 was 6.6 bps, while the

Table 24: Local Currency Corporate Bond Survey Results—Thailand

	Corporate Bonds
Average Issue Size (THB million)	2,252.7
Bid–Ask Spread (bps)	6.6
Average Trading Size (THB million)	20.8

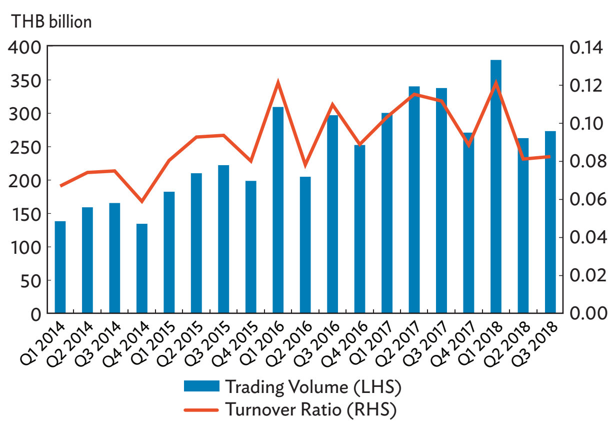
bps = basis points, THB = Thai baht.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

average transaction size was THB20.8 million (**Table 24**). The corporate bond turnover ratio inched down to 0.08 in Q3 2018 from 0.11 in Q3 2017 on the back of reduced trading volume in Q3 2018, which fell to THB271.5 billion from THB335.6 billion in Q3 2017 (**Figure 30**).

Liquidity for newly issued corporate bonds lasts for about 1 week to 3 months according to survey respondents. The liquidity depends on several factors such as issuer name, issue size, credit rating, credit spread, and distribution type. Liquidity tends to be longer for short-term paper because money market funds, which invest in short-term instruments, can actively trade it. Bonds from issuers with a credit rating of A– and above also tend to have longer periods of liquidity as most corporate bond market participants typically invest in higher-grade paper.

Market participants cited the Security and Exchange Commission's more stringent regulations on bond issuance to protect investors as a noteworthy development. The regulation requires proper reporting on financial statements as well as being more transparent to prevent the problem of moral hazard. However, the regulation is seen as not having a significant impact on the corporate bond market.

Figure 30: Trading Volume and Turnover Ratio for Local Currency Corporate Bonds in Thailand



LHS = left-hand side, RHS = right-hand side, THB = Thai baht, Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter.
Sources: Bank of Thailand and Thai Bond Market Association.

Viet Nam

Respondents for this year's survey unanimously observed the absence of an active secondary market for trading corporate bonds in Viet Nam. The corporate bond market is characterized as a buy-and-hold type, with investors holding on to the bonds until maturity.

Based on this year's survey results, the bid–ask spread for a newly issued corporate bond would range between 20 bps and 65 bps, significantly higher than the spread for its government counterpart. The typical market transaction size is quite high, ranging between VND1.0 trillion and VND 3.0 trillion, especially for big corporate names. Liquidity only lasts from about 1 week to at most 3 months.

Most survey respondents cited issuer name as the leading factor for determining liquidity. Big corporate names, especially those with relationships with banks, are assured of obtaining better liquidity. The term structure of the bond, including the tenor and the type of collateral provided for the issuance, also helps in boosting liquidity. On the other hand, credit rating is not required for the issuance of corporate bonds in Viet Nam. As a result, only a handful of corporate institutions are rated in Viet Nam.

The majority of corporate bonds in Viet Nam are issued through private placement because issuers prefer the less complicated issuance process and less tedious documentary requirements. Some corporates issue private placements with their related institutions. Other banks structure corporate loans into a private placement issuance, which does not count against their credit growth limit. Some corporate firms also have small funding requirements that could easily be handled by one or two banks.

As a result, obtaining data and information for corporate bonds is quite difficult, leading most participants to rank Transparency (1.7) among the lowest of the qualitative structural issues of our survey. Hedging Mechanisms (1.2) obtained the lowest rating due to the absence of hedging tools. Greater Diversity of the Investor Profile (1.9) was also rated low in this year's survey. In contrast, Market Access (3.0) and FX Regulations (3.2) were ranked the highest among the structural issues for corporate bonds in Viet Nam as there are no investment restrictions for corporate bonds in Viet Nam. Similarly, there are no restrictions on foreign exchange inflows and outflows as long as proof of the underlying investment is provided.

Qualitative Indicators for Corporate Bond Markets

Corporate bond markets tend to lag government bond markets in terms of liquidity. While the overall development of corporate bond markets in the region has improved in 2018, corporate bond markets still tend to fall behind in terms of liquidity.

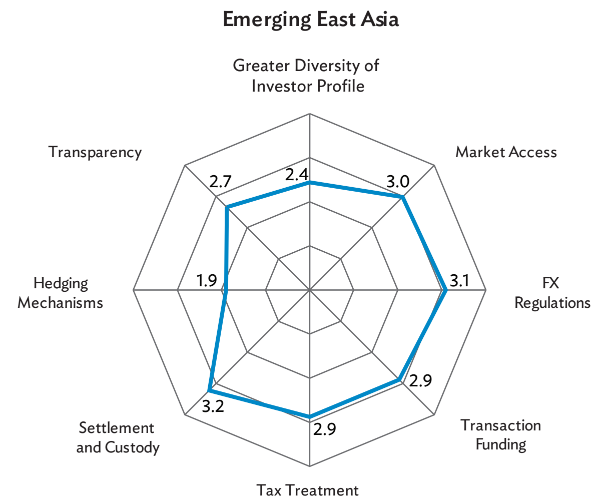
Other factors impede the development of corporate bond market liquidity vis-à-vis government bonds. One is that government bond markets tend to be more homogenous. In contrast, there is greater variety in corporate bond markets in the types of issuers that can be segmented according to industry and credit rating. Depending on the market, different regulations can also create differences in corporate bond types (i.e., commercial paper or Tier 2 notes) or platforms (exchange versus over-the-counter).

Due diligence on corporate bonds is also a factor. As corporate bonds typically carry credit risk, investors need to expend additional resources in the evaluation of corporate bonds prior to investment. This makes investing in government bonds relatively easier. Bond market liquidity is also affected by the available supply of securities, and corporate bond issuers tend to issue in smaller amounts relative to governments. Investors also often tend to treat corporate bonds as buy-and-hold investments, passively retaining them for the interest income.

For corporate bond markets in the region, liquidity is largely not constrained by market infrastructure and regulations restricting investment as evidenced by high scores in Settlement and Custody, Market Access, and FX Regulations.

Among the qualitative indicators, the regional average of corporate bond markets in emerging East Asia scored the highest in Settlement and Custody at 3.2, reflecting developments in bond market infrastructure through

Figure 31: Regional Averages—Local Currency Corporate Bond Market Structural Issues



FX = foreign exchange.
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* 2018 LCY Bond Market Liquidity Survey.

advances in technology and investments in this area (**Figure 31**). Among the individual markets, the highest scores came from Hong Kong, China (4.0); Malaysia (3.8); the Republic of Korea (3.7); and Singapore (3.4), where bond markets are considered quite advanced (**Figure 32**). Lagging in this area are the Philippines (2.6) and Viet Nam (2.1).

FX Regulations are the next highest with a regional score of 3.1. This reflects the gradual opening and liberalization of bond markets as they continue to develop and expand. Along similar lines, Market Access was scored the third highest at 3.0. The individual markets that scored highest in the region in these two areas are Hong Kong, China and Singapore, reflecting their positions as global financial centers. The PRC scored the lowest in terms of FX Regulations and Market Access at 2.1 and 2.8, respectively. While the Government of the PRC has liberalized and gradually opened up its bond markets, foreign investors still comprise only a small share of the total. In addition, the government has imposed capital controls in the past, limiting outflows as well as restrictions on outward investments. While these restrictions have since eased, there are concerns of a reversal should market conditions worsen.

Figure 32: Structural Issues for Individual Local Currency Corporate Bond Markets

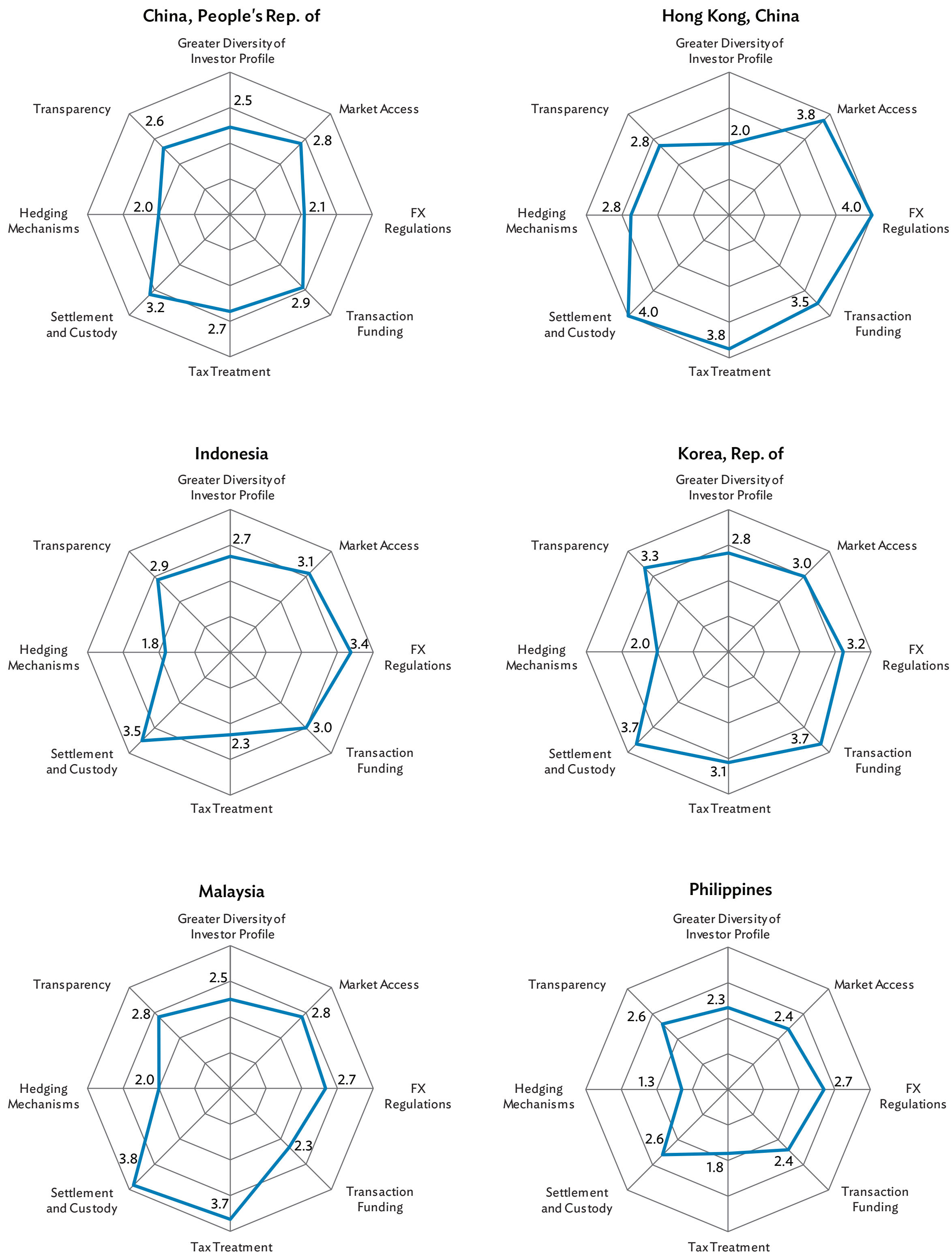


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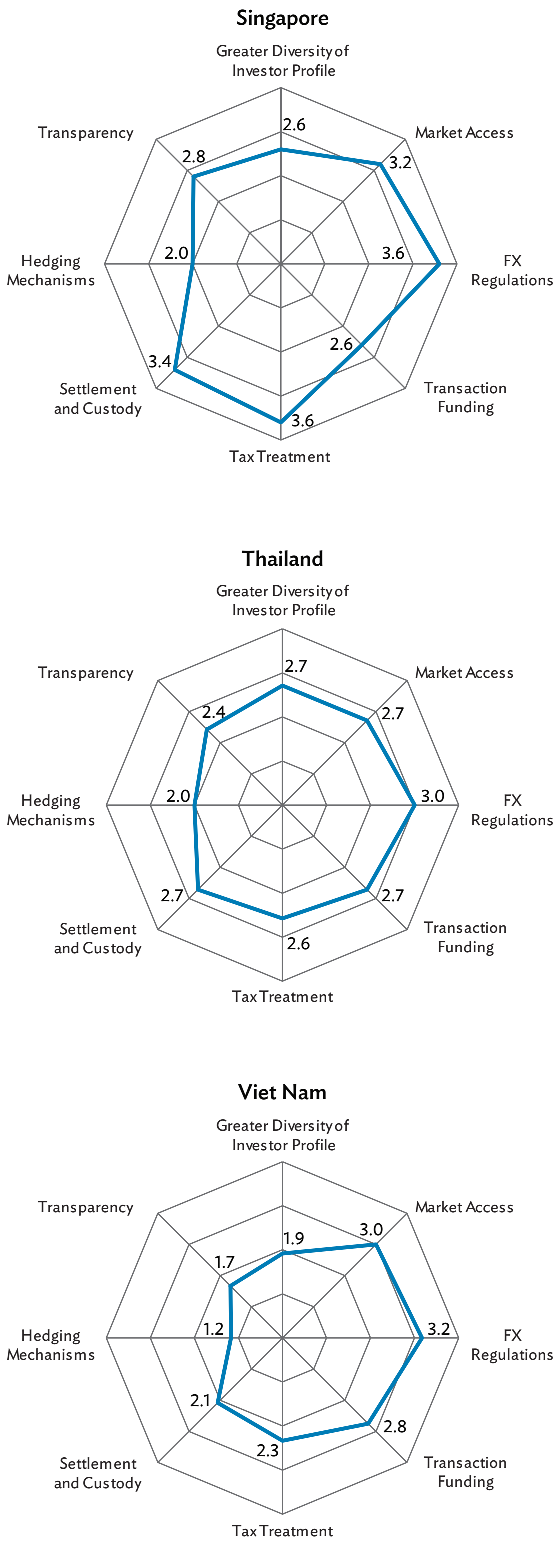
Figure 32 *continued*



FX = foreign exchange.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

One area where corporate bond markets still tend to lag is in the area of Diversity of the Investors Profile, garnering a regional score of 2.4. Owing to challenges in investing in corporate bonds versus government bonds, investments in corporate bonds still occur at a much lower rate than for government bonds. In particular, foreign investments in corporate bonds tend to be significantly lower than investments in government bonds, owing to less liquidity as well as the need for additional credit evaluation regarding the risks of corporate bonds. The highest score came from the Republic of Korea at 2.8, given strong interest seen from insurance companies and pension funds and other financial institutions. Viet Nam received the lowest score at 1.9, given that banks are the dominant buyers of corporate bonds.

Hedging Mechanisms is also a relatively weak area, garnering a score of 1.9. Owing to additional risks in corporate bond markets, mechanisms to adequately hedge risks such as defaults are not yet widely available for LCY corporate bonds in the region. With the exception of Hong Kong, China, all other markets scored 2.0 or less in this area.

The regional average for Tax Treatment is fairly high at 2.9. The markets that scored well here were Hong Kong, China (3.8); Malaysia (3.7); Singapore (3.6); and the Republic of Korea (3.1). Again, these are highly developed and fairly liberalized bond markets. The Philippines earned the lowest score at 1.8, owing to withholding taxes implemented on corporate bonds.

Transaction Funding had a regional average of 2.9, with most markets scoring fairly well except for Malaysia (2.3) and the Philippines (2.4).