AsianBondsOnline Annual Bond Market Liquidity Survey

Introduction

AsianBondsOnline conducts an annual bond market liquidity survey to provide an updated and deeper assessment of the local currency (LCY) bond market environment in emerging East Asia markets.[7] The survey aims to identify key issues and possible areas for improvement in enhancing liquidity in the region's LCY bond markets. The survey is also expected to assist regulators and policy makers in the further deepening of the region's LCY bond markets.

As in past years, the annual bond market liquidity survey was conducted through face-to-face meetings and e-mail correspondence with various bond market participants in emerging East Asia. Survey respondents include bond traders, brokers, research houses, fund managers, bond pricing agencies, and supervisory institutions. The survey was conducted simultaneously across the region's economies from the last week of September through the middle of October.

The survey comprises two parts—a quantitative section and a qualitative section—with each section covering both LCY government and corporate bond markets. The quantitative part analyzes market data on bid–ask spreads and transaction sizes, which are used as a gauge for assessing the state of liquidity in each of the region's LCY bond markets. The qualitative section presents the views of market participants on the degree of development of their respective bond market based on key structural factors.

As most advanced economies' central banks have become dovish and are maintaining an accommodative monetary policy stance, the region's bond markets benefited from the shift in investor appetite toward emerging market assets. Survey results showed increased liquidity in 2019 in all of the region's LCY bond markets except for Hong Kong, China; the Republic of Korea; and Singapore. Trading volumes also increased in 2019 from the previous year, largely due to easing monetary policies by central banks in advanced economies and in emerging East Asia.

In Hong Kong, China, there was a decline in trading activity amid negative sentiment owing to the domestic political environment. The negative sentiment also led to capital outflows, with some foreign investors staying on the sidelines.

In the Republic of Korea, trading activity was relatively similar to the previous year. While other markets benefited from the general dovish trends of central banks in the region, sentiment in the Republic of Korea's bond market was negatively affected by the slowdown in its economy.

In Singapore, liquidity was mostly unchanged, which participants attributed to the relative depth of the bond market.

All other markets in emerging East Asia enjoyed improved liquidity in 2019, recovering from the previous year's downturn.

Quantitative Indicators for Government Bond Markets

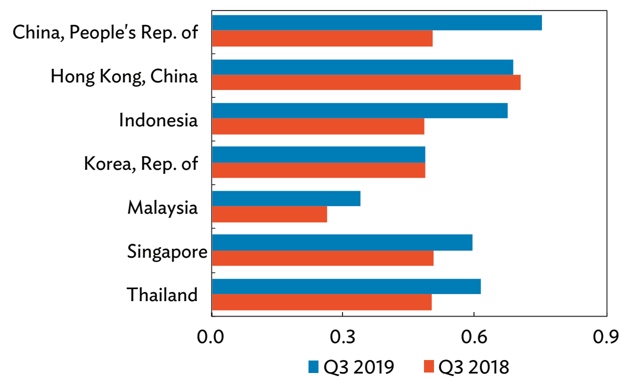
One of the indicators used to measure bond market liquidity is trading volume, or the value of bonds traded in the secondary market. However, in a region where bond markets are continually expanding in size, and with some still in the midst of development, the turnover ratio may be a more appropriate 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 amount of bonds outstanding in the current and previous quarters. A higher turnover ratio indicates a more liquid market and greater trading activity.

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

Figure 14 presents the quarterly turnover ratios for emerging East Asian markets in which data are available. Changes in government bond market liquidity, as reflected by changes in turnover ratios from the same period last year, were mixed. Turnover ratios in the third quarter (Q3) of 2019 were up for the People's Republic of China (PRC), Indonesia, Malaysia, Singapore, and Thailand; the ratio was unchanged for the Republic of Korea and down for Hong Kong, China. For the PRC, Indonesia, Malaysia, Singapore, and Thailand, most survey respondents observed improved liquidity brought about by increased demand for emerging market sovereign bonds due to expectations of a global economic slowdown. For Hong Kong, China, liquidity was adversely affected by political uncertainties brought about by several months of protests. The PRC; Hong Kong, China; and Indonesia were the most active markets in the region in Q3 2019, posting turnover ratios of 0.75, 0.69, and 0.67, respectively. Aside from risk-off sentiment that increased demand for safer assets, market observers in the PRC attributed the improvement in liquidity to the gradual opening up of the domestic bond market to foreign investors. Survey respondents also noted that foreign investor participation and bond market liquidity increased following the inclusion of PRC bonds in the Bloomberg Barclays Global Aggregate Index in April.

Another indicator used to measure liquidity in a 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; it is typically quoted in basis points (bps). A narrower spread indicates higher liquidity. The average bid–ask spreads for Treasury bonds for the different markets in the region are presented in **Table 5**. The regional average bid–ask spread for on-the-run

Figure 14: Local Currency Government 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 the Republic of Korea and Thailand, Q3 2019 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 Market Quantitative Indicators

		PRC	HKG	INO	KOR	MAL	PHI	SIN	THA	VIE	Regional
Typical Bid–Ask Spread On-the-Run	Average (bps)	1.1	4.0	4.1	0.4	2.7	2.8	2.1	2.7	5.5	2.8
	SD	1.1	1.7	1.5	0.3	1.6	1.6	0.5	1.3	1.1	1.6
	CV	1.0	0.4	0.4	0.8	0.6	0.6	0.2	0.5	0.2	0.6
Typical Bid–Ask Spread Off-the-Run	Average (bps)	4.1	4.7	7.7	0.6	4.3	8.3	2.4	6.6	10.8	5.5
	SD	4.2	2.5	2.2	0.6	0.8	3.0	0.7	3.5	10.8	3.1
	CV	1.0	0.5	0.3	0.9	0.2	0.4	0.3	0.5	1.0	0.6
Accepted LCY Bond Transaction Size On-the-Run	Average (USD million)	11.5	91.4	1.4	8.4	4.1	1.9	8.1	5.2	2.8	15.0
	SD	7.5	62.6	0.7	–	2.3	1.0	6.5	1.6	1.0	28.9
	CV	0.7	0.7	0.5	0.0	0.6	0.6	0.8	0.3	0.3	1.9
Accepted LCY Bond Transaction Size Off-the-Run	Average (USD million)	7.3	65.9	1.1	8.3	2.9	1.1	8.1	3.4	2.5	11.2
	SD	5.2	60.6	0.5	0.0	1.1	0.4	6.5	1.4	0.6	20.7
	CV	0.7	0.9	0.5	0.0	0.4	0.3	0.8	0.4	0.2	1.9

– = 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. Bid–ask spreads for government bonds are most often expressed in terms of "cents" in the Indonesian market.

Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

government bonds for this year's survey narrowed to 2.8 bps from 4.7 bps in 2018, as the majority of markets posted a lower bid–ask spread. The most developed bond markets in the region continued to have the lowest bid–ask spreads, with the Republic of Korea, the PRC, and Singapore posting bid–ask spreads of 0.4 bps, 1.1 bps, and 2.1 bps, respectively.

Bid–ask spreads for off-the-run securities tend to be wider than those for on-the-run securities. Declines in bid–ask spreads for off-the-run government bonds were also observed for most markets in the 2019 survey compared with the previous year, resulting in a narrowing of the regional average bid–ask spread for off-the-run government bonds to 5.5 bps from 8.5 bps in 2018. Similar to on-the-run government bonds, the markets that registered the lowest bid–ask spreads were the most developed bond markets in the region. The Republic of Korea, Singapore, and the PRC posted average bid–ask spreads for off-the-run government bonds of 0.6 bps, 2.4 bps, and 4.1 bps, respectively.

Transaction size is another measure of market liquidity. A relatively higher average value for a single transaction indicates the participation of large-scale market players, making the market more liquid. The average transaction size for on-the-run government bonds rose in 2019 in four out of nine markets compared with last year. This resulted in a regional average transaction size that increased more than three times to USD15.0 million in 2019 from USD4.8 million in 2018. The PRC saw the largest increase in transaction size, followed by the Philippines and Thailand. For the PRC and Thailand, the rise in average transaction size reflected increased trading activity brought about by there being more market players, including offshore investors. In the Philippines, the jump in average trading size reflected the rally in government bonds following the central bank's monetary policy easing as well as the increased issuance of government bonds in 2019.

Characteristics of Individual Government Bond Markets

People's Republic of China

Market participants for the *AsianBondsOnline* 2019 annual bond market liquidity survey in the PRC indicated that trading activity significantly increased compared with last year.

The increased activity was largely due to both domestic and external factors. At the macro level, the ongoing trade dispute between the PRC and the United States (US) has led to a decline in the PRC's exports, impacting its economic growth. The slower economic growth has led to increased demand for the PRC's government bonds as yields fell. The ongoing PRC–US trade dispute also increased expectations of further easing by the People's Bank of China (PBOC).

In response to slowing economic growth, the PBOC has engaged mostly in targeted easing measures while restraining from implementing more broad-based easing, largely due to concerns over credit risk. For example, in May, the PBOC announced that a preferential reserve requirement ratio cut would apply to small- and medium-sized banks operating at the county-level. In September, the PBOC announced a broad-based 50 bps reduction in the reserve requirement ratio but stated that this was mainly in anticipation of tax payments. There was also an additional targeted cut for rural and commercial banks.

Market participants believe that the PBOC needs to engage in further easing and that a recent PBOC move to tie the loan prime rate to the medium-term lending facility will help achieve more effective policy rate transmission, with the next preferred step being a reduction in the medium-term lending facility rates.

Participants also noted that the improved liquidity in 2019 was the result of increased activity from offshore players, in particular, as the result of the gradual opening up of the PRC's bond market to foreign investors. Survey respondents noted increased activity from participants in the Bond Connect program and cited the removal of quotas from the Qualified Foreign Institutional Investor and Renminbi Qualified Foreign Institutional Investor programs as another move highlighting government efforts to increase foreign investor participation.

Respondents also said that foreign investor participation and bond liquidity improved following the inclusion of the PRC bond market in the Bloomberg Barclays Global Aggregate Index in April. The PRC's government bonds are also being evaluated for possible inclusion in JP Morgan's bond indices and the FTSE World Government Bond Index.

As a result of these factors, bid–ask spreads for the PRC's government bonds have largely fallen (**Table 6**).

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

	Treasury Bills	Treasury Bonds	Policy Bank Bonds	Local Government Bonds
On-the-Run				
Bid–Ask Spread (bps)	1.5	1.1	1.0	5.0
Average Trading Size (CNY million)	82.0	82.0	82.0	100.0
Off-the-Run				
Bid–Ask Spread (bps)	3.9	4.1	4.0	10.0
Average Trading Size (CNY million)	52.5	52.5	50.0	100.0

bps = basis points, CNY = Chinese yuan.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

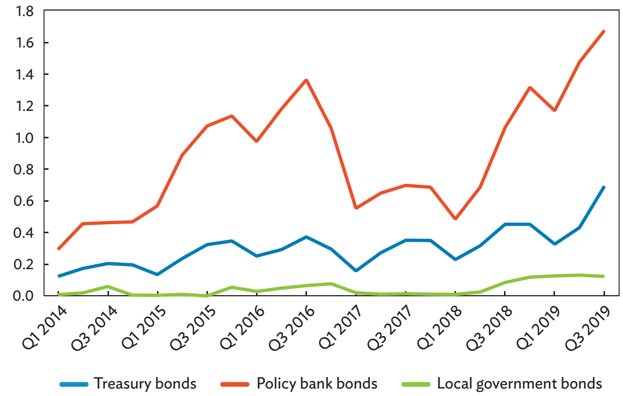
Bid–ask spreads fell the most for Treasury bills, with the average bid–ask spread declining to 1.5 bps in 2019 from 2.8 bps in 2018. The bid–ask spread for Treasury bonds fell to 1.1 bps from 1.9 bps during the review period. Policy bank bonds maintained the lowest bid–ask spread among the different types of government bonds, with the spread narrowing to 1.0 bps in 2019 from 1.4 bps in the previous year. Participants cited the relatively larger pool of policy bank bonds and consistent issuance as factors for their attractiveness to investors.

Local government bond bid–ask spreads roughly remained the same at 5.0 bps in 2019 and are the least liquid type of government bond. This is due to their narrow investor base; nearly 80% of local government bonds are held by banks, with banks largely pursuing a buy-and-hold strategy.

Bid–ask spreads for off-the-run securities tend to be higher than spreads for on-the-run securities, but declines were also noted in 2019 for Treasury bills and policy bank bonds. The bid–ask spreads for off-the-run Treasury bonds and local government bonds were roughly unchanged from last year.

Average trading sizes rose across all types of government securities. The average trading size for on-the-run Treasury bills rose to CNY82.0 million in 2019 from CNY43.0 million in the previous year. The average trading size for Treasury bonds rose to CNY82.0 million from CNY34.0 million, while the trading size for policy bank bonds rose to CNY82.0 million from CNY33.0 million. The local government bond trading size rose to CNY100.0 million in 2019 from CNY40.0 million in 2018.

Figure 15: Turnover Ratios for the Spot Market in the People's Republic of China



Q1 = first quarter, Q3 = third quarter.
Source: *ChinaBond*.

Increased volatility and demand for safer assets led to increased turnover in government bonds as evidenced by higher turnover ratios in 2019 than in 2018 (**Figure 15**).

Hong Kong, China

Hong Kong, China's survey participants noted a decline in liquidity conditions in 2019 from the previous year. Domestic political events in Hong Kong, China are fueling protests that have led to increased risk aversion for Hong Kong dollar assets and a decline in overall trading activity.

Interbank liquidity also declined in 2019 due to negative sentiment and seasonal factors such as upcoming initial public offerings. Capital flight and weakness in the Hong Kong dollar has led to a decline in the aggregate balance, but market participants do not view the decline as a concern.

Based on survey responses, Exchange Fund Bills (EFBs) remained the most liquid instrument, with bid–ask spreads unchanged at 4.0 bps (**Table 7**). There was an increase in bid–ask spreads for Exchange Fund Notes (EFNs) to 7.2 bps in 2019 from 6.6 bps in 2018, while bid–ask spreads for Hong Kong Special Administrative Region (HKSAR) bonds were roughly unchanged. Investor interest in EFBs remains relatively high owing to their consistent issuance.

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	7.2	11.3
Average Trading Size (HKD million)	716.7	100.0	37.5
Off-the-Run			
Bid–Ask Spread (bps)	4.7	7.8	13.8
Average Trading Size (HKD million)	516.7	58.3	25.0

bps = basis points, HKD = Hong Kong dollar, HKSAR = Hong Kong Special Administrative Region.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

Average trading size increased significantly for EFBs, with the average trading size rising to HKD716.7 million in 2019 from HKD537.5 million in 2018. The average trading size for EFNs was unchanged during the review period at HKD100.0 million. The average trading size for HKSAR bonds, on the other hand, fell to HKD37.5 million from HKD41.7 million.

Off-the-run bid–ask spreads for EFBs rose to 4.7 bps in 2019 from 4.4 bps in 2018. A slight increase in average trading size was also noted, with the average rising to HKD516.7 million from HKD512.5 million. EFN off-the-run bid–ask spreads were roughly unchanged in 2019 at 7.8 bps versus 7.6 bps in the previous year. EFN liquidity remains considerably lower compared to that of EFB due to limited supply, as issuance is restricted to the 2-year tenor.

Despite efforts to align HKSAR bonds with the EFN market, liquidity and investor interest remain relatively poor owing to structural factors. EFBs and EFNs are accepted as collateral for intraday or overnight funding at a 2% haircut, while HKSAR bonds can be used for term borrowing at a 5% haircut.

Indonesia

Survey respondents in Indonesia noted an improvement in liquidity conditions in the LCY bond market in 2019 compared with last year, buoyed by a reversal in investor sentiment toward emerging markets. As most advanced economies turned dovish and shifted to an accommodative monetary stance in 2019, foreign investors rebalanced their portfolios toward higher-yielding emerging market assets. The Indonesian LCY bond market benefited as foreign investors shored up their holdings of IDR-denominated bonds, leading the foreign holdings share of such bonds to breach 37.0%. The sovereign ratings upgrade from S&P Global Ratings on 31 May also fueled further interest in Indonesia's LCY bond market. Some participants observed that more (and bigger) players are now actively participating in the bond market.

Survey respondents also noted the more active participation of domestic investors this year vis-à-vis 2018. The bond market saw support not just from domestic banks but also from insurance companies and pension funds. The government's active issuance of retail bonds in 2019 also contributed to further interest among retail investors, reflecting increased awareness of the bond market as an alternative investment option. Liquidity conditions for Islamic Treasury instruments also improved, although they attracted interest largely from local investors. *Sukuk* (Islamic bonds) saw a good yield pickup in 2019, paving the way for the government to consider releasing a benchmark series for *sukuk* in 2020.

The improved investor sentiment in the LCY bond market was also influenced by Bank Indonesia's timely action and support to ensure adequate liquidity in domestic financial markets. Survey respondents noted that the central bank stood ready to intervene in the foreign currency market via the domestic nondeliverable forward and in the bond market by engaging in bond buybacks. In addition, Bank Indonesia lowered its policy rate 4 months in a row between July and October, for a cumulative reduction of 100 bps to date in 2019. Market participants opined that the quick action of the central bank helped investors gain more confidence in trading bonds. As for the policy rate, survey respondents were unanimous in saying there is still room to further reduce policy rates, with a possible cut toward the end of this year. In 2020, however, Bank Indonesia is expected to be less aggressive in cutting rates. Despite the four rate cuts, there was no significant rally in the bond market as the rate cut had already been priced in by investors. The cut in the reserve requirement ratio in 2019 provided additional liquidity to the market, particularly for banks by giving them additional funds to place in the bond market.

Amid this backdrop, Indonesia's LCY bond market is facing headwinds as global economic conditions remain sluggish. The prolonged trade spat between the PRC and the US continues to pose a threat and contributes to risk-off sentiment in emerging markets. Indonesia remains vulnerable given the high share of foreign holdings in its LCY bond market. The Indonesian financial market is highly sensitive to global events and external risks that contribute to risk-off sentiment. Once risk-off comes into play, the Indonesian rupiah immediately weakens and a sell-off ensues in the LCY bond market.

The slowdown in global economic conditions has dragged down Indonesia's economic growth and resulted in a weakening trade performance. Real gross domestic product (GDP) growth hit 5.07% y-o-y in the first quarter (Q1) of 2019 and 5.05% in the second quarter (Q2). Most survey participants believed that the full-year 2019 economic growth target of 5.2% set by the government will be difficult to achieve due largely to external factors. Domestic demand remains the driver of growth. However, there is upside pressure on inflation as the government is set to impose a higher tax on cigarettes in 2020. Nonetheless, survey participants welcomed the timely action of the central bank in lowering rates to support economic growth and its other actions to help ensure financial stability. Year-to-date through 15 October, bond yields trended lower, equities market slightly weakened, and the Indonesian rupiah strengthened against the US dollar.

Bid–ask spreads for Treasury bills and Treasury bonds narrowed in 2019 compared with results from the 2018 survey. Survey respondents quoted an average bid–ask spread of 4.1 bps in 2019 versus 5.3 bps in 2018 for on-the-run Treasury bonds and 7.7 bps versus 8.6 bps, respectively, for off-the-run Treasury bonds (**Table 8**). A narrowing of spreads was also observed for both on-the-run and off-the-run Treasury bills this year. Some survey participants, however, only quoted off-the-run bid–ask spreads for Treasury bills. The trading of Treasury bills was not active in 2019, as noted by survey respondents, because of the less attractive yields.

In 2019, the average transaction size for on-the-run and off-the-run Treasury bonds declined compared with the 2018 survey results, from IDR35.5 billion to IDR20.3 billion. However, most survey respondents mentioned that a single trade transaction for Treasury bonds could reach as high as IDR50.0 billion, mostly for short-term tenors, or even IDR100.0 billion for offshore transactions. For long-term bonds, the typical ticket size could be as low as IDR10.0 billion.

Table 8: Local Currency Government Bond Survey Results—Indonesia

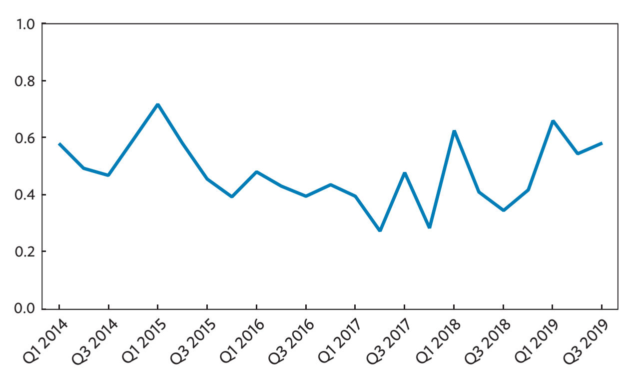
	Treasury Bills	Treasury Bonds
On-the-Run		
Bid–Ask Spread (bps)	10.5	4.1
Average Trading Size (IDR billion)	62.9	20.3
Off-the-Run		
Bid–Ask Spread (bps)	7.9	7.7
Average Trading Size (IDR billion)	55.0	16.0

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* 2019 Annual Bond Market Liquidity Survey.

Similar with the trend for Treasury bonds, the average transaction size also declined for Treasury bills. As in past surveys, the average transaction size remained higher for Treasury bills than Treasury bonds.

The LCY government bond market in Indonesia saw more active trading activities in the first 3 quarters of this year compared with 2018. Trading volume for government bonds was up 37.0% y-o-y, rising to IDR5,161.1 trillion in the first 3 quarters of 2019 from IDR3,765.3 trillion in the same period a year earlier. The quarterly turnover ratio also improved strongly in Q1 2019 to 0.7 from 0.5 in the previous quarter (**Figure 16**).

Figure 16: Quarterly Government Bond Turnover Ratio in Indonesia



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

Republic of Korea

In the Republic of Korea, survey respondents noted that liquidity conditions in the LCY government bond market in 2019 were almost the same as last year, with most respondents citing little improvement. Despite declining yields and higher bond prices, traders remained cautious due to continued volatility and heightened risks. The average bid–ask spreads for on-the-run and off-the-run Korea Treasury Bonds marginally declined in 2019 to 0.4 bps and 0.6 bps, respectively, from 0.5 bps and 0.7 bps in 2018 (**Table 9**). The same was observed for the average trading sizes for on-the-run and off-the-run Korea Treasury Bonds, which held steady at KRW10 billion each. The bid–ask spreads and average trading sizes for Monetary Stabilization Bonds issued by the Bank of Korea were also mostly unchanged from last year.

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

	Treasury Bonds	Central Bank Bonds
On-the-Run		
Bid–Ask Spread (bps)	0.4	0.5
Average Trading Size (KRW billion)	10.0	10.0
Off-the-Run		
Bid–Ask Spread (bps)	0.6	0.3
Average Trading Size (KRW billion)	10.0	10.0

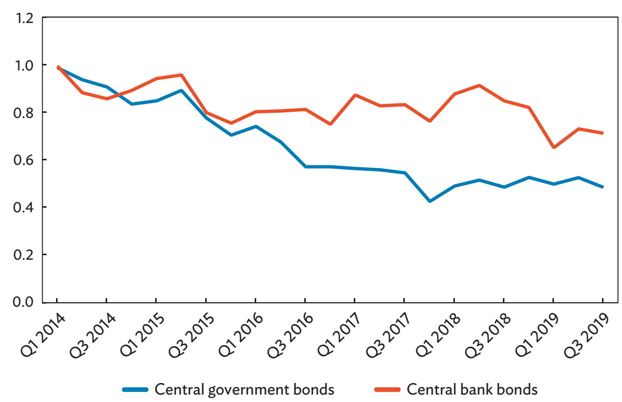
bps = basis points, KRW = Korean won.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

The ongoing trade dispute between the PRC and the US, as well as volatility in US Treasury yields, weighed on trading activity for LCY government bonds in the Republic of Korea. Other events, such as developments in Brexit and in other major emerging markets, had minimal impact on the domestic bond market as the Republic of Korea remained a safe-haven for investors.

The slowdown in both global and domestic economic growth also contributed to the tepid trading activity in the bond market. Economic growth in the Republic of Korea contracted 0.4% quarter-on-quarter in Q1 2019 due to the continued deterioration in exports. Inflation also continued to ease in 2019, remaining below 1.0% for the year before turning negative in September at –0.4% y-o-y. These developments allowed the Bank of Korea to cut its base rate by 25 bps in July, following a rate hike in November 2018, to support economic growth. The Bank of Korea also lowered its GDP forecasts for 2019 and 2020 to 2.2% and 2.5%, respectively.

The continued decline in turnover ratios also reflected the lack of improvement in trading activity in the LCY government bond market (**Figure 17**). Quarterly trading volumes were mostly similar in 2019 as in 2018, with a slight uptick in Q2 2019 due to expectations of a rate cut by the Bank of Korea in its July meeting. Meanwhile, the size of the bond market continued to grow as the government issued more bonds in 2019 to aid the slowing economy.

Figure 17: Quarterly Government Bond Turnover Ratios in the Republic of Korea



Q1 = first quarter, Q3 = third quarter.
Note: Data for Q3 2019 based on *AsianBondsOnline* estimates.
Source: The Bank of Korea.

In the short term, market participants were pricing in a rate cut by the Bank of Korea in its October meeting and another one in the first half of 2020, which together would lower the policy rate to 1.00%.[8] Yields are expected to be range-bound with a slight uptick through the end of the year as the market has already priced in the expected rate cuts. Moreover, the government plans to increase spending next year, targeting a higher budget deficit to boost economic growth. The additional bond supply, which the market has also priced in, is expected to contribute to the upward bias in domestic bond yields.

[8] The Bank of Korea cut its base rate on 16 October by 25 bps to 1.25%.

The Korean won has been one of the worst-performing currencies in the region in 2019, depreciating 6.0% year-to-date as of 15 October, reaching a low of KRW1,221.99 per USD1 on 13 August. The won's depreciation reflects the domestic economy's vulnerability to external factors, particularly the impact of the PRC–US trade dispute. Lower-than-expected GDP growth in 2019, along with expectations of this continued trajectory, drove the currency's weakness. Market participants expect the exchange rate to remain in the range of KRW1,180–KRW1,220 per USD1. Despite the depreciation, the Bank of Korea is perceived to be comfortable with the won at this range and has intervened only when the currency depreciates to a lower range.

The recent trade dispute between Japan and the Republic of Korea is contributing to the risks to economic outlook, particularly exports. Market participants believe that further impacts would immediately be reflected in the currency and the stock market. The bond market would also be affected by any negative sentiment toward domestic economic growth.

Survey respondents noted a few measures to further improve liquidity in the bond market, including the intention of the government to lessen restrictions in the repurchase (repo) market in the coming years and plans for foreign investors to participate directly in the trading platform. Respondents also suggested that longer-dated tenors should be included in the futures market.

Malaysia

Liquidity in Malaysia's LCY government bond market improved in 2019, according to respondents to this year's LCY bond market liquidity survey. Investor confidence improved following uncertainties resulting from the general election in 2018. As drivers of market activity, foreign investors have been encouraged by the liberalized foreign exchange policies instituted by the Government of Malaysia after being placed on the watch list for exclusion from the FTSE World Government Bond Index in April.

Among on-the-run government securities, liquidity declined for Malaysia Government Securities (MGS) and Government Investment Issues (GII), while Bank Negara Malaysia (BNM) bills and Treasury bills showed improvements. Despite renewed investor confidence, the decline in liquidity in MGS and GII reflected cautiousness toward LCY government bonds following Malaysia's inclusion on the FTSE Russell watch list. Average bid–ask spreads for on-the-run MGS and GII in 2019 increased to 2.7 bps and 3.1 bps, respectively, from 2.3 bps and 2.5 bps in 2018 (**Table 10**). On the other hand, average spreads for BNM bills and Treasury bills decreased to 2.5 bps and 2.7 bps, respectively, from 2.7 bps and 5.7 bps in 2018.

Table 10: Local Currency Government Bond Survey Results—Malaysia

	MGS	GII	BNM Bills	Treasury Bills
On-the-Run				
Bid–Ask Spread (bps)	2.7	3.1	2.5	2.7
Average Trading Size (MYR million)	17.0	14.0	56.7	50.0
Off-the-Run				
Bid–Ask Spread (bps)	4.3	4.6	4.0	4.0
Average Trading Size (MYR million)	12.0	13.0	62.5	62.5

BNM = Bank Negara Malaysia, bps = basis points, GII = Government Investment Issues, MGS = Malaysia Government Securities, MYR= Malaysian ringgit.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

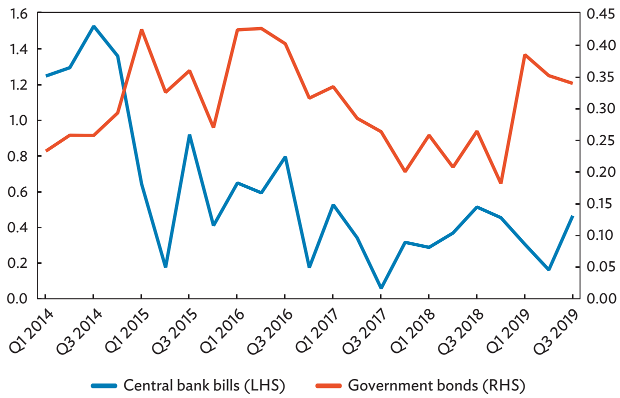
Trading activities in 2019 were largely unchanged from the previous year. Average trading sizes for MGS and GII slightly decreased to MYR17.0 million and MYR14.0 million, respectively, from MYR18.0 million and MYR14.9 million. For BNM bills and Treasury bills, average trading sizes grew to MYR56.7 million and MYR50.0 million, respectively, from MYR48.3 million and MYR49.2 million.

Results for off-the-run government securities showed more consistent results, with average bid–ask spreads declining across all four security types as average trading sizes increased for all except MGS, which saw a slight decrease.

The turnover ratio for central bank bills increased to 0.46 in Q3 2019 from 0.16 in Q2 2019 as the quarterly trading volume of central bank bills improved (**Figure 18**). The quarterly trading volume of central bank bills went up to MYR4.5 billion from MYR2.1 billion, while quarterly average central bank bills outstanding decreased to MYR9.7 billion from MYR13.3 billion.

The turnover ratio for government bonds increased from 0.26 in Q3 2018 to 0.34 in Q3 2019 as the quarterly trading volume increased faster than the quarterly average for government bonds outstanding.

Figure 18: Quarterly Government Bond Turnover Ratios in Malaysia



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

Quarterly trading volume jumped to MYR248.0 billion from MYR175.9 billion, while the quarterly average for government bonds outstanding increased to MYR736.8 billion from MYR671.0 billion. The increased quarterly trading volume in 2019 may be attributed to improved investor confidence as BNM rolled out measures to increase market liquidity and access.

Foreign fund inflows have not improved since BNM's crackdown on Malaysian ringgit trading in the offshore nondeliverable forward market in November 2016. With Malaysia's inclusion on the FTSE Russell watch list, BNM instituted several new measures in both May and August to improve market liquidity and accessibility. Survey participants acknowledged the positive response by local and foreign investors to these measures, but it will take some time for their effects to be reflected fully in the marketplace. Hence, survey respondents expect liquidity in the LCY government bond market to continue to improve over the next 6 months. To further develop the LCY government bond market, survey participants hope for improved access to, and the increased availability of, hedging tools. Retail participation must also be encouraged to broaden the investor base.

Other economies in the region have been easing their monetary policies in response to the slowdown in the global economy. BNM, however, has refrained from being dovish. Furthermore, Malaysia has been resilient to global events affecting other economies. As such, survey participants had mixed views on BNM's possible move in its next monetary policy committee meeting in November. Some see room to cut interest rates as the introduction of fiscal stimulus has been slow. Others expect no movement in the overnight policy rate due to Malaysia's higher-than-expected economic growth and the economy's resilience to the PRC–US trade war. Finally, some believe BNM will first assess the 2020 budget that was released on 11 October before deciding if a policy rate cut is necessary.

Philippines

Liquidity in the Philippine LCY government bond market improved significantly in 2019, largely due to the rally in government bonds driven by the Bangko Sentral ng Pilipinas' (BSP) monetary policy easing. The average bid–ask spread for on-the-run and off-the-run Treasury bonds fell to 2.8 bps and 8.3 bps, respectively, in 2019 from 6.9 bps and 17.5 bps in 2018 (**Table 11**). Correspondingly, the average trading sizes also rose to PHP96.9 million and PHP59.4 million, respectively, in 2019 from PHP56.1 million and PHP42.5 million in 2018. The same trend was observed for Treasury bills, with the average bid–ask spread for on-the-run securities declining to 4.3 bps in 2019 from 14.3 bps in 2018; the average trading size increased to PHP90.6 million from PHP53.8 million during the same period in review.

Table 11: Local Currency Government Bond Survey Results—Philippines

	Treasury Bonds	Treasury Bills
On-the-Run		
Bid–Ask Spread (bps)	2.8	4.3
Average Trading Size (PHP million)	96.9	90.6
Off-the-Run		
Bid–Ask Spread (bps)	8.3	10.0
Average Trading Size (PHP million)	59.4	59.4

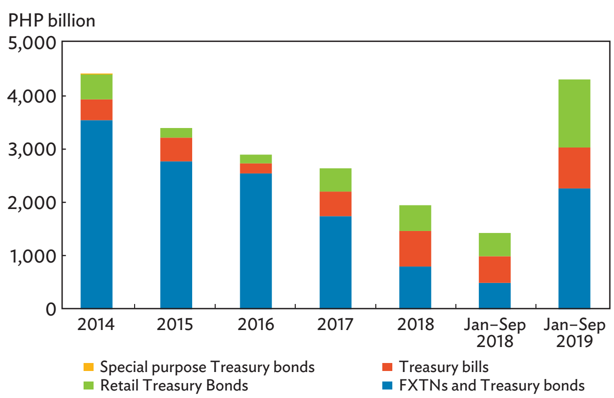
bps = basis points, PHP = Philippine peso.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

The market environment in 2018 was marked by high inflation, peaking at 6.7% y-o-y in September 2018, and by the BSP's monetary policy tightening response. The central bank raised its key interest rates a total of 175 bps in 2018, which led to tightening liquidity in the market. Inflation eased in 2019, decelerating to as low as 0.9% y-o-y in September. The easing inflation allowed the BSP to cut its key interest rates by a total of 75 bps in three monetary policy meetings. Moreover, the BSP also cut the reserve requirement ratio for banks by 200 bps in tranches starting in May, and by another 100 bps effective in November. This further boosted market liquidity and provided support to the LCY government bond market.

Data from the Philippine Dealing and Exchange Corporation show the aggregate trading volume of government bonds for the first 9 months of 2019 jumping to PHP4.3 trillion from PHP1.4 trillion in the same period in 2018 and PHP1.9 trillion for full-year 2018 (**Figure 19**). Trading volume for Treasury bonds in the first 9 months of the year grew more than three times to PHP2.2 trillion from PHP493.5 billion in the same period in 2018. Trading of Treasury bills also saw 54.1% y-o-y growth from the same period in the previous year. Trading volume for retail Treasury bonds rose two-fold to PHP1.3 trillion in the first 3 quarter of the year. In addition to abundant liquidity, the increased issuance of government bonds in 2019, particularly Treasury bonds and retail Treasury bonds, also drove the significant rise in trading activity in the market. Total issuance of central government bonds rose 52.8% y-o-y in the first 3 quarters of 2019.

In the short term, market participants expect economic fundamentals to support a downward bias in domestic bond yields. The new 100 bps cut in the reserve requirement ratio effective in November will flush more liquidity into the market and support government bonds. The market also expects the BSP to continue its monetary easing through 2020 via cuts in the policy rates and the reserve requirement ratio, as inflation is expected to remain subdued. Some are pricing in another policy rate cut in November and another 100 bps cut in reserve requirement ratio in December, while most are saying that the BSP is done for the year and will cut anew in 2020. The risk to this outlook is still largely driven by any potential change in the monetary policy direction of the Federal Reserve and other major central banks, and by trade talk developments between the PRC and the US.

Figure 19: 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.

To further improve liquidity in the Philippine government bond market, survey respondents suggested addressing the final withholding tax on interest income, which discourages foreign participants from investing in LCY bonds. As with previous years, respondents also emphasized the need to further develop the repurchase market to deepen liquidity in the bond market.

Singapore

Liquidity in Singapore's LCY government bond market did not change significantly in 2019, according to survey respondents. The LCY government bond market has been relatively stable for years and few new developments have emerged. Market participants continue to view both Singapore Government Securities (SGS) bills and Monetary Authority of Singapore (MAS) bills as being very liquid.

Due to their short-term nature, most market participants do not trade SGS bills and MAS bills, as reflected in wide bid–ask spreads. Average bid–ask spreads for on-the-run SGS bonds, SGS bills, and MAS bills in 2019 were 2.1 bps, 11.0 bps, and 11.5 bps, respectively (**Table 12**). The spread for SGS bonds was largely unchanged from 2018. However, the marked increases in the spreads of SGS bills and MAS bills (up from 1.5 bps each in 2018) were due to more survey participants being able to provide data this year compared to last year, not due to liquidity concerns. The same trend was also observed for off-the-run SGS bonds, SGS bills, and MAS bills.

Compared with the previous year, trading activities were roughly unchanged in 2019 since the LCY government bond market is well developed. Average trading sizes were down slightly as primary dealers became cautious due to general uncertainties brought about by the slowdown in global economic growth.

Table 12: Local Currency Government Bond Survey Results—Singapore

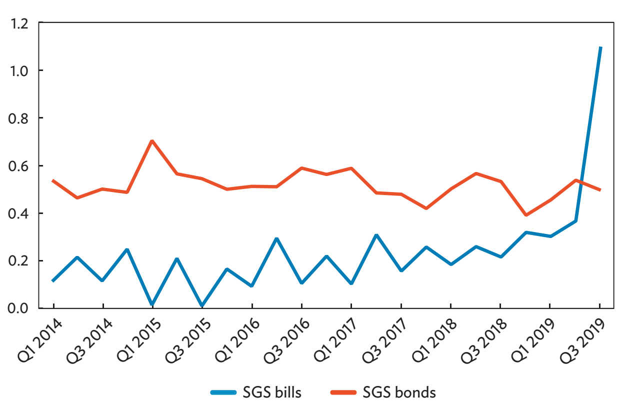
	SGS Bonds	SGS Bills	MAS Bills
On-the-Run			
Bid–Ask Spread (bps)	2.1	11.0	11.5
Average Trading Size (SGD million)	11.1	32.5	32.5
Off-the-Run			
Bid–Ask Spread (bps)	2.4	12.5	11.5
Average Trading Size (SGD million)	11.1	32.5	32.5

bps = basis points, MAS = Monetary Authority of Singapore, SGD = Singapore dollar, SGS = Singapore Government Securities.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

The average trading size for on-the-run SGS bonds was SGD11.1 million in 2019, down from SGD12.9 million a year earlier, while the average was SGD32.5 million for both SGS bills and MAS bills, down by SGD2.5 million for each from a year earlier. The same values in 2019 were observed for the average trading sizes of off-the-run SGS bonds, SGS bills, and MAS bills.

The turnover ratio for SGS bills spiked to 1.10 in Q3 2019 from 0.21 in Q3 2018 as growth in the quarterly trading volume of SGS bills outpaced the increase in the quarterly average of SGS bills outstanding (**Figure 20**). The jump in quarterly trading volume to SGD26.0 billion from SGD2.1 billion during the review period was due to gains in daily outright purchases and sales of SGS bills from July to September. This coincided with the replacement of the 24-week MAS bills with 6-month SGS bills, which started in July, making the SGS bills accessible to retail investors. The switch expanded the quarterly average for SGS bills outstanding to SGD23.7 billion from SGD10.0 billion.

Figure 20: Quarterly Government Bond Turnover Ratios in Singapore



SGS = Singapore Government Securities, Q1 = first quarter, Q3 = third quarter.
Sources: Monetary Authority of Singapore, Singapore Government Securities.

The turnover ratio for SGS bonds declined to 0.49 in Q3 2019 from 0.53 in Q3 2018 as the quarterly average for SGS bonds outstanding gaining more than quarterly trading volume. The quarterly average for SGS bonds outstanding increased to SGD122.3 billion from SGD112.7 billion, while quarterly trading volume jumped to SGD60.3 billion from SGD59.7 billion.

The introduction of the 6-month SGS bill was meant to attract retail investors and therefore did not have much impact on institutional investors. On the other hand, the lower turnover ratio for SGS bonds supported survey respondents' view that market players are not taking risks while the global economy slows. Survey respondents believe that liquidity in the Singapore government bond market over the next 6 months will remain stable. Although the investor profile is well developed, survey respondents wish for a broader range of investors in the LCY government bond market to further improve liquidity.

Despite the slowdown in global economic growth, the LCY government bond market in Singapore has remained resilient. On the domestic side, supported by economic growth and consumer price inflation assessments, market participants correctly anticipated the move by MAS to ease on 14 October when it slightly decreased the slope of the Singapore dollar nominal effective exchange rate and kept the width and center of the policy band unchanged. Market players had already priced in this monetary policy move in their investments. Internationally, the global events that have impacted Singapore in 2019 are the PRC–US trade war and the protests in Hong Kong, China, with the latter having a potential positive financial impact as more funds may flow into Singapore. As for other global events, authorities are taking a wait-and-see approach as it assesses the consequences of these events for domestic growth prospects.

Thailand

Survey respondents in Thailand reported that liquidity in the government bond market generally improved in 2019 compared with 2018. Respondents noted an increase in the number of market players, particularly nonresident investors. Based on data from the Thai Bond Market

Association, daily average trading volume of government bonds rose from THB77.1 billion in January–September 2018 to THB86.2 billion in January–September 2019. Market participants attributed the increased liquidity to heightened demand for safe assets, from both foreign and domestic investors, amid rising expectations of a global economic slowdown. Survey respondents saw improvements in liquidity, particularly for Bank of Thailand (BOT) bills, BOT bonds, and long-term government bonds. Government bonds included in the JP Morgan Government Bond Index-Emerging Markets were among the most actively traded bonds in the Thai bond market.

Foreign flows into Thailand's bond market eased in 2019 compared with 2018. From January to September, net foreign outflows reached THB9.3 billion, a reversal of the THB225.8 billion of net inflows during the same period in 2018. Despite the foreign outflows, the Thai government bond market remains strongly supported by domestic investors, particularly pension funds. Market participants continue to have a positive outlook on foreign investor demand for Thai bonds due to the country's robust external position. Thailand enjoys a large current account surplus, ample foreign reserves, and low external debt, making Thai government bonds safe-haven assets for both foreign and domestic investors.

Based on 2019 liquidity survey data, the average bid–ask spread for on-the-run government bonds, BOT bonds, and state-owned-enterprise (SOE) bonds were 2.7 bps, 3.3 bps, and 3.5 bps, respectively (**Table 13**). Compared with data from 2018, the bid–ask spread widened slightly for government bonds but narrowed for BOT bonds.

Table 13: Local Currency Government Bond Survey Results—Thailand

	Government Bonds	BOT Bonds	SOE Bonds
On-the-Run			
Bid–Ask Spread (bps)	2.7	3.3	3.5
Average Trading Size (THB million)	158.3	254.2	87.5
Off-the-Run			
Bid–Ask Spread (bps)	6.6	4.8	6.8
Average Trading Size (THB million)	105.0	183.3	58.1

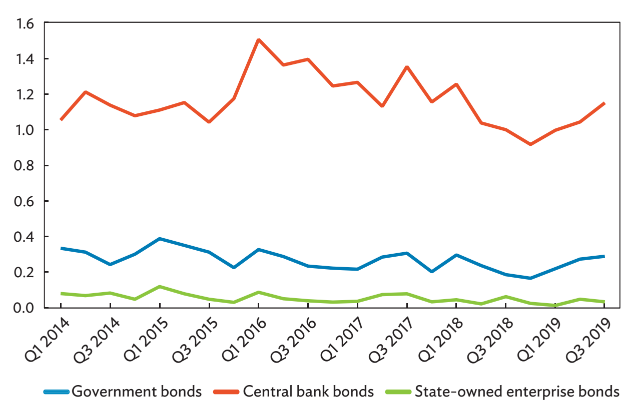
BOT = Bank of Thailand, bps = basis points, SOE = state-owned enterprise, THB = Thai baht.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

When measured in terms of trading size, liquidity in the government bond market improved in 2019 compared with 2018. The average trading size for on-the-run government bonds increased to THB158.3 million in 2019 from THB130.0 million in 2018. For on-the-run BOT bonds, the average trading size more than doubled to THB254.2 million in 2019 from THB125.0 million in 2018. The typical trading size for SOE bonds in 2019 ranged from THB50.0 million to THB125.0 million.

The turnover ratio for government bonds and BOT bonds increased in Q3 2019 compared with a year earlier. For government bonds, the turnover ratio rose to 0.30 in Q3 2019 from 0.19 in Q3 2018 (**Figure 21**). For BOT bonds, the turnover ratio increased to 1.15 in Q3 2019 from 1.00 in Q3 2018. On the other hand, the turnover ratio for SOE bonds dipped to 0.04 in Q3 2019 from 0.07 a year earlier. The outstanding amounts of each of the three types of government bonds rose in Q3 2019 compared with Q3 2018. The gains in the turnover ratios for government and BOT bonds were driven by increased trading volumes, while the decline in the turnover ratio for SOE bonds stemmed from a decrease in turnover volume.

Several policy changes affected the Thai government bond market in 2019. On 1 July, the BOT announced a reduction in its issuance of short-term BOT bonds to slow capital inflows and curb the baht's appreciation. Since the beginning of the year through 30 September, the Thai baht appreciated 5.8% against the US dollar,

Figure 21: Quarterly Government Bond Turnover Ratios in Thailand



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

outperforming its regional peers. The baht's persistent strength negatively affects exports, creating additional headwinds for the export-driven economy. Since July, the BOT has reduced its monthly issuance of 3-month, 6-month, and 1-year bonds.

On 12 July, the BOT implemented additional measures to enhance surveillance of short-term capital flows. The limit on the outstanding balance of nonresident baht accounts and nonresident baht accounts for securities was lowered to THB200.0 million for each account from THB300.0 million previously. The BOT also tightened its reporting requirements for nonresident holdings of debt securities. Most participants observed that these measures have had limited impact thus far, mainly affecting short-term bonds.

A tax regulation amendment that affects the bond market came into effect on 20 August when investments in mutual funds became subject to a 15% withholding tax on gross income. The amendment was intended to reduce discrepancies on tax burdens imposed on direct investment in debt instruments compared with investment in debt instruments through mutual funds. Prior to the amendment, direct investments in debt instruments were subject to a 15% withholding tax on interest, profits, or discount, while investments in mutual funds with an asset allocation in debt instruments were tax-exempt. Survey respondents observed minimal short-term effect from the tax amendment but expect a more pronounced impact on trading activities and bond market liquidity in the next 1–2 years.

On 7 August, the BOT decided to cut its policy rate by 25 bps to 1.50% as escalating trade tensions and weak global growth continued to exert downward pressure on the economy. The BOT held its policy rate steady during its latest policy meeting held on 25 September. Per survey respondents, the monetary stimulus had very limited impact on the overall economy and thus the market expects one more policy rate cut before the end of 2019.

Most survey respondents viewed global events, aside from the more dovish stance in US monetary policy and the continuing trade dispute between the PRC and the US, to have limited effect on Thailand's bond market. External risks such as fear of recession in the European Union brought about by uncertainties over Brexit affects the Thai bond market through increased demand for emerging market bonds. Observers view that the market has already priced in the prevailing risks, which has been reflected in the flattening of the Thai government bond yield curve.

In August, the government approved a THB316.0 billion stimulus package, which includes additional allowances for low-income earners and the elderly, debt relief and loans for farmers affected by the ongoing drought, incentives for domestic tourism and investment, credit support for small and medium-sized enterprises, and low-interest loans for home buyers. Survey respondents felt that delays in disbursements hinder the effectiveness of the fiscal stimulus package. Some of the respondents believe that more aggressive fiscal policies are needed to boost the lagging economy.

Viet Nam

Viet Nam's LCY government bond market saw an improvement in liquidity conditions in 2019 compared with 2018, according to respondents to this year's survey. Improved liquidity was largely driven by the State Bank of Vietnam's efforts to manage liquidity and ensure a more stable Vietnamese dong–US dollar exchange rate. Amid ample liquidity in the banking system, demand for government bonds increased in 2019. This allowed the government to significantly increase government bond issuance, which in turn resulted in an expansion in the overall size of the government bond market and the lengthening of the yield curve. Previously, much of the issuance was concentrated in medium-dated tenors. Beginning this year, however, investors shifted to longer positions, with much of the issuance moving toward the 10-year and 15-year maturities. Also, market participants noted an influx of new and bigger counterparties in the LCY government bond market.

While trade tensions between the PRC and the US dragged down most economies, Viet Nam's economy benefited from capital inflows via foreign direct investment. Macroeconomic fundamentals in Viet Nam remained strong despite the overall slowdown in the global economy. Viet Nam continued to post robust growth in Q3 2019 as the economy expanded 7.3% y-o-y, the highest among its regional peers in emerging East Asia. Other global events were viewed by market participants to have minimal impact on Viet Nam's economy and financial markets.

As a preemptive measure, the State Bank of Vietnam lowered its refinancing rate by 25 bps in September. The policy rate cut was taken in response to other central banks' monetary policy actions. Survey respondents do not expect further adjustments in the policy rate this year as Viet Nam's economic outlook continues to be positive. However, policy action will likely be dependent on the monetary policy direction of advanced economies and other central banks

In line with improved liquidity conditions, the average on-the-run bid–ask spread for Treasury bonds narrowed to 5.5 bps in 2019 from 8.3 bps in 2018 (**Table 14**). In the same period, the on-the-run bid–ask spreads for government-guaranteed bonds also narrowed to 12.3 bps from 18.3 bps.

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

	Treasury Bonds	Government-Guaranteed Bonds
On-the-Run		
Bid–Ask Spread (bps)	5.5	12.3
Average Trading Size (VND billion)	65.0	62.5
Off-the-Run		
Bid–Ask Spread (bps)	10.8	23.0
Average Trading Size (VND billion)	58.3	50.0

bps = basis points, VND = Vietnamese dong.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

For off-the-run issues, bid–ask spreads for Treasury bonds narrowed to 10.8 bps in 2019 from 13.8 bps a year earlier. On the other hand, off-the-run government-guaranteed bonds had a wider bid–ask spread of 23.0 bps this year versus 17.5 bps in 2018.

In terms of transaction size, the average single trade ticket was slightly lower this year at VND65.0 billion for on-the-run Treasury bonds, while it was higher for off-the-run issues. For government-guaranteed bonds, the on-the-run transaction size was slightly lower at VND62.5 but remained steady at VND50.0 billion for off-the-run issues.

Market participants welcomed the merger of Ha Noi Stock Exchange and Ho Chi Minh Stock Exchange. Most survey respondents believe that it will be beneficial for market players to have a single bourse as it will help facilitate payment and settlement processes. Also, the merged bourse is expected to improve information disclosure and provide more transparency. While there are short-term challenges that need to be addressed, in the long term the merger is viewed as being good for the market.

Viet Nam launched a government bond futures market in July this year; however, market participants noted that it was not yet active. The futures market is expected to contribute to improved liquidity in the bond market by allowing investors to hedge against risk. The Vietnam Bond Market Association introduced a new regulation allowing market makers to quote up to seven bond tenors versus four previously. This helped to increase market liquidity, particularly for long-term maturities. A new regulation to improve transparency, which requires market participants to report trades on a timely basis, was also cited as aiding in improving bond market liquidity.

Qualitative Indicators for Government Bond Markets

The *AsianBondsOnline* annual bond market liquidity survey includes an assessment of qualitative indicators that can aid in gauging the depth of development in each of the region's LCY bond markets. Each survey respondent was asked to provide their perception of how their respective market fares for each of eight identified structural factors. A high score is indicative of the presence of such structural factors and a low rating reflects the need for further development and policy action. A short description of each structural factor is discussed below.

i. **Greater Diversity of Investor Profile: the extent of participation from various investor groups.** A low rating reflects a less diverse investor profile with only a few participants holding bonds, while a high rating means that the investor profile is diversified with participation from various investor groups.
ii. **Market Access: the degree of ease or difficulty for investors to participate in the LCY bond market, taking into account investor registration and investment quotas.** A low rating indicates very limited access or the presence of restrictions on investments, while a high rating indicates the absence of restrictions or limits on investments.
iii. **Foreign Exchange Regulations: the extent of liberal or restrictive foreign exchange, capital**

investment, and repatriation policies. A low rating indicates restrictions in the capital inflow and outflow of foreign currency in relation to bond investments, 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 reflects the absence of or limits in funding availability, while a high rating indicates easy access and the availability of funding options.

v. **Tax Treatment: the importance of reducing withholding taxes on LCY bonds.** A low rating indicates the presence of high tax rates on income, while a high rating means there are reasonable tax rates or no taxes on investment gains.

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 procedures, while a high rating indicates efficient settlement processes.

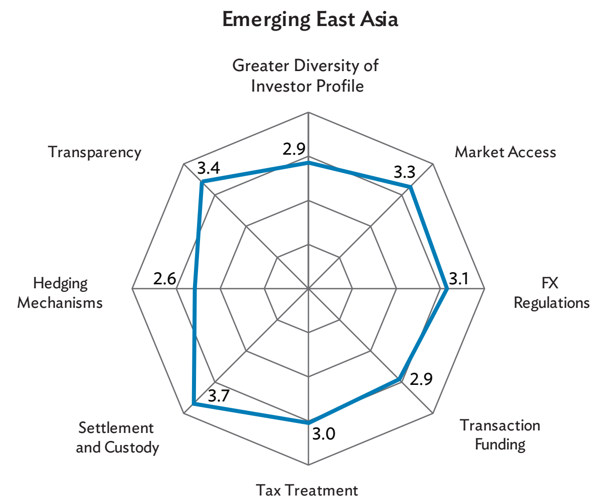
vii. **Hedging Mechanisms: the need to have an active and efficient derivatives market.** A low rating reflects the absence of hedging instruments or limited access to hedging, while a high rating indicates the availability of derivative instruments to hedge against risks.

viii. **Transparency: the importance of gaining access 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 not publicly disclosed or is very limited, while a high rating means that pricing and trading information is available and reliable.

Survey participants were asked to rate each structural indicator on a scale of 1 to 4, with the lowest rating as 1 and the highest as 4. The ratings are defined as follows: 1–not available or not developed, 2–somewhat developed, 3–fairly developed but needs enhancements, and 4–developed.

Hedging Mechanisms tallied the lowest score among the eight qualitative indicators for government bonds. It obtained a regional average of 2.6 for this year's survey, broadly comparable with the 2.5 score from 2018 (**Figure 22**). The Philippines (1.9) continued to lag on this indicator due to the lack of suitable instruments to hedge against adverse bond price changes. The PRC's (2.2) government bond market also ranked low on this indicator as banks are not allowed to purchase bond futures. In the case of Indonesia (2.3), hedging tools are only available for banks that have signed a global master repurchase agreement with Bank Indonesia. In Viet Nam (2.3), while a government bond futures market was launched in July, it is still a relatively new hedging tool and the market remains illiquid given the small volume of transactions. Most other emerging East Asian markets obtained a rating of between 2.7 and 2.9, except for the Republic of Korea, which garnered the region's highest score of 3.4 due to the more developed state of its bond market.

Figure 22: 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* 2019 Annual Bond Market Liquidity Survey.

Greater Diversity of Investor Profile received a relatively low regional average of 2.9 in this year's survey, which was up slightly from a rating of 2.8 in 2018. Viet Nam scored the lowest at 2.0 for this indicator, owing to its government bonds being largely held and dominated by only two major investor groups: banking institutions and the Vietnam Social Security Fund. Hong Kong, China was also perceived to have a less diverse set of investors due to ongoing political unrest, which drove investors, particularly offshore funds, away from the market. Most other emerging East Asian markets obtained an average rating of between 2.7 and 2.9 as investor holdings remained dominated by a few investor groups (**Figure 23**). The exceptions were the markets of the PRC, the Republic of Korea, and Thailand, with each obtaining a rating of 3.2 or higher. In the case of Thailand (3.3)and the PRC (3.2), the higher ratings were driven by an increase in the number of foreign players this year.

Transaction Funding was also ranked relatively low among structural issues in the region's government bond market with a regional average score of 2.9. Thailand obtained the lowest score at 2.3, followed by the Philippines and Viet Nam, with each receiving an average rating of 2.6. Indonesia obtained an average of 2.8. All other government bond markets in the region were given a rating of 3.0 or above, with the Republic of Korea receiving the region's highest score at 3.7.

Tax Treatment obtained a regional average of 3.0 for this year's survey versus 3.1 in 2018. The Philippines obtained the lowest rating at 2.1 due to it having the highest withholding tax on interest income among the region's government bond markets. Next were Thailand (2.5) and Indonesia (2.6). In Indonesia, market participants cited the differences in tax rates for each investor type as the reason for the low rating. Similarly, the PRC obtained an average score of 2.8 for this structural factor due to differences between taxes applied to domestic

Figure 23: Structural Issues for Individual Local Currency Government Bond Markets

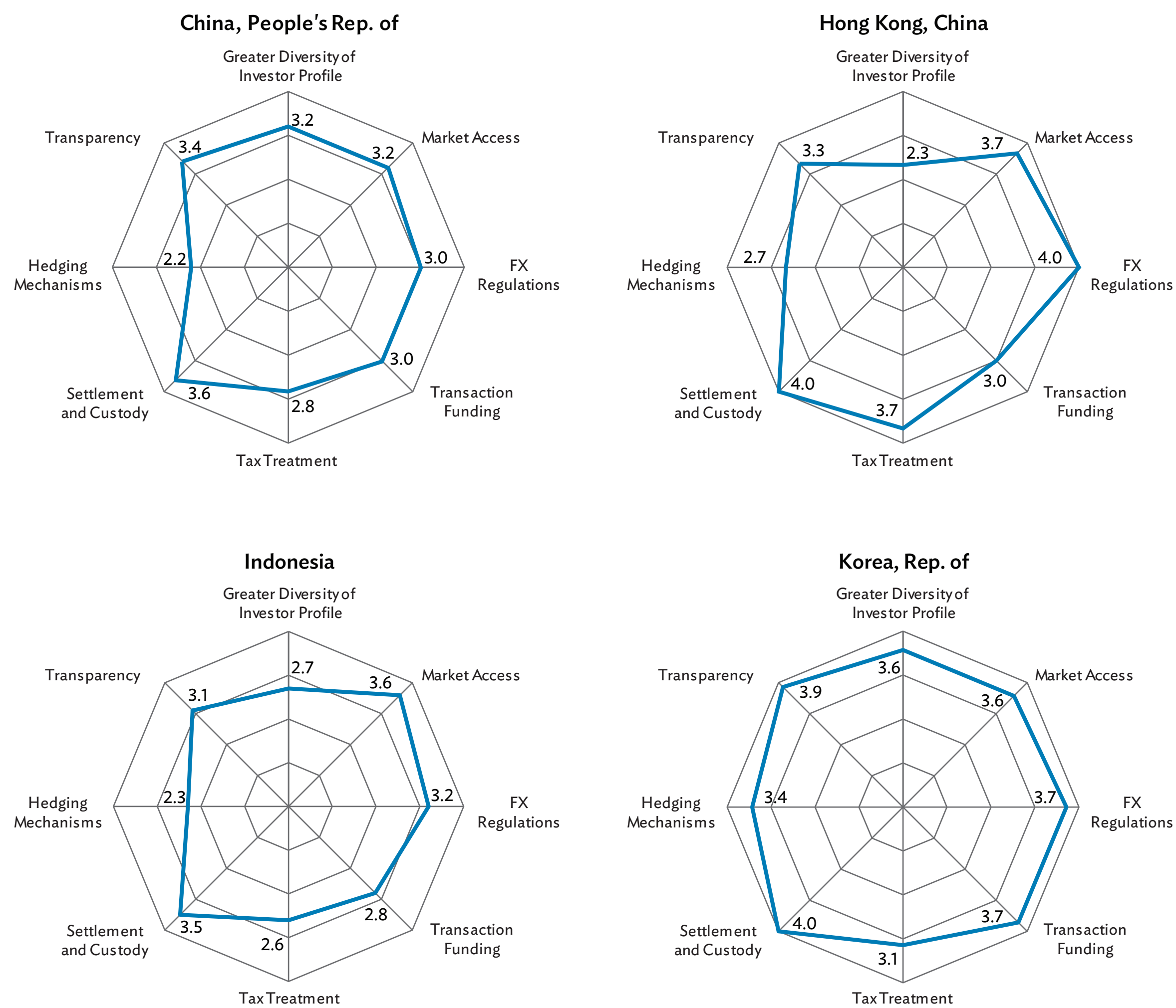


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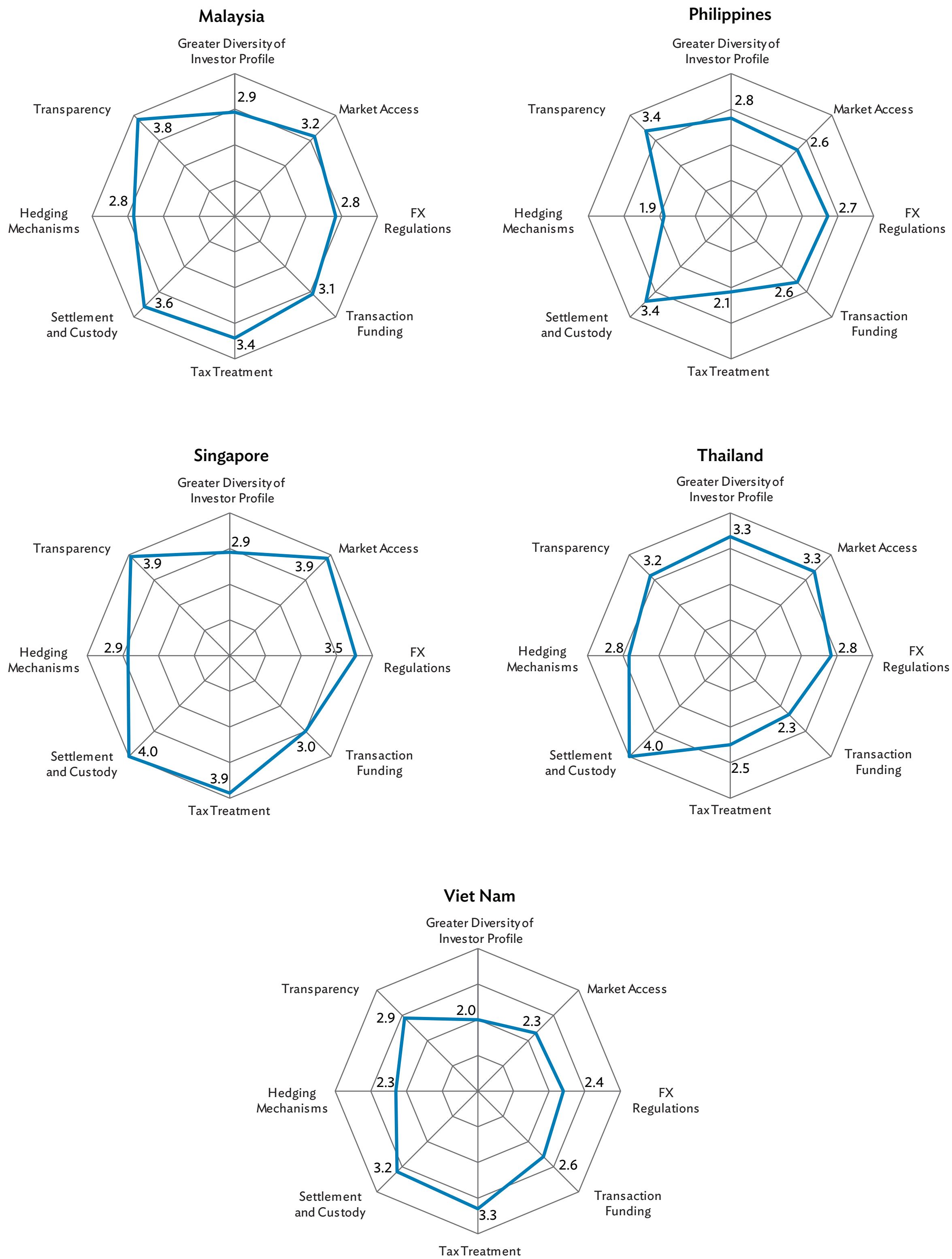
Figure 23 *continued*



FX = foreign exchange.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

and foreign investors. Malaysia (3.4), Singapore (3.9), and Viet Nam (3.3) obtained relatively higher scores as government bond holders are exempt from withholding taxes on interest income. **Table 15** presents information on applicable withholding taxes on interest income for emerging East Asia's bond markets.

FX Regulations tallied a regional average of 3.1, the same score from the 2018 survey. The government bond markets of Viet Nam (2.4), the Philippines (2.7), Malaysia (2.8), and Thailand (2.8) were rated fairly low on this structural factor. All other markets in the region obtained a rating of 3.0 or above, with Hong Kong, China obtaining the highest score possible (4.0). A summary of regulations regarding cross-border portfolio investments in the region is presented in **Table 16**.

Market Access scored the third-highest among the structural issues, garnering a regional average of 3.3, the same rating as in 2018. All of the region's government

Table 15: Tax Treatments in Emerging East Asian Markets

Market	Withholding Tax on Interest Income	
	Government	Corporate
China, People's Rep. of	Exempt from tax	A 10% withholding tax generally applies to interest paid to a nonresident unless the rate is reduced under a tax treaty. A 6% value-added tax generally is imposed. Bond interest derived by foreign institutional investors from the PRC bond market may be exempt from both income tax and value-added tax for the period from 7 November 2018 through 6 November 2021.
Hong Kong, China	Exempt from tax	There is no withholding tax on interest payments from a Hong Kong, China-based entity to a resident or nonresident.
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 exempt from tax.	Interest paid to a nonresident is subject to a 20% withholding tax unless the rate is reduced under a tax treaty. Interest paid by a domestic taxpayer to a resident is subject to a 15% withholding tax, which generally represents an advance payment of tax liability. Certain recipients are exempt from withholding tax (e.g., resident banks). Interest paid by a bank in Indonesia to a tax resident is subject to a 20% final withholding tax.
Korea, Rep. of	Interest income arising from bonds issued by the government or local authority and local company is subject to a 15.4% withholding tax including local income tax. Withholding tax rates may be reduced under the provision of double taxation treaties.	Interest on a regular loan paid to a nonresident company or individual is subject to a 22% withholding tax (including the local surtax). Interest on bonds is subject to a 15.4% withholding tax (including the local surtax). The rate may be reduced under a tax treaty, although withholding at the domestic rate rather than the treaty rate may be required for certain payments to jurisdictions regarded as tax havens.
Malaysia	Exempt from tax	A withholding tax of 15% applies to interest paid to a nonresident, unless the rate is reduced under a tax treaty. However, interest paid to a nonresident by a bank operating in Malaysia is exempt from tax, except for interest accruing to the nonresident's place of business in Malaysia and interest paid on funds required to maintain net working funds, as prescribed by the central bank. Certain other interest paid to a nonresident also may be exempt.
Philippines	For individuals, interest income from bonds earned by citizens, resident aliens, and nonresident aliens engaged in trade and business in the Philippines is subject to 20% final withholding tax, while a 25% final tax is imposed on nonresident aliens not engaged in trade or business.	Interest paid to a nonresident is subject to a 20% withholding tax. The rate may be reduced under a tax treaty, subject to the submission of a Certificate of Residence for Tax Treaty Relief form with the Bureau of Internal Revenue.
Singapore	Under the Qualifying Debt Securities scheme, interest income on SGS and MAS bills is tax-exempt for individuals, while institutions qualify for tax incentives for SGS and MAS bills issued until 31 December 2023. Individual residents and nonresidents do not need to pay tax on interest and other qualifying income gained from SGS and MAS bills, except where such income is derived through a partnership in Singapore or is derived from the carrying on of a trade, business, or profession.	Interest paid to a nonresident is subject to a 15% withholding tax, unless the rate is reduced under a tax treaty or an exemption applies under certain domestic concessions. The 15% withholding tax is a final tax and applies only to interest not derived by the nonresident from a business carried on in Singapore and not effectively connected to a permanent establishment in Singapore. Any other interest that does not qualify for the final rate will be taxed at the prevailing corporate tax rate.
Thailand	Domestic and foreign individuals are subject to 15% withholding tax.	Interest paid to a nonresident company is subject to a 15% withholding tax, unless the rate is reduced under a tax treaty. Interest paid on loans from a bank, financial institution, or an insurance company is subject to a 10% withholding tax if the lender is resident in a country that has concluded a tax treaty with Thailand, but an exemption applies if the interest is paid by a Thai financial institution on loans granted under a law intended to promote agriculture, industry, or commerce. A 1% advance withholding tax applies to interest payments made by a corporation to a corporation carrying on business in Thailand or by a corporation to a financial institution for interest on debentures or bonds, except for interest on deposits or negotiable instruments paid between banks or finance companies.
Viet Nam	Exempt from tax	Interest paid to a nonresident is subject to a 5% withholding tax unless the rate is reduced under a tax treaty.

MAS = Monetary Authority of Singapore, PRC = People's Republic of China, SGS = Singapore Government Securities.
Source: Various local sources.

Table 16: 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 may purchase money market funds. Effective 12 June 2018, the lockup period requirement on invested principal was lifted.	Qualified Foreign Institutional Investors and Renminbi Qualified Foreign Institutional Investors may invest in CNY-denominated bonds and fixed-income products traded on the interbank bond market. Such investments are subject to the upper limits on individual institutions. Effective 3 July 2017, a direct investment could be made by foreign investors in the interbank bond market, and an indirect investment could be made in the domestic foreign exchange market by foreign investors through Bond Market Connect, a scheme that provides mutual market access and allows investors from the PRC and overseas to participate in each other's bond markets. Domestic financial institutions (legal persons) may issue CNY-denominated bonds abroad with People's Bank of China approval. Financial institutions and enterprises in the PRC can freely carry out cross-border financing in domestic or foreign currencies within the limit determined by their capital and net assets, without being subject to advance review and approval from the People's Bank of China and the State Administration of Foreign Exchange.	Qualified Foreign Institutional Investors and Renminbi Qualified Foreign Institutional Investors may invest domestically in A shares, subject to restrictions on equity holdings. Effective 12 June 2018, the lockup period requirement on invested principal was lifted. Renminbi Qualified Foreign Institutional Investors may invest in domestic securities using CNY funds raised abroad. Since November 2014, investors from the PRC and Hong Kong, China can invest in Hong Kong, China and Shanghai stock markets, respectively, under certain conditions and within the limit published by the China Securities Regulatory Commission. The China Securities Regulatory Commission approved the abolishment of the overall limit on Shanghai–Hong Kong Stock Connect and the Shenzhen–Hong Kong Stock Connect, but the daily limits are still in place. Approval by the China Securities Regulatory Commission and registration with the State Administration of Foreign Exchange are required for the issuance of shares abroad by resident enterprises. Funds originating from such issuance are not subject to repatriation requirement but may be converted to renminbi and used in the PRC.	Qualified Domestic Institutional Investors may purchase money market instruments permitted by regulation, subject to their respective foreign exchange quotas and regulatory limits. Overseas-listed companies controlled by foreign shareholders may repurchase their overseas-listed and traded shares, provided the State Administration of Foreign Exchange verifies the source of the funds and approves payment abroad. On approval, qualified fund management firms and other securities management organizations may, within limits, combine foreign exchange funds and renminbi funds of resident entities and individuals, and use the funds to engage in portfolio investment, including in stocks. In the context of large capital outflows, the People's Bank of China suspended the approval of new Renminbi Qualified Domestic Institutional Investors quota applications in December 2015.	Nonresidents are not allowed to sell or issue money market instruments. Foreign-owned firms in the PRC may also issue bonds. Foreign sovereign governments, nonresident foreign firms, and international development institutions were authorized to issue CNY-denominated bonds in the Chinese interbank bond market on a pilot basis. Since December 2015, foreign institutions can issue CNY-denominated bonds in the bond exchange market on a pilot basis in line with the current corporate bond framework. The China Securities Regulatory Commission is in the process of launching a pilot program for the issuance of Chinese Depository Receipts by innovative enterprises, making arrangements for the issuance, public offering, and trading of Chinese Depository Receipts, setting forth the basic conditions and procedures for Chinese Depository Receipt offerings, and producing the general requirements for the use of Chinese Depository Receipts to engage in refinancing.
Hong Kong, China	There are no restrictions on the purchase of money market instruments.	There are no restrictions on the purchase of bond market instruments.	There are no restrictions on the purchase of equity instruments.	There are no restrictions on investments by residents.	There are no restrictions on investments by nonresidents.
Indonesia	Nonresidents may purchase Bank Indonesia certificates in the secondary market. However, the minimum holding period for all investors for purchases of Bank Indonesia certificates in the primary and secondary markets is 1 week. In addition, nonresidents are not allowed to buy foreign exchange against Indonesia depository receipts with underlying	Investment in other domestic bond markets and debt securities is not clearly regulated in the context of nonresident transactions. The sale of bonds or other debt securities abroad by residents is not clearly regulated. Thus, such transactions are carried out in practice and are considered free of capital controls.	Foreign investors are allowed to purchase without limit shares issued by Indonesian companies in the Indonesian capital market. There is a limit on the ownership of joint securities companies that are also finance companies. No controls apply as long as the shares are not listed on the Indonesia Stock Exchange.	Purchases of money market instruments by residents abroad is prohibited. Pension funds may not invest in securities abroad, and mutual funds may invest abroad only up to 15% of their net asset value. Purchases of bonds and other debt securities abroad are regulated only for pension funds, which may	The sale and issuance of money market instruments, bonds, and other debt securities by nonresidents is not clearly regulated and thus is considered to be free of capital controls. Foreign companies are permitted to issue Indonesian depository receipts through custodian banks in Indonesia.

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Table 16 *continued*

Market	Capital Inflow			Capital Outflow	
	Money Market Instruments	Bond Market Instruments	Equity Instruments	Resident Investors	Nonresident Investors
Indonesia	transactions of negotiable certificates of deposit. The absence of regulations concerning the sale or issuance of money market instruments abroad indicates that the activity is free of capital controls, with the exception of those issued by nonbank corporate entities, which must fulfill prudential requirements and must report the activity to the Bank Indonesia.		Securities listed on the Indonesia Stock Exchange must comply with the Capital Market Law and with the requirement concerning the maximum percentage of foreign ownership of shares. Indonesian companies do not issue shares. They issue US depository receipts in US capital markets and global depository receipts in the London Stock Exchange.	not invest in securities abroad, and domestic mutual fund companies. No regulations explicitly limit purchases abroad by other resident investors. Pension funds may not invest in securities abroad, and collective investment scheme mutual funds may invest abroad only up to 15% of their net asset value. Protected mutual funds and guaranteed mutual funds may invest up to 30% of their net asset value abroad.	
Japan	There are no restrictions on the purchase of money market instruments.	There are no restrictions on the purchase of bond market instruments.	Controls apply to the extent that the purchase of shares is affected by laws on inward direct investment.	There are no restrictions on investments by residents.	There are no restrictions on investments by nonresidents.
Korea, Republic of	Sale or issuance of foreign-currency-denominated money market instruments abroad by residents requires notification to a designated foreign exchange bank. Sale or issuance of foreign-currency-denominated money market instruments exceeding the equivalent of USD30 million or of KRW-denominated money market instruments abroad by residents requires notification to the Ministry of Economy and Finance.	Nonresidents may freely purchase bonds and other debt securities issued by residents, but purchases that are not made through an account exclusively for investment must be reported to a designated foreign exchange bank or the Bank of Korea. Sale or issuance of foreign-currency-denominated bonds abroad by residents requires notification to a designated foreign exchange bank. Sale or issuance of foreign-currency-denominated bonds exceeding the equivalent of USD30 million or of KRW-denominated bonds abroad by residents requires notification to the Ministry of Economy and Finance.	Nonresidents may purchase shares issued by Korean companies freely, but purchases that are not made through an account exclusively for investment must be reported to a designated foreign exchange bank or the Bank of Korea. Sale or issuance of foreign-currency-denominated shares abroad by residents requires notification to a designated foreign exchange bank. Sale or issuance of foreign-currency-denominated shares exceeding the equivalent of USD30 million or of KRW-denominated shares abroad by residents requires notification to the Ministry of Economy and Finance.	Residents may freely purchase money market instruments, bonds, and shares abroad, but purchases that are not made through an account exclusively for investment must be reported to the Bank of Korea.	Nonresidents may issue money market instruments and in the domestic market, and they are eligible to list their shares on the Korea Exchange in the form of depository receipts. However, the issuer must notify the Ministry of Economy and Finance.
Malaysia	Resident entities may issue foreign-currency-denominated money market instruments abroad. Approval from Bank Negara Malaysia is required for issuance or sale of MYR-denominated money market instruments by residents outside Malaysia.	There is no minimum holding period requirement for investing in bond instruments. Resident entities may issue foreign currency bonds or *sukuk* (Islamic bond) abroad.	Nonresidents may purchase securities listed on Bursa Malaysia. Based on Bank Negara Malaysia's Foreign Exchange Administration rules, nonresidents are free to invest in any form of MYR assets in Malaysia. Resident entities may issue shares denominated in foreign currency on foreign stock exchanges. Approval is required only for issuance of MYR-denominated securities by residents outside Malaysia.	Resident entities with ringgit borrowings are subject to the prudential limit of up to the amount sourced from proceeds of an initial public offering on the main market of Bursa Malaysia, and up to MYR50 million or its equivalent in aggregate on a corporate group basis a calendar year.	Nonresidents may issue foreign-currency-denominated securities. Approval is required only for issuance of MYR-denominated securities by nonresidents. Issuance or offering of shares for sale locally by nonresidents requires Securities Commission approval. Approval from Bank Negara Malaysia is also required for issuance of MYR-denominated securities by nonresidents.

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Table 16 *continued*

Market	Capital Inflow			Capital Outflow	
	Money Market Instruments	Bond Market Instruments	Equity Instruments	Resident Investors	Nonresident Investors
Philippines	Registration of money market securities purchased is necessary only if the foreign exchange needed for capital repatriation and remittance of profits and earnings that accrue thereon will be purchased from authorized agent banks and authorized agent banks-foreign exchange corporations. Banks are prohibited from investing in the Bangko Sentral ng Pilipinas Term Deposit Facility funds sourced from nonresidents.	There is no minimum holding period for bonds and other debt securities purchased locally by nonresidents. Banks that wish to issue unsecured subordinated debt must secure the approval of the Bangko Sentral ng Pilipinas.	If at least one of the parties in a securities transaction is a bank or a nonbank financial institution under Bangko Sentral ng Pilipinas supervision, securities purchased must be held by a Bangko Sentral ng Pilipinas-accredited securities custodian or registry or Securities and Exchange Commission-authorized central securities depository that is a third party. Registration of the shares purchased is necessary only if the foreign exchange needed for capital repatriation and remittance of dividends, profits, and earnings thereon will be purchased from authorized agent banks and authorized agent bank-foreign exchange corporations. Investments of residents that require settlement in foreign currency in favor of another resident shall be governed by the rules on resident-to-resident transactions.	Residents are free to invest abroad without restriction. Residents may purchase foreign exchange from authorized agent banks and authorized agent bank-foreign exchange corporations without Bangko Sentral ng Pilipinas approval for investment in bonds or other debt securities money market instruments abroad, provided these do not exceed USD60 million per investor a year when aggregated with other allowable outward investments. Foreign exchange purchases to fund outward investments exceeding the limit require prior Bangko Sentral ng Pilipinas approval. Residents may also purchase foreign exchange from foreign exchange dealers and money changers for outward investment, including investment in bonds and notes of the Philippines and of other Philippine entities requiring settlement in foreign currency, regardless of the amount, with documentation.	Nonresidents may issue bonds and other debt securities locally after approval or license to do business in the Philippines is secured from the appropriate government agency. Nonresidents' issuance of notes and bonds or similar instruments in the domestic market requires Bangko Sentral ng Pilipinas approval before execution. Philippine branches and subsidiaries of foreign banks must inform the Bangko Sentral ng Pilipinas if their parent bank and branches abroad of their parent bank offer or market products in the Philippines that are duly-registered. The shares or securities issued or sold by nonresidents are subject to the same Securities and Exchange Commission approval and registration requirements as those issued by local companies. Payment for redemption of such shares or securities must not, however, involve the purchase of foreign exchange from authorized agent banks and authorized agent bank-foreign exchange corporations. Foreign firms whose securities are listed and traded on a local stock exchange must designate a transfer agent and registrar in the Philippines.
Singapore	There are no restrictions on the purchase of money market instruments.	There is no minimum holding period requirement for debt securities purchased locally by nonresidents.	There are no restrictions on the purchase of equity instruments.	There are no restrictions on investments by residents.	There are no restrictions on sales and issuance of bonds and debt securities locally by nonresidents. Nonresident financial entities must convert proceeds from SGD-denominated loans exceeding SGD5 million, equity listings, and bond issuances to foreign currency before using such funds to finance activities outside Singapore. Offers of capital market securities to investors in Singapore require a prospectus, unless exempt. Offers to institutional and accredited investors, for example, may be exempt under certain conditions. If a prospectus is required, the issuer must lodge and register it with the Monetary Authority of Singapore before offering the securities.

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Table 16 *continued*

Market	Capital Inflow			Capital Outflow	
	Money Market Instruments	Bond Market Instruments	Equity Instruments	Resident Investors	Nonresident Investors
Thailand	Nonresidents may freely invest in THB-denominated money market instruments without a minimum holding period requirement. However, investment in such instruments issued by domestic financial institutions is subject to the overall outstanding borrowing limit of THB10 million for a domestic financial institution from a nonresident group. Domestic financial institutions may not issue or sell bills of exchange denominated in Thai baht to nonresidents.	Nonresidents may invest in THB-denominated debt securities without a minimum holding period requirement. However, investment in THB-denominated bonds issued by domestic financial institutions is subject to the overall outstanding borrowing limit of THB10 million. Nonresident issuers of newly issued bonds must submit an application for approval to the Securities and Exchange Commission and demonstrate that an offer for sale or resale of such bonds will be made to investors in foreign countries. Only finance companies are allowed to issue negotiable certificates of deposit in foreign currency with more than a 1-year maturity for sale to the public abroad or for sale to institutions that are authorized to deal in foreign exchange.	Nonresidents may purchase shares. However, foreign equity participation may be limited if a company engaged in business is subject to the provisions of the Foreign Business Act or other laws. Investment exceeding the limit may be made by holding nonvoting depository receipts. Thai-incorporated companies require Securities and Exchange Commission approval to issue equities for offering abroad.	Institutional investors may invest freely in foreign securities abroad, up to the limit set by each institutional investor's supervisory authority. Effective 16 February 2017, qualified investors in accordance with the Bank of Thailand's definition may invest in securities abroad without the need to go through local intermediaries in the limit up to gross flow of USD1 million a year. Any individuals and corporate investors may invest in foreign securities through private funds, securities companies, or commercial banks holding relevant securities business licenses.	Money market transactions may be made with Ministry of Finance, Bank of Thailand, and Securities and Exchange Commission approval. For THB-denominated debt securities issuances, these transactions may be made with the approval of the Ministry of Finance, Bank of Thailand, and Securities and Exchange Commission. The Ministry of Finance allows foreign entities to issue THB-denominated bonds domestically with a minimum maturity of 3 years. Foreign-currency-denominated debt securities of foreign issuers require Securities and Exchange approval. Foreign-incorporated companies require Securities and Exchange approval to issue equity for offering in Thailand.
Viet Nam	Foreign organizations and individuals must open a portfolio investment capital account denominated in Vietnamese dong to sell or purchase listed securities on the stock exchange. All payments for and receipts from securities transactions must be effected through these accounts. Resident organizations that issue or sell foreign-currency-denominated securities abroad must open a securities issuance account in foreign currency, and payments and receipts must be effected through this account.	Foreign investors can invest in government, government-guaranteed, local government, and corporate bonds without limitation. Companies and government-owned commercial banks must receive approval from the appropriate authority and the State Bank of Vietnam, respectively, before issuing international or foreign bonds that are not guaranteed by the government and must follow guidelines and restrictions.	Foreign organizations and individuals must open a portfolio investment capital account in Vietnamese dong to sell or purchase listed securities on the stock exchange. Payments for and receipts from securities transactions must take place through these accounts. Foreign indirect investment in Viet Nam must continue to be executed in Vietnamese dong through an account at a licensed bank in Viet Nam. Foreign investors must register with, and receive a trading code from, the Vietnam Securities Depository through depository members prior to investing in the Viet Nam stock market.	The State Bank of Vietnam provides guidance on the use of accounts, transfers of investment capital overseas, and transfers of the original capital and profits from outward portfolio investment activities to Viet Nam. Resident individuals and entities may invest abroad in securities, subject to the requirements set by the State Bank of Vietnam.	Foreign organizations' securities offered through initial public offering in Viet Nam must be placed in accordance with the Vietnamese Law on Securities. Prior to taking investment activities in Viet Nam's stock market, foreign investors must register for a trading code with Vietnam Securities Depository through depository members. After receiving a permit to issue securities in Viet Nam, nonresident organizations must open a VND-denominated securities trading account to sell or issue listed securities on the stock exchange. All transactions related to security issuance in Viet Nam must be conducted via this account. Nonresidents must comply with regulations in the Law on Securities and other related regulations on issuing securities by nonresidents in Viet Nam.

CNY = Chinese yuan, KRW = Korean won, MYR = Malaysian ringgit, PRC = People's Republic of China, SGD = Singapore dollar, THB = Thai baht, US = United States, USD = United States dollar, VND = Vietnamese dong.
Sources: Market reports from International Monetary Fund's *Annual Report on Exchange Arrangements and Exchange Restrictions Online.*

bond markets obtained a rating of 3.2 and above except for Viet Nam (2.3) and the Philippines (2.6). For Viet Nam, survey participants rated this factor low as restrictions on investments apply to foreign investors, including foreign banks. Local commercial banks are also restricted from investing in government bonds pending compliance with certain ratios prescribed by the State Bank of Vietnam.

Transparency had a regional average rating of 3.4 for this year's survey versus 3.2 in the 2018 survey. All markets were rated 3.1 or above by survey respondents, except for Viet Nam, which obtained a rating of 2.9.

Among all structural issues, Settlement and Custody was the highest-rated structural factor in emerging East Asia, tallying a score of 3.7. Survey participants gave every economy a rating of 3.2 or above. Survey respondents from Hong Kong, China; the Republic of Korea; Singapore; and Thailand rated it as 4.0, reflecting the sophisticated technology employed in these markets to ensure timely settlement of bond transactions.

Quantitative Indicators for Corporate Bond Markets

Corporate bond markets in the region have developed over the years, both in size and trading activity, but are still considered to be less liquid than government bond markets. In the 2019 survey, most respondents noted an active secondary market for their respective corporate bond markets, albeit with limits due to various factors that determine bond liquidity. Moreover, market conditions have also affected the liquidity of corporate bonds in the region.

As in previous years, respondents from economies that have an active secondary market note that liquidity is still very much concentrated in the higher investment-grade space and is determined by the name and industry origin of the issuer. These factors may also be demand-driven as the largest investors of corporate bonds in the region are still pension funds, insurance companies, and financial institutions that must adhere to internal compliance and regulations. In economies such as the PRC, Indonesia, and Malaysia, liquidity is higher for bonds issued by government-related institutions, particularly those with an attached government guarantee. Given the longer investment duration requirements of large pension funds and insurance companies, particularly for economies like the Republic of Korea, corporate bonds are held for a longer period. For smaller markets such as Indonesia, the Philippines, and Viet Nam, a common behavior among retail investors in terms of trading knowledge and risk appetite is to hold corporate bonds until maturity.

The average size of a corporate bond issuance, or the float, is also a major determinant of liquidity in the market. A larger size tends to translate to relative ease in buying and liquidating bonds. In most markets, trading activity is observed post-issuance, with the amount of time trading remains active varying from a few days to 1–2 months, depending on market conditions and the bond issuer. Investors typically hold the bonds until maturity.

Global market developments and various domestic conditions also affect liquidity in corporate bond markets in the region. In the PRC, recent defaults in the corporate bond market have reduced trading activity for lower-rated bonds, in contrast with prior years when risk appetite for high-yielding, lower-rated bonds was still fairly active. In 2019, trading activity in the PRC has been concentrated among higher-rated bonds. Elsewhere in the region, markets that experienced declining yields in 2019 saw improved liquidity due to profit-taking at certain points in the year.

Despite corporate bond markets in the region remaining less active and underdeveloped than the government bond segment, data and survey results indicate an overall improvement in market liquidity. The regional average bid–ask spread in 2019 fell to 11.6 bps in 2019 from 16.9 bps in 2018 (**Table 17**). All corporate bond markets in the region noted declines in their average bid–ask spreads except for Singapore, Thailand, and Viet Nam. Indonesia, Viet Nam, and the Philippines registered the widest bid–ask spreads. As the smallest corporate bond markets in emerging East Asia, they are still fairly underdeveloped compared with the region's other larger markets.

Viet Nam had the widest average bid–ask spread in the region in 2019 at 70.0 bps. Viet Nam also posted the most significant widening over the 2018 spread, gaining 25.0 bps as its corporate bond market remained illiquid and underdeveloped. The quoted bid–ask spreads in the

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)	168.8	54.6	35.7	47.3	114.2	147.1	197.2	73.6	50.3	98.8
Typical Bid–Ask Spread for Corporate Bonds	Average (bps)	4.0	7.5	21.6	1.2	7.1	32.0	10.8	8.8	70.0	11.6
	SD	1.0	–	5.7	0.4	2.5	19.8	5.2	3.9	42.4	10.2
	CV	0.3	–	0.3	0.4	0.4	0.6	0.5	0.4	0.6	0.9
Typical Transaction Size of LCY Corporate Bonds	Average (USD million)	8.6	5.7	0.8	8.4	1.8	0.3	2.9	1.0	64.6	10.5
	SD	6.5	–	0.2	–	0.7	0.2	0.7	0.6	–	20.6
	CV	0.8	–	0.2	–	0.4	0.6	0.2	0.6	–	2.0

– = 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: For 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* 2019 Annual Bond Market Liquidity Survey.

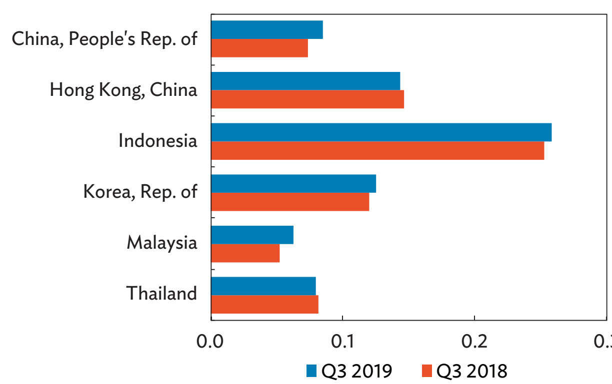
Viet Nam were based on new issuance given the lack of an active secondary market.

The Philippines had the region's second-widest average bid–ask spread at 32.0 bps as investors still tend to hold securities until maturity. However, the average spread narrowed from 65.0 bps in 2018 due to the improvement in liquidity. On the other hand, the Republic of Korea had the tightest bid–ask spread at 1.2 bps, given that it is a structurally developed bond market.

The regional average transaction size was marginally changed at USD10.5 million, compared with USD11.2 million in 2018, as five economies posted larger transaction sizes and four economies registered declines. Viet Nam continued to have the highest average transaction size at USD64.6 million. This was due to the absence of a secondary market, with respondents citing trade volumes based solely on newly issued corporate bonds, which are normally taken up by a small number of underwriters. Excluding Viet Nam, the two largest bond markets in the region—the PRC and the Republic of Korea—had the largest average transaction sizes at USD8.6 million and USD8.4 million, respectively. Correspondingly, the region's two smallest corporate bond markets—Indonesia and the Philippines—continued to have the smallest average transaction sizes at USD0.8 million and USD0.3 million, respectively. The region's average issue size was up slightly in 2019 to USD98.8 million from USD91.8 million in 2018, as all markets posted larger average issuances except for Hong Kong, China; Indonesia; and Thailand.

Turnover ratios for the corporate bond markets in the region for which data are available were marginally up in 2019, with the exception of Thailand and Hong Kong, China. The PRC registered the largest increase in its turnover ratio—from 0.07 to 0.08—due to higher trading volume in 2019 than in 2018 (**Figure 24**). Indonesia, the Republic of Korea, and Malaysia also posted slightly higher turnover ratios in 2019 on higher trading volumes.

Figure 24: 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, data for third quarter of 2019 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

The PRC corporate bond market was fairly liquid in 2019, according to market participants surveyed. However, trading was uneven due to heightened risk aversion amid a number of bond defaults in both 2018 and 2019. As a result, trading activity has been largely confined to higher-rated corporates. Market participants have noted that this is a positive development as it will lead to better pricing of credit risk. Heightened risk aversion also led to increased investor interest in Credit Risk Mitigation Warrants (CMRW) as a way of hedging credit risk. However, market participants noted that problems with the CMRW remain, limiting their usefulness as a hedging tool. One example is that, unlike the traditional credit default swap, CMRW protection is tied to a specific bond issued by a corporation, whereas a credit default swap typically covers all bonds issued by a corporation.

Movements in bid–ask spreads were mixed in the PRC in 2019. Bid–ask spreads for enterprise bonds rose to 9.7 bps from 6.1 bps in 2018, while bid–ask spreads for listed corporate bonds fell to 9.7 bps from 11.4 bps in 2018 (**Table 18**).

Bid–ask spreads for medium-term notes fell to 4.0 bps in 2019 from 9.2 bps in the previous year, while spreads for commercial paper fell to 2.3 bps from 7.9 bps. Bank bonds saw a rise in bid–ask spreads to 10.2 bps from 8.9 bps during the review period.

Movements in average trading sizes for different corporate bonds were also mixed, with the average trading size rising to CNY61.7 million for enterprise bonds, medium-term notes, and commercial paper from CNY33.3 million, CNY27.2 million, and CNY37.8 million, respectively. In contrast, average trading size fell for bank bonds and was roughly unchanged for listed corporate bonds.

Indonesia

Survey respondents noted improved liquidity conditions for corporate bonds in 2019 compared with last year in line with the overall positive sentiment in the LCY bond market in Indonesia amid the low-interest-rate environment. Market participants provided mixed responses when asked if there was an active secondary market for corporate bonds. Some noted that there is an active secondary market for corporate bonds. However, liquidity in this market segment pales in comparison with that of its government counterpart, partly due to the limited issuance size of corporate bonds. Most corporates in Indonesia issue in multiple tranches, with most tranches having a size of IDR1 billion or less. A single tranche could easily be taken up in full by the underwriter or by only a few investors.

The average bid–ask spread for corporate bonds narrowed to 21.6 bps in 2019 from 24.0 bps in 2018 (**Table 19**). Some participants explained that bid–ask spreads could widen to as much as 25–30 bps depending on the issuer's name, tenor, and credit ratings. Financial companies and banking institutions rated AAA would normally command a narrower spread over those corporates from other industries and/or with a lower rating. State-owned companies also garner narrower spreads than other firms due to the ultimate guarantee provided by the government.

Survey respondents noted that while there is an active secondary market for corporate bonds, there are also times when it is difficult to find bonds to trade. The corporate bond market largely comprises investors who buy and hold bonds until maturity. Even banking

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

	Enterprise Bonds	Local Corporate Bonds	MTNs	Commercial Bank Bonds	Commercial Paper
Average Issue Size (CNY million)	895.8	1,068.3	1,206.6	4,135.4	1,015.9
Bid–Ask Spread (bps)	9.7	9.7	4.0	10.2	2.3
Average Trading Size (CNY million)	61.7	30.0	61.7	33.3	61.7

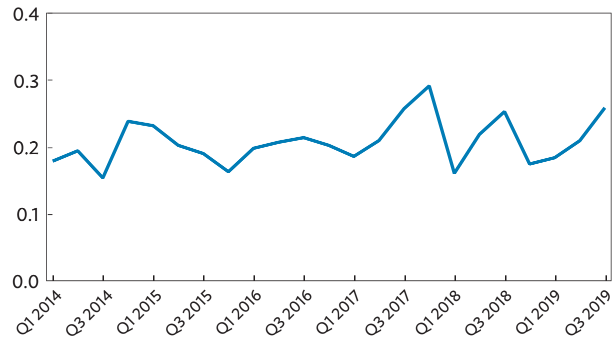
bps = basis points, CNY = Chinese yuan, MTNs = medium-term notes.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

Table 19: Local Currency Corporate Bond Survey Results—Indonesia

	Corporate Bonds
Average Issue Size (IDR billion)	506.6
Bid–Ask Spread (bps)	
Corporate Bond	21.6
Newly Issued Corporate Bond	18.8
Average Trading Size (IDR billion)	
Corporate Bond	11.7
Newly Issued Corporate Bond	15.0

bps = basis points, IDR = Indonesian rupiah.
Sources: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey and Indonesia Stock Exchange.

Figure 25: Quarterly Government Bond Turnover Ratios in Indonesia



Q1 = first quarter, Q3 = third quarter.
Note: Data for Q3 2019 based on *AsianBondsOnline* estimates.
Sources: Indonesia Stock Exchange and *AsianBondsOnline*.

institutions purchase bonds for their books and hold them until redemption.

Some respondents to the 2019 survey perceived that there is no active secondary market for corporate bonds. As such, the bid–ask spreads they cited were that for newly issued corporate bonds. In their view, bid–ask spreads for newly issued corporate bonds could vary depending on the tenor and issue, with some reaching as high as 25 bps. Liquidity for newly issued corporate bond is also quite limited, with some corporate bonds being traded during a period as short as a few days to up to 2 months.

Most survey respondents cited issuer name and credit rating as crucial factors for determining liquidity in the corporate bond market. Bonds issued by state-owned firms, or those with government support, had greater liquidity compared with other corporates. Bonds from banks and financial institutions also command higher liquidity than bonds from other industries. Some participants also mentioned issue size as an important factor for determining liquidity. Firms who frequently tapped the bond market normally attract more liquidity over those who have only issued once or twice, as investors are more confident trading the bonds of corporates who issue frequently.

The average single trade transaction size for corporate bonds was slightly lower in 2019 at IDR11.7 billion versus IDR12.5 billion in 2018. On the other hand, for a newly issued corporate bond, the average single trade transaction size was up in 2019. In terms of typical issue size, the average fell to IDR506.6 billion in 2019 from IDR540.9 billion in 2018. Trading activity slightly picked up in the first 3 quarters of the year, with total trade volume rising 8.0% to IDR275.5 billion. The quarterly turnover ratio exhibited a rising trend throughout 2019, climbing to 0.26 in Q3 2019 from 0.17 in the fourth quarter of 2018 (**Figure 25**).

To help improve liquidity in the corporate bond market, survey respondents identified the need to increase the market's overall size. In line with this, market participants suggested streamlining the lengthy procedures required for issuing bonds. Corporate issuers are discouraged from tapping the bond market for funding as it takes about 3–4 months for the entire process. Thus, some corporates opt for bank loans instead. Some survey respondents also suggested the need for market makers for corporate bonds.

Republic of Korea

In the Republic of Korea, survey respondents noted higher trading activity in the corporate bond market at the start of 2019 with a slowdown as the year progressed. The average bid–ask spread for corporate bonds fell to 1.2 bps in 2019 from 1.9 bps in 2018 (**Table 20**). Meanwhile, the average trading size in 2019 was almost at par with last year's at KRW10 billion.

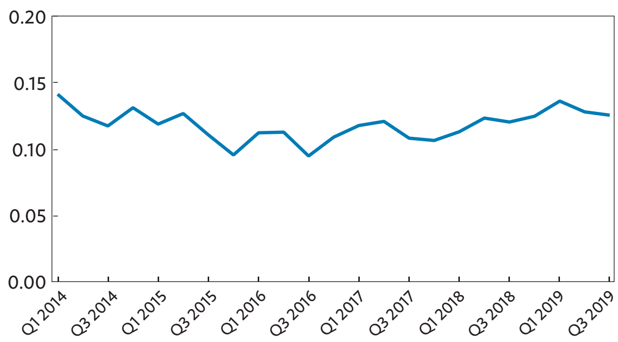
The quarterly turnover ratios for 2019 were slightly up, particularly in Q1 2019. Trading volume for the first 9 months of 2019 was also up 16.6% y-o-y to KRW531.7 trillion (**Figure 26**). Meanwhile, the average corporate bonds outstanding only grew 8.6% y-o-y.

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

	Corporate Bonds
Average Issue Size (KRW billion)	56.6
Bid–Ask Spread (bps)	1.2
Average Trading Size (KRW billion)	10.0

bps = basis points, KRW = Korean won.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

Figure 26: Turnover Ratio for Corporate Bonds in the Republic of Korea



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

LCY corporate bond trading volumes in the Republic of Korea remained lower than in the government bond market. The driver of trading activity in the corporate bond market in 2019 was the decline in yields and the attractiveness of corporate bonds due to their relatively higher yields. Trading is still very much concentrated in the highly-rated corporate bonds space, particularly AA– and higher. This trend is highly demand-driven given that major investors such as insurance companies and pension funds have internal compliance requirements. Credit rating and issuer name remain the main factors determining the attractiveness and liquidity of corporate bonds in the Republic of Korea.

Malaysia

Liquidity in the Malaysian LCY corporate bond improved in 2019. However, most survey respondents see an inactive secondary market for trading corporate bonds as liquidity is limited to investment-grade paper.

Improved liquidity in the LCY corporate bond market was noted in this year's survey as investor confidence in Malaysia returned. Compared with the previous year, the average issue size increased to MYR478.3 million from MYR397.6 million as corporations took advantage of the low-interest-rate environment (**Table 21**). Against this backdrop, several companies have set up medium-term note programs to be prepared to issue once they see favorable market conditions. The average bid–ask spread decreased to 7.1 bps in 2019 from 8.0 bps in 2018, while the average trading size increased to MYR7.5 million from MYR5.1 million.

Table 21: Local Currency Corporate Bond Survey Results—Malaysia

	Corporate Bonds
Average Issue Size (MYR million)	478.3
Bid–Ask Spread (bps)	7.1
Average Trading Size (MYR million)	7.5

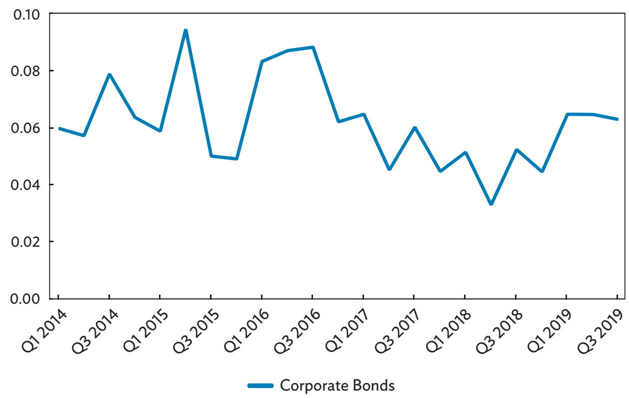
bps = basis points, MYR = Malaysian ringgit.
Sources: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey and Bank Negara Malaysia Fully Automated System for Issuing/Tendering.

The liquidity of LCY corporate bonds mainly depends on the credit rating of the issuance. Investment-grade ratings are favored by investors in Malaysia. Issuer name, the frequency of issuance, and issuance size also determine a bond's liquidity. More seasoned and frequent issuers attract more investor confidence. Large issuance sizes allow the bond supply to meet investor demand in the market.

The turnover ratio for corporate bonds slightly increased to 0.06 in Q3 2019 from 0.05 in Q3 2018 as the growth in the quarterly trading volume of corporate bonds outpaced the increase in quarterly average corporate bonds outstanding (**Figure 27**). The jump in quarterly trading volume to MYR44.5 billion in Q3 2019 from MYR34.0 billion in Q3 2018 occurred as post-election jitters subsided. Investors see it as a positive sign that infrastructure projects are slowly being rolled out following the new government's review of the past administration's projects. Quarterly average corporate bonds outstanding increased to MYR708.2 billion in Q3 2019 from MYR649.9 billion in Q3 2018.

The LCY corporate bond market in Malaysia has been doing well, with local investors preferring Islamic bonds over conventional ones due to the former's marketability, liquidity, and availability. Survey respondents, however, want to see government initiatives to improve market perceptions of and appreciation for hedging mechanisms.

Figure 27: Quarterly Corporate Bond Turnover Ratio in Malaysia



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

They also noted that the LCY corporate bond market could be further improved by encouraging foreign participation to broaden the investor base.

Philippines

Most survey respondents noted an active corporate bond market in the Philippines, though it is still not as liquid nor as developed as the government bond market. Liquidity in the Philippine corporate bond market improved in 2019 versus 2018. The average bid–ask spread for corporate bonds remained wide but declined to 32 bps from 65 bps in 2018 (**Table 22**). The average trading size also saw improvement, rising to PHP14.2 million in 2019 from PHP6.9 million in the previous year.

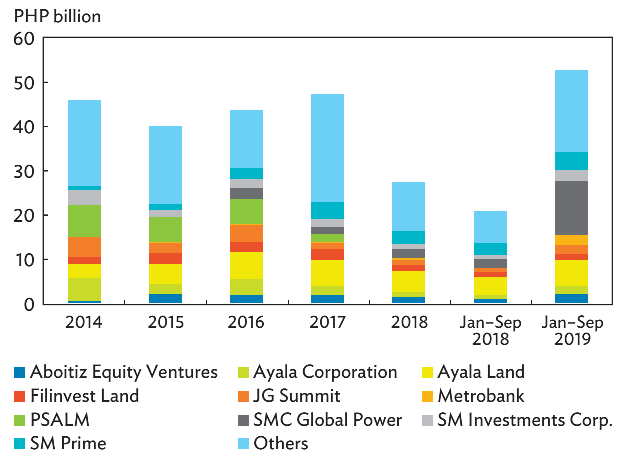
Trading volume data from the Philippine Dealing and Exchange Corporation for listed corporate bonds in its platform show that the aggregate trading volume of corporate bonds surged to PHP52.7 billion in the first 9 months of 2019, up from PHP20.9 billion in the same period in 2018 and PHP27.4 billion for full-year 2018 (**Figure 28**). This development can be attributed to the

Table 22: Local Currency Corporate Bond Survey Results—Philippines

	Corporate Bonds
Average Issue Size (PHP million)	7,627.0
Bid–Ask Spread (bps)	32.0
Average Trading Size (PHP million)	14.2

bps = basis points, PHP = Philippine peso.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

Figure 28: Philippine Dealing and Exchange Corporation Trading Volume Trends—Corporate Bonds in the Philippines



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

larger volume of issuance in 2019, which amounted to PHP316.4 billion during the first 3 quarters of 2019, up from PHP159.2 billion in the same period last year.

Corporate bonds issued by SMC Global Power registered the highest aggregate trading volume during the first 9 months of 2019 at PHP12.4 billion, driven by a large issuance totaling PHP30.0 billion in April. Data show that trading volume was particularly high in May, remaining high in both June and July. The other largely traded securities in the review period include Ayala Land (PHP5.9 billion), SM Prime (PHP4.2 billion), and SM Investments Corp. (PHP2.4 billion).

This trend of limited secondary trading in corporate bonds is one of the primary reasons why the Philippine corporate bond market is still considered underdeveloped. Secondary trading activity has improved over the years, but domestic corporate bonds remain a hold-to-maturity investment given their high returns relative to government bonds. Market participants cited issuer name, coupon rate, credit rating, and the issue float as the primary determinants of liquidity. Bonds from companies with a high credit rating and with relatively large offer sizes are the most liquid and may even have some secondary market trading upon issuance. However, most survey respondents noted that such trading generally only lasts for 1 month.

Singapore

The Singapore LCY corporate bond market was lackluster in 2019. Most survey participants agreed that Singapore has an active secondary market for trading corporate bonds due to the presence of market makers. However, the environment is not ideal in terms of liquidity and trading as the supply of corporate bonds does not match existing demand. Issue sizes have been small, causing secondary liquidity to quickly dry up.

The average issue size increased to SGD272.5 million in 2019 from SGD259.0 million in 2018 as corporations took advantage of the low-interest-rate environment (**Table 23**). The average bid–ask spread, however, increased to 10.8 bps from 6.0 bps, while the average trading size declined to SGD4.1 million from SGD4.7 million. The increased spread and subdued trading size support survey respondents' assessment that trading has been tight, as investors have been risk-averse amid the weakening global economy.

Table 23: Local Currency Corporate Bond Survey Results—Singapore

	Corporate Bonds
Average Issue Size (SGD million)	272.5
Bid–Ask Spread (bps)	10.8
Average Trading Size (SGD million)	4.1

bps = basis points, SGD = Singapore dollar.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

The liquidity of corporate bonds continues to depend on the issuer's name. More seasoned issuers tend to be more liquid. Bond ratings, however, are not significant in terms of liquidity, as most corporate bonds in Singapore are unrated. Institutional investors prefer rated ones, but retail investors are largely indifferent and continue to invest even in unrated corporate bonds. At present, issuers do not have an incentive to have their bonds rated.

To improve the LCY corporate bond market, survey respondents believe that corporate issuers should have their bonds rated. This would help build investor confidence and widen the investor base. More and bigger issuances would help deepen the LCY corporate bond market. Following global trends, some survey respondents recommended the issuance of corporate bonds that incorporate environmental, social, and corporate governance objectives.

Thailand

Though not as liquid as government bonds, trading activity in Thailand's corporate bond market has increased steadily over the years, according to survey respondents. Liquidity in the corporate bond market generally increased in 2019, particularly for long-term tenors. The average daily trading volume rose moderately to THB5.1 billion in January–September from THB4.9 billion in the same period in 2018. Survey respondents noted that in 2019, secondary market trading was particularly active for tenors of less than 3 years and for securities with a credit rating of A– or higher.

At the end of June, the top four holders of corporate bonds were individual investors (31.0%), insurance companies (18.0%), mutual funds (13.0%), and the government pension fund and provident fund (12.0%). In terms of trading activities, asset management companies have been the most active players in 2019, accounting for 78.0% of total trading.

The average bid–ask spread for trading corporate bonds in 2019 was 8.8, while the average trading size was THB31.3 million (**Table 24**). Compared with 2018, the average bid–ask spread widened from 6.6 bps, while the average trading size increased from THB20.8 million. The corporate turnover ratio was 0.08 in Q3 2019, the same rate posted in Q3 2018. Trading volume rose to THB291.2 billion in Q3 2019 from THB271.5 billion in Q3 2018 (**Figure 29**).

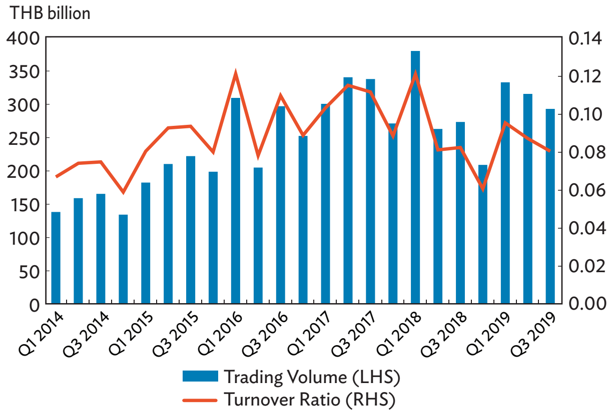
According to market participants, liquidity for newly issued corporate bonds usually lasts from 1 week to 3 months. Liquidity is driven by several factors including issuer name, tenor, and credit rating. Short-term paper with tenors of less than 1 year tend to be very liquid

Table 24: Local Currency Corporate Bond Survey Results—Thailand

	Corporate Bonds
Average Issue Size (THB million)	2,252.4
Bid–Ask Spread (bps)	8.8
Average Trading Size (THB million)	31.3

bps = basis points, THB = Thai baht.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.

Figure 29: 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, Q3 = third quarter.
Note: Q3 2019 figures are from preliminary data.
Sources: Bank of Thailand and Thai Bond Market Association.

since money market funds, which invest in short-term instruments, can actively trade them. Corporate bonds with credit a rating of A– or above tend to be more liquid than those with a lower rating. Individual investors, the primary holder of corporate bonds with a 31.0% share of the total, tend to buy and hold corporate bonds.

Survey respondents identified the recent tax amendment, which imposed a 15% withholding tax on gross income from investment in mutual funds, as an important regulatory development that could have a significant impact on corporate bond liquidity. The new tax was implemented on 22 August and directly affects mutual funds, with the most active players accounting for about 78% of total corporate bond trading and holding about 13% of total corporate bonds. One respondent observed that trading activity in short-term commercial paper had already declined slightly under the new tax rule. Most participants predict that the impact of the new tax will be more pronounced in the next 1–2 years.

Viet Nam

Survey respondents noted that the corporate bond market in Viet Nam remained illiquid in 2019. There is hardly a secondary market for the trading of corporate bonds. Most corporate bond issues are sold at issuance and held until maturity by investors. While the buy-and-hold approach is quite typical of other corporate bonds in the region, survey respondents shared that in Viet Nam, after the primary offering, there is little or no trading.

The average bid–ask spread for newly issued corporate bonds climbed to 70.0 bps in 2019 from 45.0 bps in 2018. The wider bid–ask spread reflected the generally illiquid nature of Viet Nam's corporate bond market. Some respondents mentioned that the bid–ask spread could rise as high as 100 bps for some issues.

In terms of transaction size, a slight decline was noted compared with 2018, but the average transaction size remained large at between VND1.0 trillion and VND2.0 trillion. Large transaction sizes stem from issuances usually being fully taken up at the time of offering either by the underwriter or by one or two investors, resulting in the bonds being traded as an entire lot.

Most survey respondents believed that credit rating and issuer name are important factors for determining liquidity for corporate bonds. But since a credit rating is not required, only a few corporate bonds in Viet Nam have been rated. Large corporates with bank affiliations also obtain better liquidity and support when they issue bonds.

Most qualitative indicators for Viet Nam's corporate bond market were rated low or fairly low by most survey participants in 2019, indicating the need for its further deepening and development. The lowest rating was tallied for Hedging Mechanisms (1.5), as there are no hedging tools available to guard against risk. Market Access was also rated low at 1.8. All other structural issues were rated fairly low at between 2.0 and 2.2, except for Transaction Funding, which obtained an average score of 2.8.

Qualitative Indicators for Corporate Bond Markets

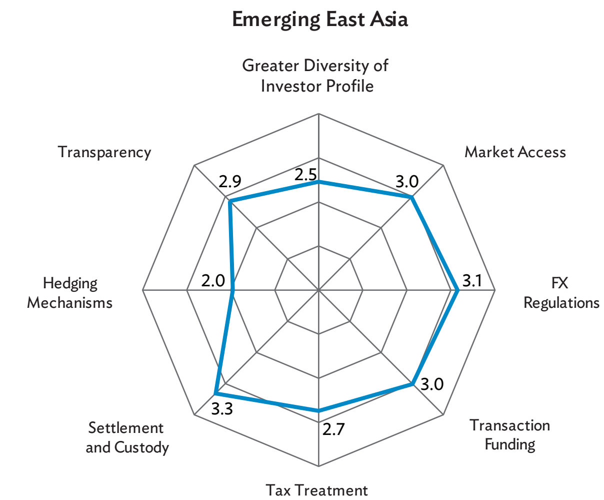
For emerging East Asia in general, corporate bond liquidity lags that of government bonds as nearly all bond markets in the region are still in the developing stage in which the government segment tends to develop ahead of the corporate segment.

There are considerably more challenges in developing corporate bond markets as opposed to government bond markets. One factor is that in government bond markets' issuance is dominated by the central government. For corporate bonds, different firms will issue bonds with differing characteristics in terms of credit rating and issue size, among others. Corporate bonds tend to be issued in volumes smaller than that of government bonds, which has an impact on liquidity as well. Depending on the degree of regulation, issuances in the corporate bond market may also be constrained, making bond issuance more tedious for corporates.

The variety of issuers also means that additional effort must be made to evaluate credit worthiness and the likelihood of repayment. Typically, the risk of nonpayment is held to be virtually nil for government bonds; the same cannot be said for corporate bonds.

The regional averages for structural issues show that emerging East Asia's corporate bonds scored the highest in Settlement and Custody (3.3), FX Regulations (3.1), Market Access (3.0), and Transaction Funding (3.0) (**Figure 30**).

Figure 30: 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* 2019 Annual Bond Market Liquidity Survey.

Settlement and Custody received a high average score due to improvements in technology that have made trading easier, such as the use of delivery-versus-payment and online communication for trading. In fact, all markets scored at least 3.0 in this category except for the Philippines (2.9) and Viet Nam (2.0) (**Figure 31**).

FX Regulations had the next highest regional average at 3.1, reflecting the ongoing liberalization of bond markets to enable more participation by foreign investors. Among individual markets, Hong Kong, China received the highest score possible (4.0), reflecting its status as an international finance center. The Republic of Korea was the next highest at 3.7, followed by Singapore at 3.5, reflecting financial market development in both of these economies as well.

Market Access had a regional average of 3.0. Again, Hong Kong, China attained the region's highest score at 4.0, with the Republic of Korea next at 3.6.

Transaction Funding received a regional average of 3.0, with most markets scoring fairly well except for Thailand (2.3), the Philippines (2.6), and Viet Nam (2.8).

One area in which the regional corporate bond market tends to score poorly is Hedging Mechanisms, with a regional average of only 2.0. In general, investors consider credit risk one of the biggest risk factors when investing in corporate bonds. In all emerging East Asian markets, there is a lack of a credit risk hedging tool such as credit default swaps. The PRC, which earned one of the lowest scores at 1.5, has had its corporate bond market rocked by multiple corporate defaults since 2018. These defaults have resulted in increased investor interest in a new hedging tool known as CMRW. However, the PRC still scored poorly in this category in 2019 as market participants believe that the limitations of CMRW constrain their usefulness.

Another area that the region's corporate bond markets scored relatively poorly in is Greater Diversity of Investor Profile, with a regional average of 2.5. This is because corporate bonds tend to carry credit risk, and credit risk evaluation poses challenges for investors, particularly foreign investors. As a result, the foreign investor share of the corporate bond market tends to be lower than for government bond markets.

The regional average for Tax Treatment was 2.7 in 2019. The markets that scored the highest were Hong Kong, China (3.5); Singapore (3.5); Malaysia (3.3); and the Republic of Korea (3.0); all of which are highly developed and fairly liberalized bond markets. Thailand scored the lowest at 1.8 due to a new withholding tax for funds investing in bonds, including corporate bonds.

Figure 31: Structural Issues for Individual Local Currency Corporate Bond Markets

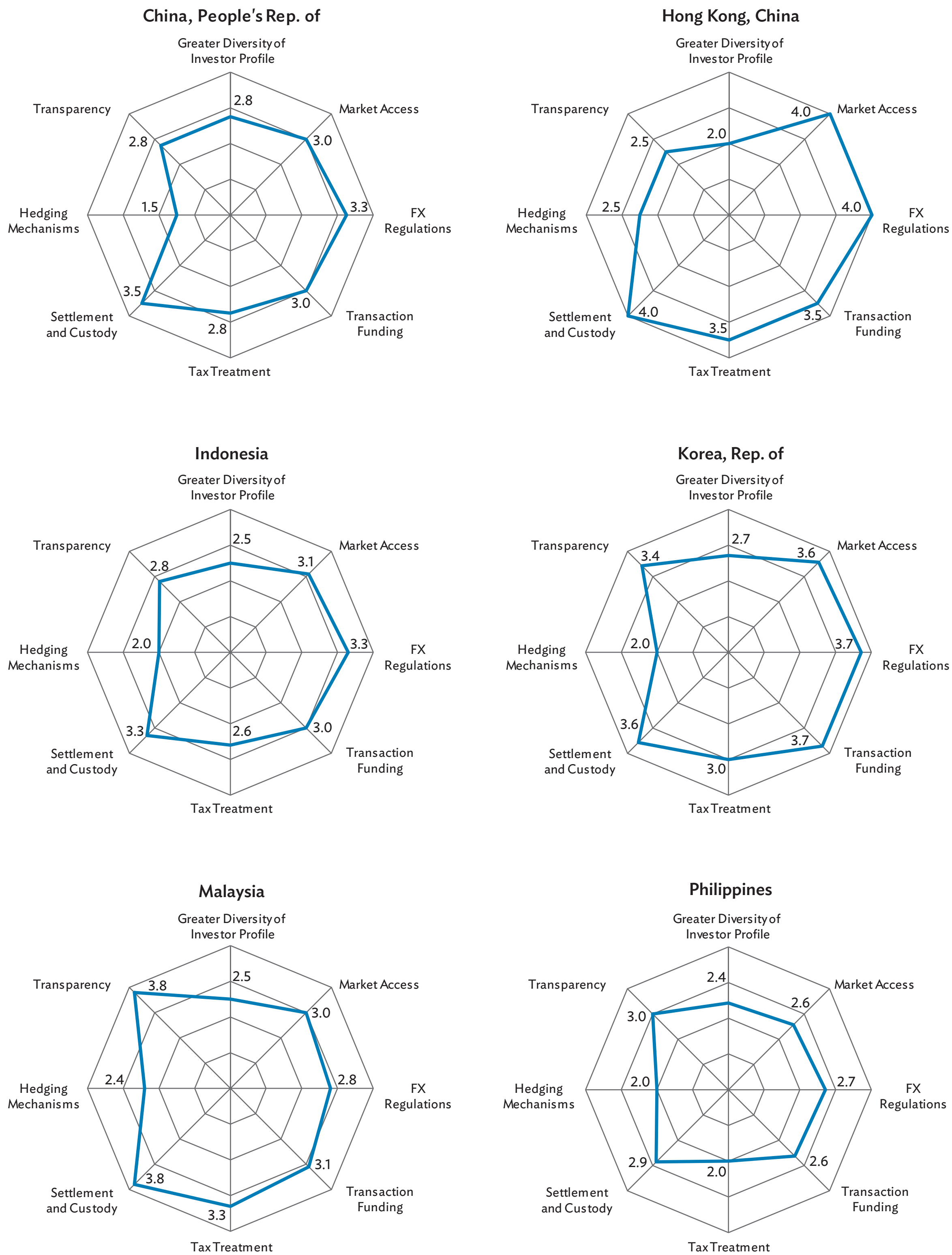


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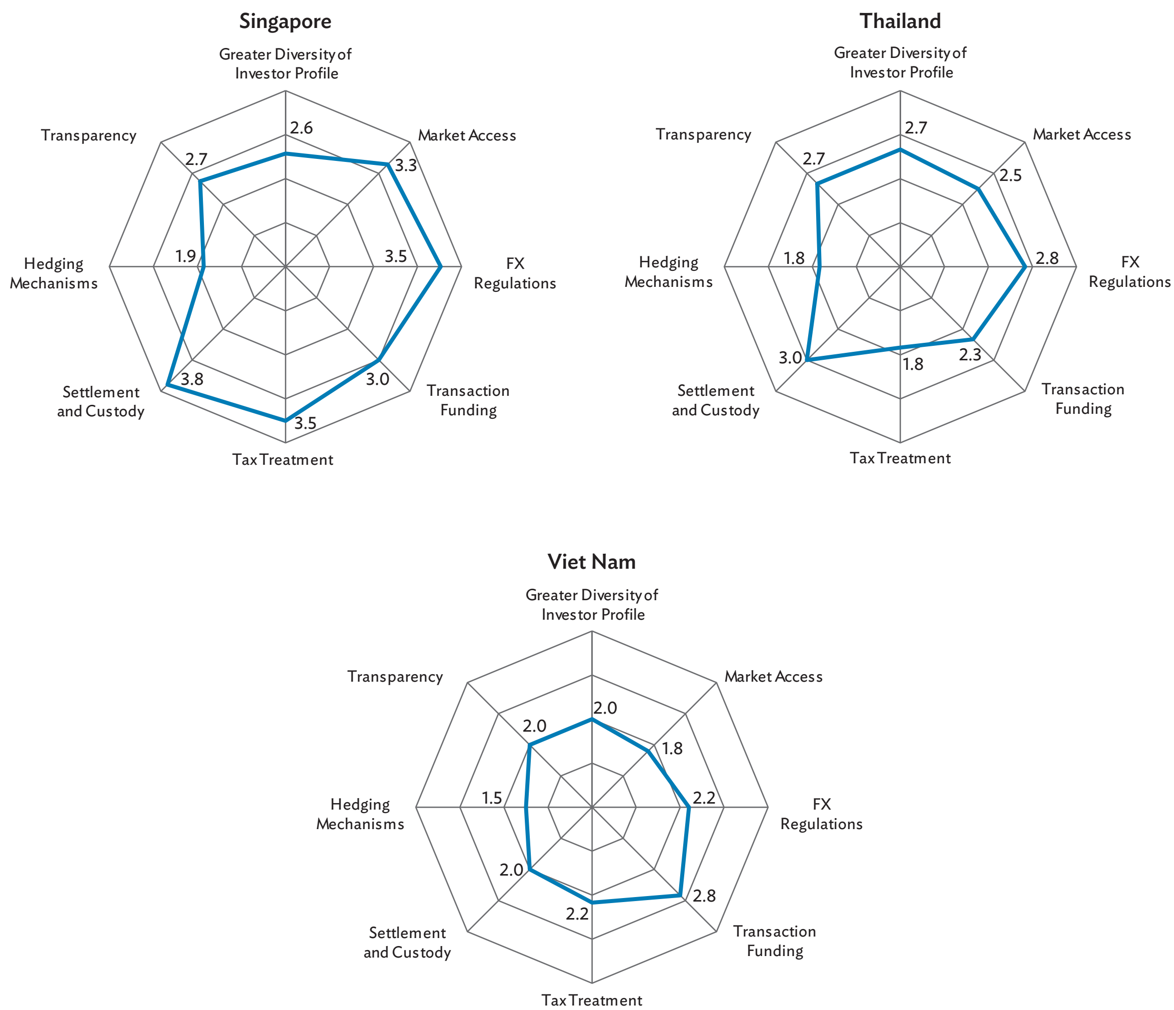
Figure 31 *continued*



FX = foreign exchange.
Source: *AsianBondsOnline* 2019 Annual Bond Market Liquidity Survey.