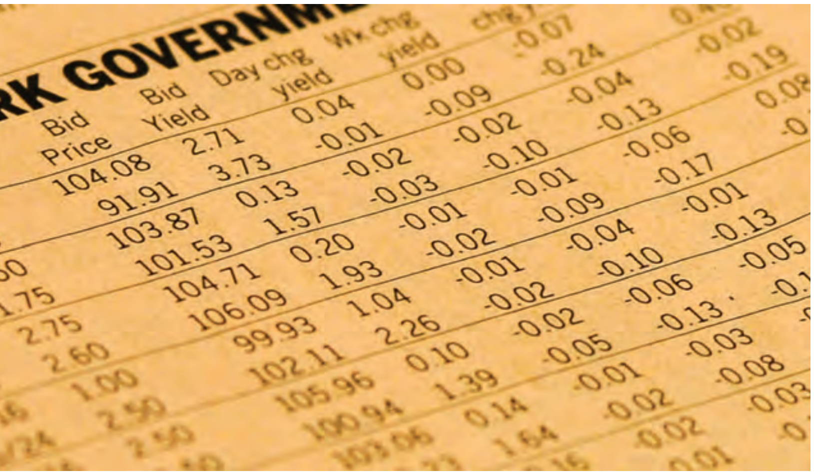

ASIA BOND MONITOR

NOVEMBER 2018

ASIAN DEVELOPMENT BANK

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Emerging East Asian Local Currency Bond Markets: A Regional Update

Highlights

Key Trends

- Local currency (LCY) bond yields rose in most economies in emerging East Asia between 31 August and 15 October on the back of continued interest rate hikes by the United States (US) Federal Reserve. The exceptions were the People's Republic of China (PRC) and Viet Nam, where 2-year and 10-year yields fell.
- In the PRC, the fall in yields followed reserve requirement ratio cuts by the central bank, with the latest coming on 7 October. In Viet Nam, yields fell amid improved interbank liquidity.
- The global outlook remains positive, particularly in the US. While economic growth has slowed somewhat in the euro area, the European Central Bank is on track to end monthly asset purchases after December.
- All equity markets in the region fell during the review period in line with the sell-off in US equity markets in October. The sharp rise in US Treasuries in early October, combined with other factors such as ongoing global trade tensions and the Federal Reserve's interest rate hikes, prompted the sell-off in equities in the US and across the region. Equity markets fell further a week later after the International Monetary Fund cut its growth forecasts for the PRC and the US due to their ongoing trade dispute.
- All emerging East Asian currencies depreciated during the review period except for the Hong Kong dollar and the Thai baht, which were relatively stable. A stronger US dollar, driven by robust US economic growth, continued to weigh on regional currencies. The recent slump in equity markets in October further weakened local currencies as foreign investors pulled out from the region.
- Credit default swap spreads in the region remained relatively stable as global risk aversion toward emerging markets receded somewhat. However, in most markets in the region, the sharp rise in US Treasury yields in early October resulted in an uptick in credit default swap spreads which have since remained elevated.
- Foreign holdings of LCY government bonds slightly fell across emerging East Asia in the third quarter of 2018, except in the PRC where the share of foreign holdings rose due to ongoing bond market liberalization; and slightly in the Philippines. However, the foreign holdings share of the PRC's LCY government bonds outstanding remained relatively small at around 5%.
- Emerging East Asia's LCY bond market expanded 4.3% q-o-q in the third quarter of 2018 to reach a size of USD12.8 trillion at the end September. The PRC continued to drive the region's bond market expansion.

Risks to the Bond Market

- Downside risks to emerging East Asian bond markets are increasing. One immediate concern is elevated risk aversion toward emerging markets, highlighted by the sharp depreciation of the Argentine peso and Turkish lira since the beginning of the year.
- The pace of US monetary policy normalization may occur more rapidly than what the markets expect. Faster-than-expected normalization cannot be discounted given the current strength of the US economy.
- Finally, while the global economy is growing at a healthy pace, escalating trade tensions could adversely affect the growth outlook.

AsianBondsOnline Annual Bond Market Liquidity Survey

- *AsianBondsOnline* conducts a survey once a year to assess liquidity conditions in the region's LCY bond market. This year's survey was conducted between the last week of September and the first 2 weeks of October.
- The overall assessment of market participants was that liquidity conditions were mixed. Stable to slightly worse liquidity conditions were noted in Indonesia, the Republic of Korea, Malaysia, and the Philippines. Better liquidity conditions were noted in the PRC; Hong Kong, China; Singapore; Thailand; and Viet Nam.
- Among qualitative indicators, the lack of well-functioning hedging mechanisms for both government and corporate bonds was identified as the most important common structural issue that requires attention from regional authorities.

Theme Chapter: Assessing the Impact of the Asian Bond Markets Initiative on Bond Market Development in Asia

- The theme chapter empirically examines the role of the Asian Bond Markets Initiative (ABMI) on bond markets in Asia. While the impact of ABMI on the region's bond markets is widely recognized, there have been very few empirical assessments. To assess the impact, the theme chapter analyzes and compares the bond market development paths of Asia and Latin America.
- After controlling for the major determinants of bond market development, the empirical results indicate that ABMI has significantly contributed to corporate bond market development in Asia by facilitating more issuance of corporate bonds. However, due to strict regulations on transactions in domestic currencies with and between nonresidents, most Asian economies are not yet able to borrow abroad in their respective domestic currency even though their LCY bond market has grown in size.

Executive Summary

Emerging East Asia's Bond Yields Rise

Local currency (LCY) bond yields rose in all economies in emerging East Asia between 31 August and 15 October, on the back of continued interest rate hikes in the United States (US).[1] The exceptions were the People's Republic of China (PRC), as its central bank reduced reserve requirement ratios, and Viet Nam, which experienced increased interbank liquidity.

The US Federal Reserve continued to hike its policy rate amid the ongoing strengthening of the domestic economy. In the euro area, the European Central Bank reduced its monthly asset purchases to EUR15 billion beginning in October, and will discontinue the program after December. The European Central Bank noted that the end of its asset purchase program would still be conditional on incoming economic data, as growth in the third quarter (Q3) of 2018 slowed further. In Japan, the economy posted strong gross domestic product growth in Q2 2018, reversing the previous quarter's contraction.

Downside risks to emerging East Asia's bond markets are rising. Risk aversion toward emerging market economies has heightened, with the markets of Argentina and Turkey being the most affected. Another risk is the potential for faster-than-expected policy rates hikes in the US given the strength of its economy. Lastly, while global economic growth remains robust, trade tensions could cloud the outlook.

This issue of the *Asia Bond Monitor* includes a theme chapter on the impact of the Asian Bond Markets Initiative (ABMI) on the region's bond market development, a special chapter detailing the results from the *AsianBondsOnline* annual bond market liquidity survey, and three special discussion boxes. Box 1 discusses the Cagamas model in housing financing in Malaysia. Box 2 explores the use of distributed ledger technology in the financial sector. Box 3 examines the relationship between financial cycles and real-economy business cycles.

Local Currency Bond Markets in Emerging East Asia Expand in Q3 2018

Emerging East Asia's local currency (LCY) bond market expanded 4.3% quarter-on-quarter (q-o-q) in the third quarter (Q3) of 2018 to reach a size of USD12.8 trillion at the end of September. This growth rate was higher than the 3.2% q-o-q increase posted in Q2 2018. The PRC continued to drive the region's bond market development, being the largest bond market in emerging East Asia at USD9.2 trillion and comprising 72% of the regional total. The amount of its outstanding bonds rose 5.7% q-o-q in Q3 2018 due to a rebound in issuance in both the government and corporate bond segments. Growth was largely driven by the surge in the issuance of "special bonds" by local governments for infrastructure projects. This program is part of efforts by the government to boost growth amid a slowdown in economic activity and risks posed by ongoing trade disputes with the US.

The aggregate LCY bond market size for Association of Southeast Asian Nations member economies, for which data are available, reached USD1.3 trillion at the end of September on 2.2% q-o-q growth. All economies posted positive q-o-q growth rates in Q3 2018. Thailand remained home to the largest bond market in the Association of Southeast Asian Nations.

The region's bond markets mainly comprise government bonds, which reached an aggregate amount of USD8.6 trillion at the end September on growth of 5.0% q-o-q. Corporate bonds amounted to USD4.2 trillion and posted slower growth of 3.0% q-o-q.

As a share of regional gross domestic product, emerging East Asia's LCY bond market rose to 73.1% in Q3 2018 from 71.2% in the previous quarter. The Republic of Korea and Malaysia continued to have the highest shares in the region at 127.0% and 96.7%, respectively.

[1] 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.

Despite tepid issuance in a number of markets that posted q-o-q declines in issuance volume, the region as a whole posted 13.5% q-o-q growth in bond issuance in Q3 2018. The expansion was driven by issuance growth of 27.4% in the PRC, the region's biggest market.

Foreign Holdings in LCY Bond Markets in Emerging East Asia Stabilize in Q3 2018

The shares of foreign investor holdings in LCY bond markets in emerging East Asia stabilized in Q3 2018 as investor sentiments toward the region generally improved. In line with this, net foreign bond inflows were registered for most markets in the region in Q3 2018, with July having the strongest monthly inflows.

The LCY bond markets in Malaysia and Indonesia saw foreign holdings as a share of the total slightly easing in Q3 2018. In Malaysia, investor confidence eventually improved after the May elections but was still dampened by external volatility. The steps taken by Bank Indonesia to defend its currency somewhat improved investor sentiment, resulting in a rise in its foreign investor holdings. However, the amount of outstanding bonds rose at a faster pace.

Foreign holdings in the PRC, while still small as a share of the total, continued to rise on the back of the gradual liberalization of its bond market. In the Philippines, foreign holdings inched upward from a marginal base as the aggressive rate hikes by the Bangko Sentral ng Pilipinas helped temper investor concerns. The Republic of Korea and Thailand registered slight increases in their respective foreign holding shares in Q2 2018, the latest quarter for which data are available.

AsianBondsOnline Annual Bond Market Liquidity Survey

AsianBondsOnline conducts an annual survey to assess liquidity conditions in the region's LCY bond markets and to identify potential issues that impact their further development. This year's survey was conducted between the last week of September and the first 2 weeks of October.

The overall liquidity condition assessment of market participants was mixed. Stable to slightly worse liquidity conditions were noted in Indonesia, the Republic of Korea, Malaysia, and the Philippines, largely due to continued rate hikes in the US and uncertainties in the global economy. Better liquidity conditions were noted in the PRC; Hong Kong, China; Singapore; Thailand; and Viet Nam.

The region's average bid–ask spread for government bonds narrowed in this year's survey to 4.7 basis points, while it slightly fell for corporate bonds. Changes in the average transaction size were mixed for government bonds, while the average transaction size increased for corporate bonds in most markets.

Among qualitative indicators, the lack of well-functioning hedging mechanisms for both government and corporate bonds was identified as the most important common structural issue that requires attention from regional authorities. Other identified structural problems include the lack of a diversified investor base for both government and corporate bonds.

Theme Chapter: Assessing the Impact of the Asian Bond Markets Initiative on Bond Market Development in Asia

ABMI was developed to mitigate the currency and maturity mismatches that contributed to the 1997/98 Asian financial crisis. While the role of ABMI in the region's bond market development is widely recognized, there are very few studies that empirically assess the initiative's impact on the development of bond markets in the region. The theme chapter assesses the impact by comparing and analyzing bond market development in Asia and Latin America. While economies in Asia have collectively tried to develop and integrate their bond markets through a regional platform, Latin American economies have attempted to individually develop their bond markets.

After controlling for the major determinants of bond market development, the empirical results indicate that ABMI significantly contributed to corporate bond market development in Asia by facilitating more issuance. This result is consistent with earlier studies, such as Mizen and Tsoukas (2014), which find that ABMI contributed to the increased issuance of corporate bonds in the region. However, due to strict regulations on transactions in domestic currencies with and between nonresidents, most Asian economies are not yet able to borrow abroad in their domestic currency even though their LCY bond market has grown in size.

Box 1: The Cagamas Model

This box discusses the brief history of Cagamas, the National Mortgage Corporation of Malaysia, which provides liquidity to financial institutions to help them lend to home buyers at a reasonable cost. Cagamas has also contributed to the rapid development of Malaysia's corporate bond market through its regular issuance of private debt securities. Moreover, it has been a major issuer of *sukuk* (Islamic bonds) and has thus promoted the development of the *sukuk* market. This box discusses important lessons from the Cagamas model on how other developing economies can establish their own secondary mortgage market.

Box 2: The Promise of Distributed Ledger Technology for Financial Development

This box discusses how distributed ledged technology (DLT) can contribute to financial sector development. In particular, the box explores some promising areas for DLT in developing economies, including remittances, emergency aid delivery, microcredit, and trade finance. A number of specific applications of DLT are presented for each potential area of development.

Box 3: Financial Business Cycles versus Normal Business Cycles—An Empirical Comparison

Box 3 analyzes the impact of financial cycles and business cycles on the real economy. The study finds that financial recessions inflict greater damage on the real economy than business cycle recessions. Furthermore, the study shows that financial recessions associated with corporate debt buildup are at least as damaging to the real economy as financial recessions associated with household debt buildup.

Introduction: Bond Yields Rise in Emerging East Asia

Bond yields rise in emerging East Asia amid United States monetary policy tightening and risk aversion toward emerging markets.

Between 31 August and 15 October, yields on 2-year and 10-year local currency (LCY) government bonds rose in most emerging East Asian economies as global liquidity conditions tightened and investors showed risk aversion toward emerging markets (**Table A**).[1] At the same time, most major advanced economies saw yields on 10-year government bonds rise as their central banks tightened monetary policy (**Figure A**). Risk aversion toward emerging markets also contributed to higher yields on advanced economy bond yields.

Global economic growth remains solid and the global upturn that began in 2016 looks set to continue in the short-term. According to the International Monetary Fund's (IMF) *World Economic Outlook October 2018*, the world economy is projected to grow 3.7% in both 2018 and 2019, the same pace as in 2017. However, in light of growing uncertainty in the global economic environment and rising downside risks, the IMF downgraded its global growth forecast by 0.2 percentage points for both 2018 and 2019 relative to its April forecast of 3.9% for both years. In tandem with the moderation of economic growth, the growth of total global trade volume is projected to decline from 5.2% in 2017 to 4.2% in 2018 and 4.0% in 2019.

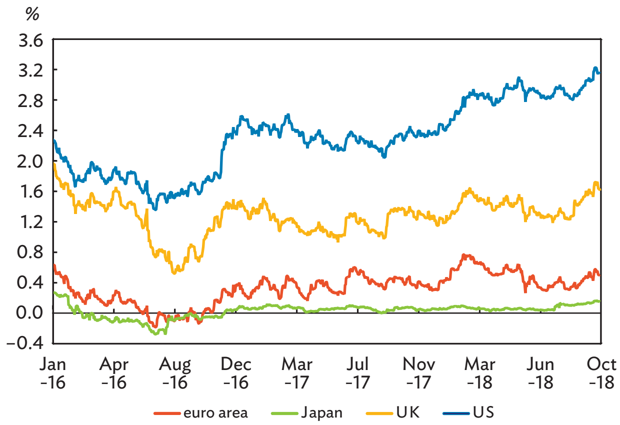
Table A: Changes in Global Financial Conditions

	2-Year Government Bond (bps)	10-Year Government Bond (bps)	5-Year Credit Default Swap Spread (bps)	Equity Index (%)	FX Rate (%)
Major Advanced Economies					
United States	23	30	–	(5.2)	–
United Kingdom	9	18	0.2	(5.4)	1.5
Japan	(0.3)	4	(1)	(2.7)	(0.7)
Germany	4	18	1	(6.1)	(0.2)
Emerging East Asia					
China, People's Rep. of	(2)	(2)	6	(5.8)	(1.2)
Hong Kong, China	16	30	–	(8.8)	0.2
Indonesia	44	68	19	(4.8)	(3.4)
Korea, Rep. of	18	7	(2)	(7.7)	(1.9)
Malaysia	7	9	10	(5.0)	(1.1)
Philippines	218	168	9	(11.8)	(1.0)
Singapore	12	18	–	(5.2)	(0.3)
Thailand	12	9	1	(1.5)	0.3
Viet Nam	(23)	(15)	11	(3.8)	(0.2)
Select European Markets					
Greece	11	15	(1)	(13.0)	(0.2)
Ireland	6	22	4	(9.7)	(0.2)
Italy	18	16	6	(4.8)	(0.2)
Portugal	6	9	(4)	(7.9)	(0.2)
Spain	16	24	12	(5.1)	(0.2)

( ) = negative, – = not available, bps = basis points, FX = foreign exchange.
Notes:
1. Data reflect changes between 31 August 2018 and 15 October 2018.
2. A positive (negative) value for the FX rate indicates the appreciation (depreciation) of the local currency against the United States dollar.
Sources: Bloomberg LP and Institute of International Finance.

[1] 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 A: 10-Year Government Bond Yields in Major Advanced Economies (% per annum)



UK = United Kingdom, US = United States.
Note: Data as of 15 October 2018.
Source: Bloomberg LP.

Advanced economies expanded 2.3% in 2017 and are projected to grow 2.4% in 2018 and 2.1% in 2019. The corresponding figures for emerging markets and developing economies are 4.7%, 4.7%, and 4.7%, respectively. The *World Economic Outlook October 2018* forecasts consumer price inflation in advanced economies to pick up marginally from 1.7% in 2017 to 2.0% in 2018 and 1.9% in 2019. In emerging markets and developing economies, consumer price inflation is projected to rise from 4.3% in 2017 to 5.0% in 2018 and 5.2% in 2019. The continued closing of the output gap and rising global oil prices will push up inflation in 2018–2019.

The United States (US) economy remains the most dynamic advanced economy and a major contributor to global growth momentum. Robust growth is supported by fiscal stimulus as well as high consumer and business confidence. The US economy remains on its current growth trajectory. Following a 4.2% annual growth rate in the second quarter (Q2) of 2018, growth slowed to 3.5% in the third quarter (Q3). US labor market indicators also remain strong. In August, nonfarm payrolls added 280,000 jobs, up from an increase of 165,000 in July. However, September nonfarm payrolls additions fell to 118,000, reflecting the impact of Hurricane Florence. Nonfarm payrolls additions rose to 250,000 in October. The US unemployment rate continues to improve, falling to 3.7% in September from 3.9% in August. The Federal Open Market Committee upgraded its 2018 gross domestic product (GDP) growth forecast to 3.1% in September from 2.8% in June. The GDP growth forecast for 2019 was also upgraded slightly to 2.5% from 2.4%.

Such robust economic conditions allowed the Federal Reserve to raise its policy rate target on 26 September by 25 basis points (bps) to a range of 2.00% to 2.25%. The Federal Reserve indicated that continuing gains in both the labor market and the economy allowed for the rate hike. The minutes of the September meeting of the Federal Open Market Committee reveal that committee members noted that the economy continues to strengthen. More interestingly, some members suggested that the interest rate path may need to be even tighter to prevent inflation from overshooting. Given the continued strength of the US economy, this suggests that additional tightening is on the way. The Federal Reserve also noted that inflation continues to hover near its 2.0% target range. The US consumer price inflation rate fell from 2.7% y-o-y in August to 2.3% y-o-y in September. Core consumer price inflation remained unchanged at 2.2% y-o-y in the same period. The Federal Reserve's preferred inflation metric—the Personal Consumption Expenditure Index—fell 2.0% y-o-y in September from 2.2% y-o-y in August.

In the euro area, economic growth suffered some minor hiccups, but the European Central Bank (ECB) is sticking to its previously stated monetary policy direction. The euro area's GDP growth fell slightly from an annual rate of 2.2% in Q2 2018 to 1.7% in Q3 2018. In September, the ECB slightly downgraded its GDP growth forecast for both 2018 and 2019, relative to its June forecast, from 2.1% to 2.0% and from 1.9% to 1.8%, respectively. As a result, at its 25 October monetary policy meeting, the ECB left its policy rate unchanged but affirmed its reduced asset purchase program of EUR15 billion per month between October and December 2018, as growth momentum had slowed, with the program ceasing thereafter. The ECB noted that the end of its asset purchase program would still be conditional on incoming economic data.

In the United Kingdom, improved economic growth and the Bank of England's 25-bps rate hike on 1 August pushed up bond yields. However, the Bank of England left rates unchanged on 13 September. GDP growth rose in June–August by 0.7% on a rolling 3-month basis, the same pace during the May–June period and higher than the 0.4% growth recorded in Q2 2018.

The United Kingdom's consumer price inflation rate rose from 2.5% y-o-y in July to 2.7% y-o-y in August before falling to 2.4% y-o-y in September.

Bond yields in Japan, particularly for tenors of 10 years and above, continued to trend upward in September and October. Yields rose primarily on continued speculation about the timing of the Bank of Japan's (BOJ) gradual exit from its monetary policy easing measures. An uptick in yields was observed on 21 September after the BOJ reduced the amount of its monthly bond purchases. Yields rose further following the sharp rise in US Treasury yields on 3 October. However, the BOJ did not intervene to bring down yields. This may be in line with recent changes to its monetary policy, announced in its 31 July meeting, when it indicated it would allow more movement in bond yield targets, particularly for 10-year bonds.

The BOJ governor announced during the IMF annual meeting on 13 October that a change in the 10-year bond yield would signal an exit from an accommodative monetary policy more so than reduced bond purchases. This added further uncertainty about exactly when the BOJ would normalize its monetary policy operations. Japan's economy grew an annualized rate of 3.0% in Q2 2018, reversing a 0.9% contraction in Q1 2018, driven by private consumption and private nonresidential investment.

Overall, yields in advanced economies rose between 31 August and 15 October, particularly yields for 10-year bonds. The strength of the US economy and the Federal Reserve's ongoing interest rate hikes have put pressure on the currencies of some emerging markets. The currencies of Argentina and Turkey have been the hardest hit. Investor uncertainty surrounding these two emerging markets led to a flight to quality in the euro area, notably to Germany. However, there has been a rise in credit default swap (CDS) spreads in some select European markets, largely due to political and fiscal uncertainties in Italy.

Despite the heightened global uncertainty and rising downside risks, developing Asia is poised to sustain healthy growth, remain the world's fastest-growing region, and contribute to global growth momentum.[2] According to the Asian Development Bank's *Asian Development Outlook 2018 Update* released in September, the region's economy expanded 6.1% in 2017 and is projected to expand 6.0% in 2018 and 5.8% in 2019. The latter forecast is a marginal downgrade from a July forecast of 5.9%. Inflation is rising but remains at relatively moderate levels. According to the *Asian Development Outlook 2018 Update*, the region's consumer price inflation is projected to rise from 2.2% in 2017 to 2.8% in 2018 and 2019.

The economies of emerging East Asia have so far prevailed over external challenges to continue their solid growth momentum. Despite mounting trade tensions with the US, the People's Republic of China's (PRC) GDP expanded 6.9% in 2017 and is forecast to expand 6.6% in 2018 and 6.3% in 2019. Nevertheless, the trade conflict's effects are expected to be felt more tangibly in 2019, with the growth forecast downgraded by 0.1 percentage point from the July forecast of 6.4%. The 2017, 2018, and 2019 GDP growth figures for the 10 members of the Association of Southeast Asian Nations are 5.2%, 5.1%, and 5.2%, respectively. The Republic of Korea's economy is projected to grow 2.9% in 2018 and 2.8% in 2019. The corresponding figures for another high-income economy in the region, Hong Kong, China, are 3.7% in 2018 and 3.0% in 2019. The region's healthy growth is driven primarily by robust domestic demand, which explains why the adverse effect of global trade tensions on growth has been limited so far.

Yields rose in most emerging East Asian economies during the review period due to the risk aversion toward emerging markets triggered by financial turbulence in Argentina and Turkey in September, the Federal Reserve's interest rate hike in September, and the sharp rise in US Treasury yields in October following the release of upbeat US economic data that supported the likelihood of another rate hike in December. In addition, a number of central banks in emerging East Asia have also been tightening monetary policy to stem the risk of capital outflows and sharp currency depreciation, while some central bank haves hinted at gradual tightening going forward.

The major exception was the PRC, with its central bank being the only one in the region to ease monetary conditions during the review period by reducing the reserve requirement ratio. However, yields for both

[2] Developing Asia comprises the 45 regional developing member economies of the Asian Development Bank. See https://www.adb.org/sites/default/files/publication/452971/ado2018-update.pdf.

the 2-year and 10-year tenor fell only 2 bps during the review period because of a temporary decline in liquidity in September in anticipation of the long holiday in the first week of October, as well as due to corporate tax payments by corporates. After the holiday, interest rates in the PRC began declining again, notably due to the reserve requirement ratio cut of 100 bps on 7 October. The monetary easing is, in effect, stimulus aimed at supporting growth in the face of rising trade tensions with the US. Other than the PRC, Viet Nam was the only other economy to show a decline in yields during the review period, with the 2-year and 10-year yields falling 23 bps and 15 bps, respectively.

The largest increase in yields came from the Philippines, where the 2-year and 10-year yields rose 218 bps and 168 bps, respectively. The steep increase in yields in the Philippines was largely due to larger-than-expected interest rate hikes by the Bangko Sentral ng Pilipinas (BSP) in order to curb rising inflation. The BSP raised policy rates by 50 bps on 9 August and followed with another 50-bps increase on 27 September. In the past, the BSP usually raised rates by 25 bps each time. Indonesia posted the second-largest rise in yields during the review period, driven by the continued depreciation of the rupiah, which breached the IDR15,000–USD1 level in October. Bank Indonesia raised its policy rate another 25 basis points on 27 September, the fifth such increase in 2018, bringing the cumulative hike for the year to 150 bps. Yields continued to rise in October following the uptick in US Treasury yields.

Yields rose in the Republic of Korea, reversing the downward trend in yields since May, on expectations of a policy rate hike by the Bank of Korea before the year ends. Statements by the Prime Minister on 12 September and the Bank of Korea governor on 4 October further supported the likelihood of an upcoming rate hike. The Bank of Korea governor stated that a policy rate hike would help address financial imbalances in the market. The spike in US Treasury yields in early October further contributed to the upward trend. However, the Bank of Korea maintained its policy rate at its 18 October meeting. Yields rose slightly in Malaysia mainly due to external developments (particularly emerging market financial volatility), trade tensions between the US and the PRC, and the sharp rise in US yields. An interesting recent development in Malaysia has been the emergence of a housing bond market (**Box 1**).

Yields rose in Thailand on the back of strong economic growth and rising inflation. At its monetary policy meeting on 19 September, the Bank of Thailand noted that the domestic economy continues to grow and inflation is expected to rise. While policy rates were left unchanged, some members voted to raise rates, prompting market speculation that the Bank of Thailand may raise policy rates in the future. Yields also rose in Hong Kong, China and Singapore, which tend to track movements in US Treasury yields.

All equity markets in the region fell during the review period in line with the sell-off in US equity markets in October (**Figure B**). The sharp rise in US Treasuries in early October prompted the sell-off in equities in the US and across emerging East Asia. Equity markets fell further a week later after the IMF cut its growth forecasts for the US and the PRC, partly due to the trade conflict. The Philippine stock market fell 11.8%, the most in the region, and has trended downward since the start of the year. High inflation fueled by rising oil prices, rising interest rates, and the peso's depreciation drove the sell-off by investors who saw their returns decline. Hong Kong, China, and the Republic of Korea were among the worst-performing equity markets in the region between 31 August and 15 October, with declines of 8.8% and 7.7%, respectively. Both economies are likely to be hit hard by the trade dispute between the PRC and the US. The PRC's equity market fell following the week-long holiday in October on continued concerns of a slowdown in economic growth brought about by the government's deleveraging efforts and trade tensions with the US.

Most emerging East Asian currencies depreciated during the review period (**Figure C**). The exceptions were the Hong Kong dollar and Thai baht, which were relatively stable. A stronger US dollar, fueled by strong economic growth and rising interest rates in the US, continued to weigh on regional currencies. In addition, the recent slump in equity markets in October further weakened local currencies as foreign investors pulled out from the region. The Indonesian rupiah was the region's worst-performing currency, falling 3.4% during the review period and breaching the IDR15,000–USD1 level in early October despite continued intervention by Bank Indonesia. The central bank raised its policy rate another 25 basis points on 27 September.

Box 1: The Cagamas Model

Cagamas, the National Mortgage Corporation of Malaysia, was established by the central bank, Bank Negara Malaysia (BNM), in 1986 under a national plan to promote homeownership through a liquid funding system that would help financial institutions overcome the maturity mismatch in their financial position when using short-term deposits to finance long-term housing loans. In 1986, the Malaysian economy was beginning to emerge from a recession and incentives were accorded to the construction sector, including housing, to stimulate economic growth. Given the legal constraints in effecting a true transfer of property rights under Malaysia's real estate laws, Cagamas adopted the simpler form of purchasing housing loans from their originators with full recourse and issuing unsecured bearer bonds backed by pools of housing loans.

This mechanism was not considered true securitization but, in the Malaysian context, it was a feasible interim step toward the development of a secondary mortgage market for the following reasons: (i) at the time there was a lack of statistics and a track record of loan performance to fulfill rating agency requirements in assessing the credit risks inherent in "pass through" securitization; (ii) for primary lenders, which were commercial banks, finance companies, and the Government Housing Loan Division, liquidity was an issue, not capital adequacy; (iii) for loan originators selling their fixed- and floating-rate housing loans to Cagamas, with options for periodic review, enabled them to eliminate both their liquidity and interest risks; and (iv) the longer-term Cagamas bonds (mainly 3-year and 5-year maturities) as well as the shorter-term Cagamas notes (maturities of less than 1 year) helped to fill a void in the market for institutional investors that included financial institutions, insurance companies, and pension funds.

Due to the good track record and high credit standing established by Cagamas, all long- and short-term debt securities it has issued have consistently been rated AAA by two Malaysian rating agencies (RAM Rating Services Berhad and Malaysian Rating Corporation Berhad). Cagamas is also well regarded internationally and has been assigned local and foreign currency long-term issuer ratings of A3 by Moody's Investors Service Inc., which are in line with Malaysia's sovereign ratings. This has enabled Cagamas to raise funds at a low cost for on-lending to homebuyers.

Over the last 30 years, Cagamas has contributed to the building of a sustainable housing finance system in Malaysia by continuously innovating its business model to meet the liquidity and capital needs of financial institutions. It now has a wide product base that offers Purchase with Recourse as a liquidity model and Purchase without Recourse as a securitization model for both conventional housing loans and Islamic housing finance. In addition, Cagamas has introduced a mortgage guarantee program as a risk management tool for financial institutions (**Figure B1.1**).

The World Bank has acknowledged the success of Cagamas in providing liquidity to financial institutions to fund home ownership at reasonable cost. From an initial purchase of conventional mortgages of MYR110 million (USD27.1 million) in 1987, Cagamas had cumulatively refinanced mortgages in the secondary market equivalent to MYR142 billion (USD35.0 billion) and covering 1.9 million homes by the end of 2017.[a] The size of the Malaysian mortgage market within the banking system has grown exponentially from MYR11 billion in 1989 to MYR520 billion at the end of 2017, comprising 33% of the total loans in the banking system and the equivalent of 44% of Malaysia's gross domestic product (**Figure B1.2**).

Cagamas has also been a regular issuer of private debt securities (PDS) and contributed to the rapid development of the corporate bond market in Malaysia. Cagamas has established itself as the leading issuer of PDS in Malaysia. Since its inception, Cagamas has introduced a wide range of new and award-winning capital market instruments. At the end of December 2017, the Cagamas Group had issued a cumulative total of MYR312.1 billion of PDS, including the issuances of MYR10.2 billion in residential mortgage-backed securities by Cagamas MBS Berhad, a sister company of Cagamas. Cagamas' outstanding issuances of MYR30.8 billion comprise 7% of Malaysia's outstanding PDS, which amount to MYR431.4 billion, placing Malaysia among the top 5 issuers of corporate bonds in the Asia-ex Japan region (**Figure B1.3**).

Since its first such issuance in 2004, Cagamas has evolved into a major issuer of *sukuk* (Islamic bonds) (**Figure B1.4**). It began by securitizing a significant portion of Sharia-compliant home financing for government employees.

[a] Based on an exchange rate of MYR4.06 per USD1 (30 July 2018).

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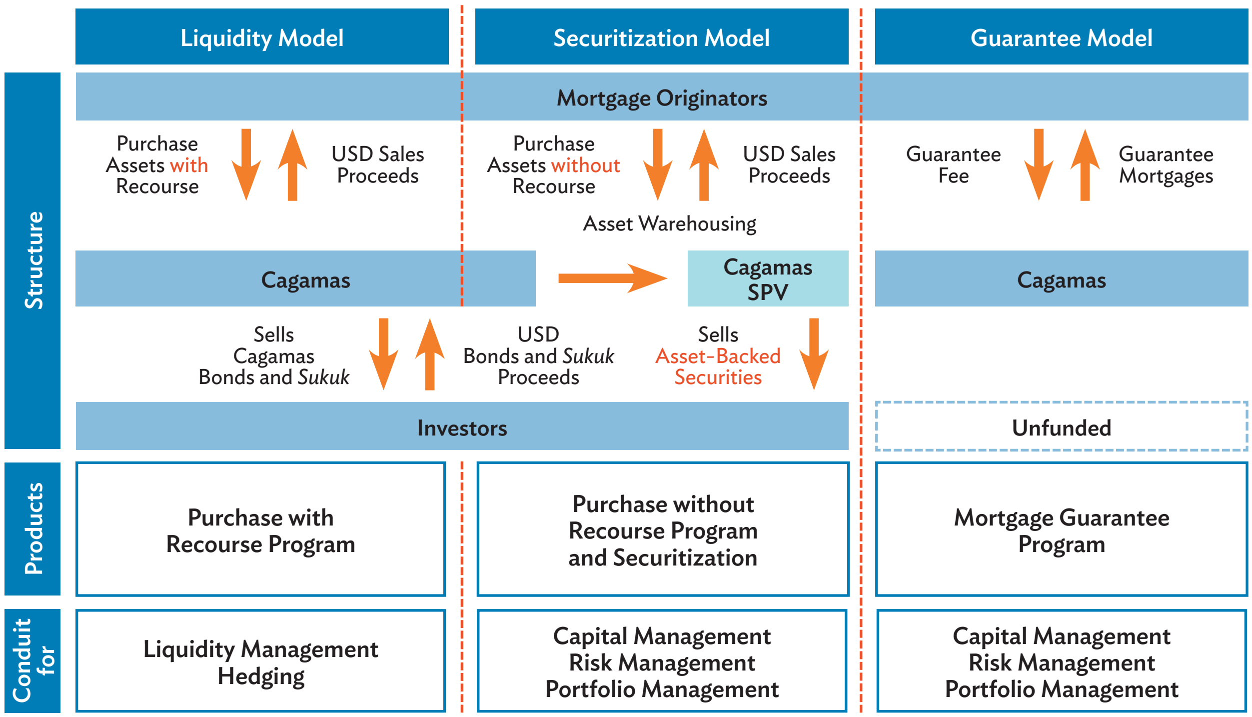
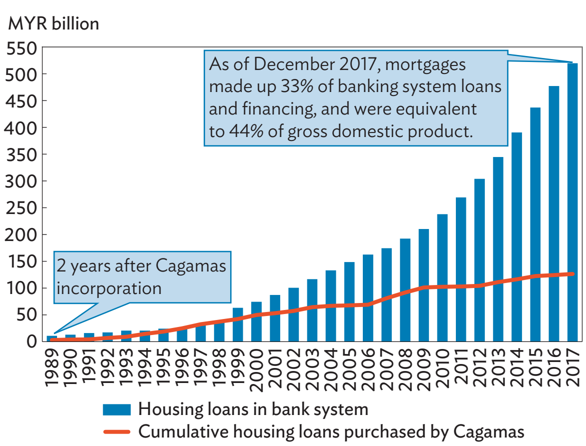
Box 1: The Cagamas Model *continued*

Figure B1.1: The Three Business Models of Cagamas



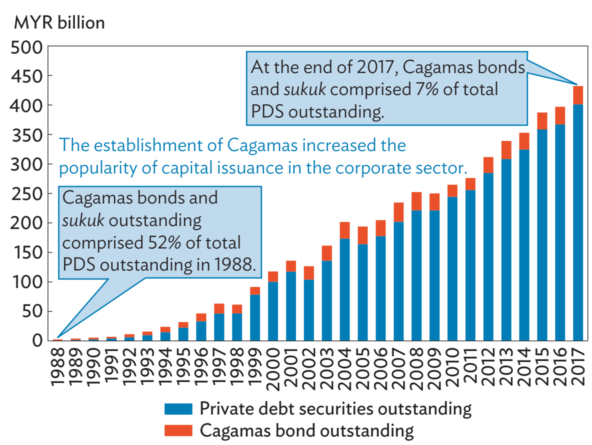
SPV = special purpose vehicle, USD = United States dollar.
Source: Cagamas.

Figure B1.2: Supply of Housing Loans in Malaysia



Note: Housing credit outstanding (cumulative).
Source: Cagamas.

Figure B1.3: Cagamas' Share of the Private Debt Securities Market



PDS = private debt securities.
Note: *Sukuk* are bonds issued in accordance with Islamic principles.
Source: Cagamas.

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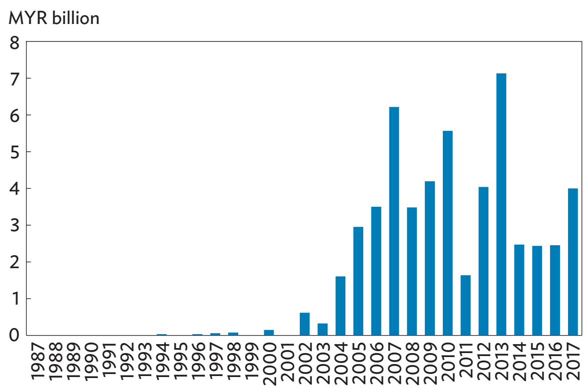
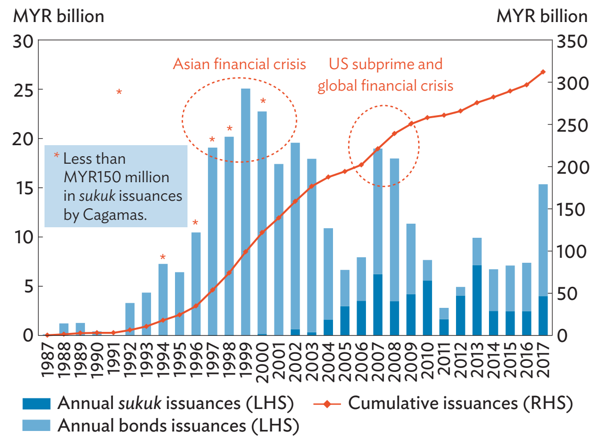
Box 1: The Cagamas Model *continued*

Figure B1.4: Cagamas' *Sukuk* Issuances



Source: Cagamas.

Figure B1.5: Cagamas—Crucial Provider of Liquidity to the Housing Market



LHS = left-hand side, RHS = right-hand side, US = United States.
Source: Cagamas.

The issuance of MYR2.1 billion of residential mortgage-backed *sukuk musyarakah* (rated residential mortgage-backed securities issued under Islamic principles) in 2005 was the first of its kind in the world and attracted MYR13.5 billion in book size, primarily from domestic institutions and some foreign investors from Hong Kong, China and Singapore. Cagamas' *sukuk* currently make up 13% of domestic AAA-rated *sukuk*, a fast-growing segment of the PDS market, and comprise a majority share of 53% of the domestic AAA-rated Islamic asset-backed securities market. The promotion of *sukuk* issuance also supports the objectives of Malaysia's International Islamic Financial Centre initiative.[b]

Cagamas' role as a liquidity provider is significant in times of financial crisis and tight liquidity (**Figure B1.5**). By standing ready to purchase mortgages from financial institutions that are seeking alternative sources of funding short of turning to Bank Negara Malaysia as a lender of last resort, Cagamas injects stability into the financial system.

Beyond the provision of liquidity, Cagamas has also evolved to become a provider of risk, capital, and management solutions for other asset classes as well. This includes Cagamas' promotion of products such as a mortgage guarantee program and its involvement in synthetic securitization for small and medium-sized enterprises. Cagamas is also a credible partner of the government in a home ownership initiative to address the issue of affordability among young adults seeking to own their first home (My First Home Scheme and Youth Housing Scheme).

In 2017, Cagamas recorded an after-tax profit of MYR242 million based on total assets of MYR41 billion. Its shareholder funds amounted to MYR3.4 billion and its risk-weighted capital ratio stood at a healthy 22.2%. In comparison, the average risk-weighted capital ratio of the banking sector in the corresponding period stood at approximately 17%.

Lessons Learned from Cagamas

The Cagamas model offers important lessons for other developing economies that are considering the establishment of a secondary mortgage market:

- Ownership of Cagamas was split 20:80, with the BNM owning 20% and the banking system owning the balance. The BNM nominates the chairman of the board of directors; the remaining board members are representatives of the member banks.
- From the beginning, Cagamas was supported by a well-developed system for land purchases and regulation, clear rights of property ownership and transferability,

[b] Malaysia International Islamic Financial Centre. http://www.mifc.com/index.php?ch=ch_header_contact_us&pg=pg_header_aboutus.

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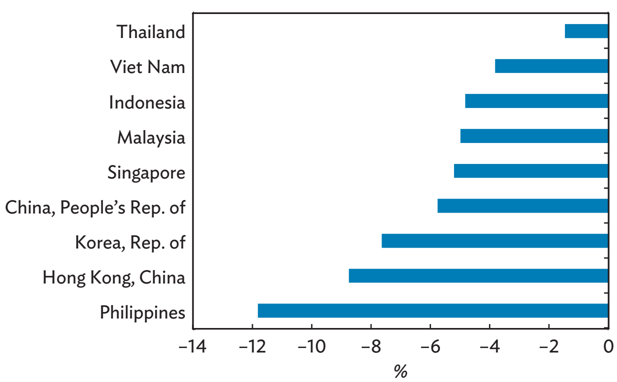
Box 1: The Cagamas Model

a well-developed financial infrastructure and liberalized financial system, and proactive urban and housing policies.

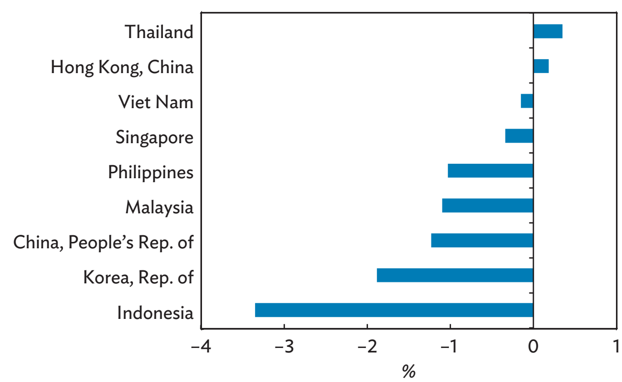
- In the early stages of Cagamas' development, the Government of Malaysia was involved in the secondary mortgage corporation through share ownership, which was necessary to alleviate the default risk concerns of investors. The following support from the government and BNM helped reduce the cost of funding for Cagamas: (i) exemption from stamp duties for housing loan transactions; (ii) exemption from the requirement to issue a prospectus for any issuance of debt securities; (iii) exemption from having to obtain prior approval of the Securities Commission to issue bonds; (iv) exemption of the proceeds of sales of housing loans obtained by financial institutions from statutory reserve and liquidity requirements; and (v) the classification of Cagamas bonds as Tier 1 liquid assets for the purpose of compliance with statutory liquidity requirements.
- Adoption of the Purchase with Recourse scheme helped to overcome moral hazard in the early stage of development of a secondary mortgage market. It gave Cagamas time to build its credibility as a safe and regular issuer of debt securities before it introduced the Purchase without Recourse product.
- Within the secondary mortgage framework, Cagamas has had the flexibility to develop new asset classes in the purchase of small and medium-sized enterprise loans and bonds and *sukuk* for institutional investors such as insurance companies and pension funds, while not losing sight of its social role in promoting home ownership.

Figure B: Changes in Equity Indexes in Emerging East Asia



Note: Changes between 31 August 2018 and 15 October 2018.
Source: Bloomberg LP.

Figure C: Changes in Month-End Spot Exchange Rates vs. the United States Dollar



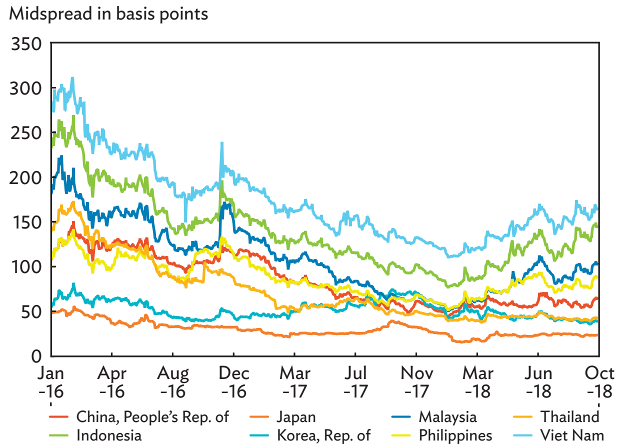
Notes:
1. Changes between 31 August 2018 and 15 October 2018.
2. A positive (negative) value for the foreign exchange rate indicates the appreciation (depreciation) of the local currency against the United States dollar.

Source: Bloomberg LP.

The Korean won was the region's second-worst-performing currency, depreciating 1.9% against the US dollar. A sharp weakening was observed in early October when the stock market experienced a sell-off. The Chinese renminbi weakened 1.2% over concerns about slowing economic growth, the ongoing trade dispute with the US, and the People's Bank of China lowering the reserve requirement ratio on 7 October. The Malaysian ringgit continued to weaken, primarily due to external developments and negative sentiment toward emerging market currencies. The Philippine peso continued to weaken, breaching the PHP54–USD1 level due to high inflation and rising yields. The BSP raised its policy rates another 50 basis points on 27 September, bringing the cumulative benchmark rate hike for the year to 150 bps. The Thai baht also fell in early October along with other currencies in the region, but has since recovered.

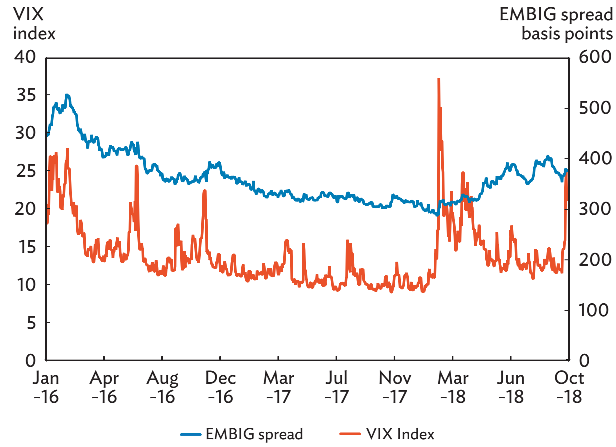
CDS spreads in emerging East Asia remained relatively stable in September as financial volatility in Argentina and Turkey receded somewhat. However, in most markets in the region, the sharp rise in US Treasury yields in early October resulted in an uptick in CDS spreads which have since remained elevated (**Figure D**). Indonesia's CDS spreads rose the most in the region, due to the

Figure D: Credit Default Swap Spreads in Select Asian Markets (senior 5-year)



USD = United States dollar.
Notes:
1. Based on USD-denominated sovereign bonds.
2. Data as of 15 October 2018.
Source: Bloomberg LP.

Figure E: United States Equity Volatility and Emerging Market Sovereign Bond Spread



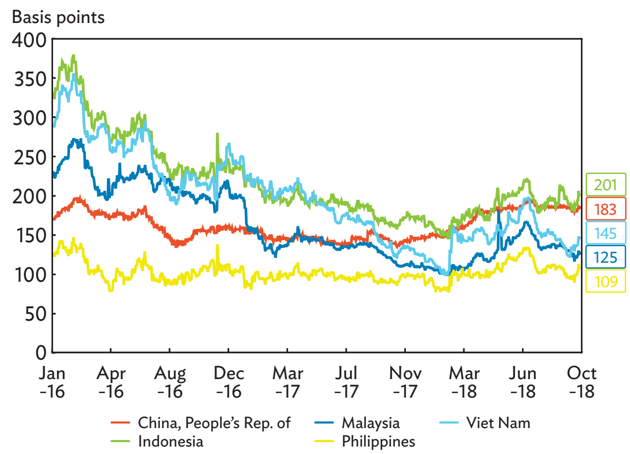
EMBIG = Emerging Markets Bond Index Global, VIX = Chicago Board Options Exchange Volatility Index.
Note: Data as of 15 October 2018.
Source: Bloomberg LP.

depreciation of the rupiah and rising interest rates. CDS spreads in the Republic of Korea and Thailand also rose in October, but not as sharply as in other markets in the region given their stable macroeconomic fundamentals. In the Republic of Korea, easing geopolitical tensions also contributed to lower CDS spreads.

The CBOE Volatility Index rose sharply in October due to the slump in US equity markets (**Figure E**). Meanwhile, the EMBIG spread trended downward in September as financial volatility in Argentina and Turkey receded. However, spreads rose again in October following the sharp rise in US Treasury yields (**Figure F**).

Foreign holdings as a share of total LCY government bonds fell slightly in Q3 2018 across emerging East Asia, except in the PRC where they continued to rise (**Figure G**). In Indonesia, the foreign holdings share fell from 37.8% at the end of June to 36.9% at the end of September. Aggregate net foreign investment flows to Indonesia's LCY government bond market turned positive in Q3 2018, particularly in July and August. The two policy rate hikes by Bank Indonesia during the quarter improved investor sentiment. However, the outstanding amount of LCY government bonds rose at a faster pace, resulting in a slightly lower foreign holdings share. Foreign holdings in Malaysia slightly fell from 24.8% of the total LCY government bond market at the

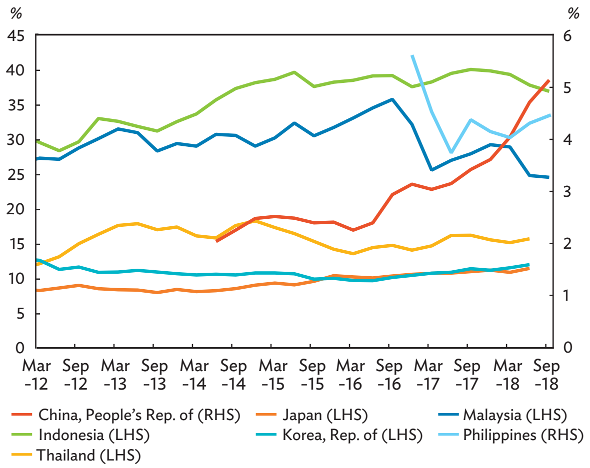
Figure F: JP Morgan Emerging Markets Bond Index Sovereign Stripped Spreads



USD = United States dollar.
Notes:
1. Based on USD-denominated sovereign bonds.
2. Data as of 15 October 2018.
Source: Bloomberg LP.

end of June to 24.6% at the end of September amid capital outflows in August and September that were partly due to maturities and adverse external factors. Foreign holdings of LCY government bonds in the PRC remained small as a share of the total, but continued to rise from 4.7% at the end of June to 5.1% at the end

Figure G: Foreign Holdings of Local Currency Government Bonds in Select Asian Markets (% of total)



LHS = left-hand side, RHS = right-hand side.
Note: Data as of end-September 2018 except for Japan, the Republic of Korea, and Thailand (end-June 2018).
Source: *AsianBondsOnline*.

of September. The steady pick-up has been a result of the opening up of the PRC's bond market to foreign investors. In addition, the PRC announced regulations providing tax breaks to foreign investors for a period of 3 years. The foreign holdings shares in Japan, the Republic of Korea, and Thailand were also up slightly in Q2 2018, the quarter for which the latest data are available.

Despite current signs of vulnerability in emerging markets, emerging East Asia continues to grow at a healthy pace and enjoy relatively benign financial conditions. Nevertheless, downside risks outweigh upside risks, and they appear to be increasing. There are mounting concerns that downside risks may seriously jeopardize the good run of strong growth and financial stability that the region and the world have enjoyed during the last few years. At the same time, significant new technological developments can contribute to stronger and more efficient financial systems. One major new technology with promising potential applications in the financial industry, especially in less-developed economies, is distributed ledger technology (**Box 2**).

The most immediate threat to emerging East Asia's financial stability comes from a generalized risk aversion among global investors toward emerging markets.

Some emerging market currencies, most notably the Argentine peso and Turkish lira, came under severe stress in Q3 2018 due to economy-specific factors. In the case of Argentina, the direct catalyst of the sharp depreciation was a request by the government for an earlier-than-scheduled disbursement of its IMF loan. The unexpected request combined with an excessively gradual and cautious approach to necessary reforms, such as reducing the fiscal deficit that ballooned under the previous government, spooked the market and sent the peso tumbling. Like Argentina, Turkey suffers from weak fundamentals and macroeconomic instability, including large current account and fiscal deficits, and high inflation. The Turkish lira's plunge was triggered by the authorities' failure to adopt orthodox policies to safeguard stability, most notably the central bank's failure to raise interest rates in the face of rising inflation. A diplomatic dispute with the US centered on Turkey's detention of a US pastor led to a doubling of US tariffs on Turkish exports and further damaged investor sentiment.

The intense pressures against the Argentine peso and the Turkish lira seem to have moderated somewhat in recent weeks due to new developments in both economies. On 26 September, the IMF expanded the amount of its loan package to Argentina in exchange for the country's commitment to stick to a flexible exchange rate regime. In addition to expanding the loan package from USD50.0 billion, which was already the IMF's biggest ever, by more than 14% to USD57.1 billion, the IMF agreed to accelerate the speed of its loan disbursement. The Government of Argentina signaled that it would move faster and more concretely to reduce the fiscal deficit and implement other necessary reforms. On 13 September, the Turkish central bank raised its benchmark interest rate from 17.5% to 24.0% in a drastic bid to curtail inflation and calm investor sentiment. In August, inflation had soared to a 15-year high of almost 18% while the lira slid to a new low, down more than 40% since the beginning of the year. The market's immediate reaction to the interest rate hike was positive, with the lira gaining around 3%. Market sentiment received a further boost on 12 October when the Turkish government release a US pastor who had been detained for more than 2 years on espionage charges. His release was widely expected to improve the severely strained relations between Turkey and the US, which had been a significant factor in the deterioration of investor confidence.

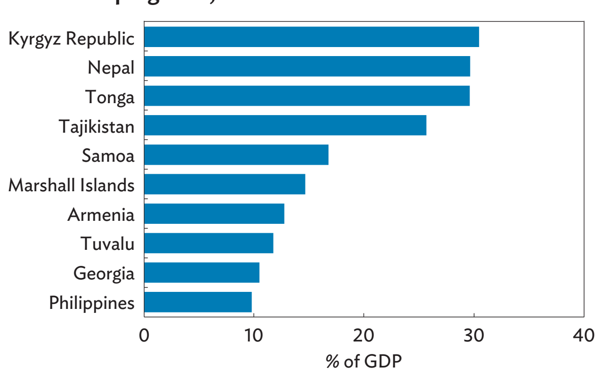
Box 2: The Promise of Distributed Ledger Technology for Financial Development

Distributed ledger technology (DLT), alternatively known as blockchain technology, opens opportunities for applications that can revolutionize the financial sector. DLT-based clearing and settlement is beginning to replace inefficient back-office infrastructure. Operations such as exchanging cash for securities will increasingly be accomplished in a matter of seconds, rather than days as is currently the case.

DLT has far-reaching implications for the developing world in multiple areas: remittances, emergency aid delivery, microcredit, and trade finance. Collaborative efforts joining governments, international agencies, and technology firms are demonstrating the potential to deliver tangible improvements in development outcomes. The challenges that so far have limited DLT's applicability to development efforts call for further technical, infrastructural, and regulatory efforts to overcome them. Some applications and their issues are discussed below based on Ferrarini, Maupin, and Hinojales (2017).

Remittances and emergency aid delivery. Remittances are a stabilizing source of foreign exchange for many economies in Asia and the Pacific, accounting in 2016 for 30.5% of gross domestic product in the Kyrgyz Republic, the highest percentage in the region, and for 9.8% in the relatively large Philippine economy (**Figure B2.1**). However, sending money to relatives from abroad is slow and costly. Transfers can take several days and banks and money transfer companies typically charge 7% of the amount transacted, and sometimes much more (World Bank 2015). To avoid these costs, remitters often transfer funds through informal channels, such as by asking visiting friends or relatives to carry cash.

Figure B2.1: Top 10 Remittance-Recipient Economies in Developing Asia, 2016



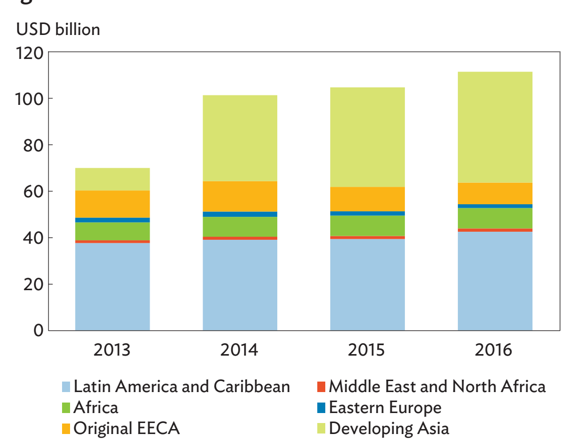
GDP = gross domestic product.
Source: Asian Development Bank.

Several companies now offer DLT-based remittance services in a few Asian economies. Compared with traditional channels, which require a centralized entity to perform the actual remittance, DLT services save time and transaction costs by removing intermediating banks from the settlement process. The widespread use of internet-enabled mobile phones among the poor extends DLT-based remittances to the unbanked far beyond the reach of the traditional financial channels (Dong et al. 2016).

Similarly, DLT-based remittance platforms offer viable solutions for the delivery of emergency aid, either to targeted population segments or in response to a crisis. For example, a DLT company used biometric data to create unique digital IDs for 500 Syrian refugees at a camp in Lebanon. The refugees then received digital vouchers tied to their IDs and redeemed them for goods at a local supermarket. Similar methods have been used to deliver social welfare entitlements, such as food parcels and cash, to thousands of recipients in Indonesia and Jordan. The same model is amenable to targeting any specific recipient group or area, such as the distribution of aid in the aftermath of disasters.

Microcredit. Catering to the financially excluded, microcredit continues to expand, especially in developing Asia and Latin America (**Figure B2.2**). It typically operates at the village level, leveraging the capacity of poor communities and economically disenfranchised groups, in particular women, to assume joint liability and monitor peer compliance. While lenders seek to lower the high transaction costs of

Figure B2.2: Loans from Microfinance Institutions



EECA = Eastern Europe and Central Asia, USD = United States dollar.
Source: Asian Development Bank calculations using the MIX Market database.

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Box 2: The Promise of Distributed Ledger Technology for Financial Development *continued*

small-scale lending, they often incur substantial costs in dispatching loan officers to periodic community meetings. As a peer-to-peer communications system that distributes trust among members of a shared network by ensuring decision by consensus, DLT is particularly well suited to microcredit and to microfinance more broadly. It functions as an open accounting system, placing borrowers' transaction histories on a shared ledger, which eliminates the need for outside audits or the documentation of loan applicants' credit and income histories.

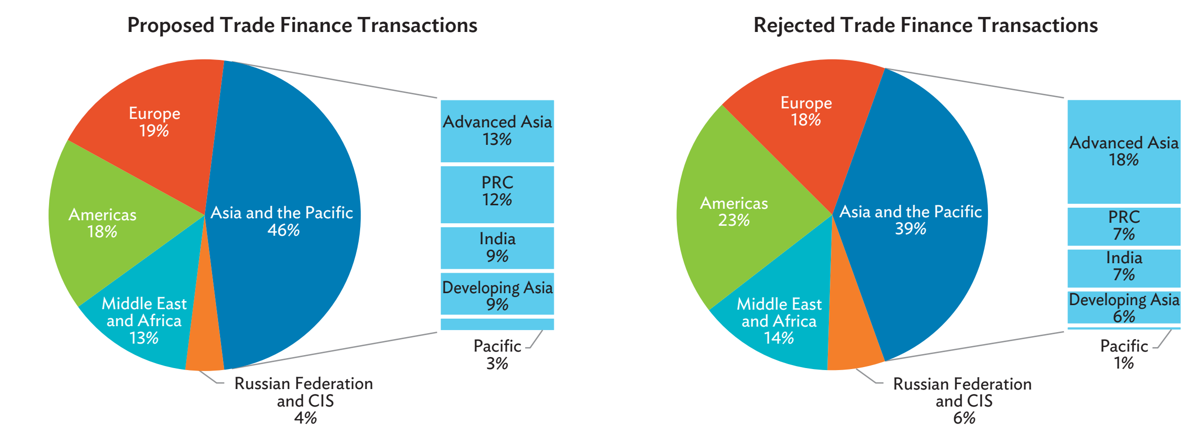
DLT enables unbanked individuals to build a personal credit history and thus a bankable reputation gradually and organically. It enables lenders to monitor and assess the capital loaned, the areas of operation, and any development opportunities. Pilot applications suggest that, compared with traditional centralized microfinance operations, DLT incurs significantly lower overhead expenses and achieves faster transaction times. For example, Japanese companies in 2016 successfully operated DLT microcredit transactions in Myanmar. The evidence gathered during these trials suggests that the DLT platform will, assuming full-fledged commercial implementation by 2019, reduce costs to one-tenth of those incurred by traditional microcredit operations in Myanmar (Redaktion 2016, Del Castillo 2016).

Trade finance. The global trade finance gap was estimated at USD1.5 trillion in 2016 (Asian Development Bank 2017). Shortfalls were particularly severe in Asia, which accounted for the largest share of proposals—firms' requests to banks for trade finance support—and rejections (**Figure B2.3**). Access to trade finance is particularly difficult for small and medium-sized enterprises (SMEs) because they often lack collateral, a documented history of past commercial and financial transactions, or sufficient knowledge of the finance industry and instruments on offer. While domestic and regional initiatives help bridge this gap, including some led by multilateral development banks, the expectation is mounting that technology can make a difference.

Some innovation is coming from the leading companies in global e-commerce. They have established their own lending arms, catering mostly to SMEs, and have provided training and advice targeted to smaller companies. However, except in the People's Republic of China, these services have yet to penetrate developing Asia, where the supply gap for SME financing remains particularly acute (The Banker 2017). In these economies, DLT could be a real game changer by lowering costs and doing away with the paperwork and bureaucratic hurdles that preclude access for SMEs.

Pilot projects demonstrate that DLT can take the form of broadly accessible and scalable smart contracts that execute automatic money transfers and other operations as merchandise crosses international borders or as predefined commercial and financial triggers are activated. For example,

Figure B2.3: Proposed and Rejected Trade Finance Transactions by Region



Advanced Asia = Hong Kong, China; Japan; Republic of Korea; and Singapore; CIS = Commonwealth of Independent States; Developing Asia = Developing Asia excluding the PRC and India; PRC = People's Republic of China.
Source: ADB (2017b).

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Box 2: The Promise of Distributed Ledger Technology for Financial Development *continued*

an Indian bank reportedly used a private permissioned ledger based on the Ethereum protocol to reduce to a few hours the time required to issue a letter of credit, which under industry norms takes up to a month, while improving the transparency of the entire operation (Deloitte 2017). Broader efforts are also under way in the region. The Hong Kong Monetary Authority, for example, aims to launch a DLT-driven trade finance platform by the end of 2018. In collaboration with the Monetary Authority of Singapore, it is establishing the Global Trade Connectivity Network, which will connect DLT-based trade finance programs in the two economies, with plans to expand across the region and globally.

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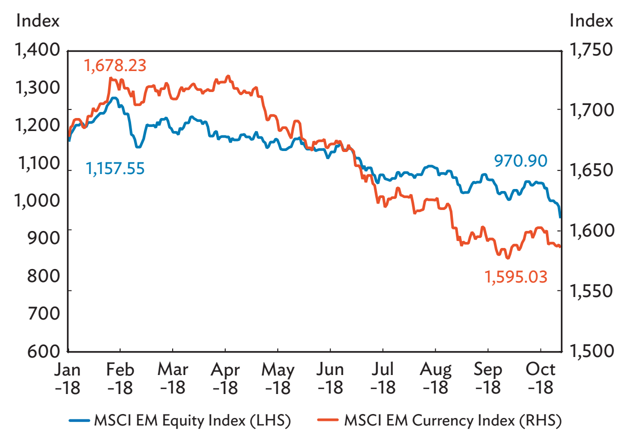
Despite the fact that Argentina and Turkey appear to have averted crisis, at least for the time being, global investor sentiment has turned against emerging markets as a whole. The MSCI Emerging Markets Currency Index fell to its lowest level in more than a year on 11 September although it has recovered a little since then. Similarly, the MSCI Emerging Markets Equity Index has declined by more than 17% since the beginning of the year (**Figure H**). The overall trend of emerging market equity and currency markets is clearly downward. The broad risk aversion toward emerging markets is due to a combination of factors. The ongoing normalization of US monetary policy and the consequent increase in US interest rates is making emerging market financial assets less attractive. The tightening of global liquidity conditions is encouraging investors to take a closer look at emerging markets with large external debt, large current account deficits, and other imbalances that could affect their ability to service external debt as interest rates rise. The generalized strength of the US dollar and the corresponding depreciation of emerging market currencies will also adversely affect debt-servicing capacity. Yet another major source of

Figure H: MSCI Emerging Markets Currency and Equity Indexes, 1 January–30 August 2018



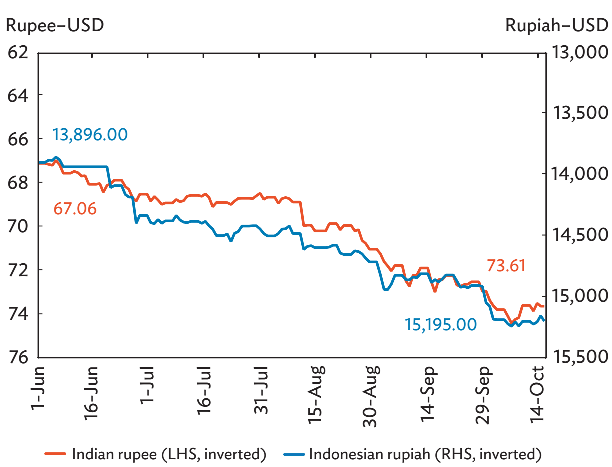
EM = emerging markets, LHS = left-hand side, MSCI = Morgan Stanley Capital International, PRC = People's Republic of China, RHS = right-hand side, US = United States.
Notes: The MSCI Emerging Markets (EM) Currency Index tracks the performance of 25 emerging-market currencies relative to the US dollar. More than half of the index weight are Asian currencies (50.2%). The currency index is on the dollar value of the local currency. The MSCI Emerging Markets Equity Index captures large and midcap representation across 24 emerging markets. Shares are as follows: the PRC (31.2%); Rep. of Korea (14.01%); Taipei,China (11.84%); India (8.99%); South Africa (6.77%); and other (27.13%).
Source: Bloomberg LP.

investor concern is a broad slowdown of economic growth in emerging markets. Although some regions, most notably developing Asia, seem to be more resilient than others, emerging markets as a whole are losing growth momentum. Finally, heightened uncertainty in the global economic environment, most notably the escalation of global trade tensions, is casting a long shadow over the financial stability and growth prospects of emerging markets.

While developing Asia continues to grow at a robust pace and enjoy relatively stable financial conditions, the region has not been entirely immune from the closer scrutiny of global investors. Although no economy in the region has suffered anything like the stress levels of Argentina and Turkey, some are experiencing minor signs of instability. In particular, the Indian rupee and the Indonesian rupiah have come under significant pressures that show no signs of abating (**Figure I**). The two economies were the hardest hit in Asia during the "Taper Tantrums" of 2013. Then, as now, the common denominator seems to be a sizable current account deficit, even if both economies have relatively sound fundamentals overall. Bank Indonesia raised its benchmark interest rate five times between mid-May and late September, from 4.25% to 5.75%. The repeated rate hikes have signaled the Indonesian central bank's strong commitment to financial and macroeconomic stability.

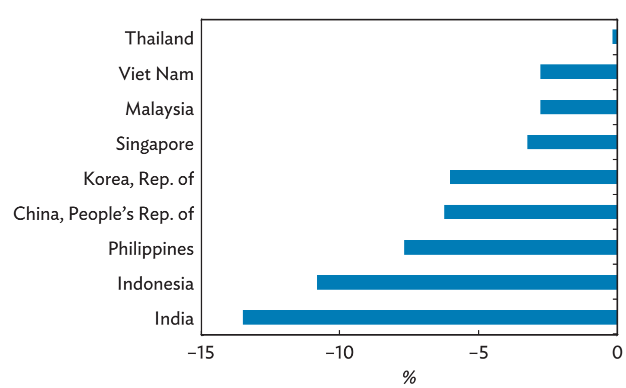
The weakness of Asian currencies relative to the US dollar in 2018 is by no means limited to the Indian rupee and Indonesian rupiah (**Figure J**). In fact, the US dollar has appreciated against nearly all currencies in developing Asia, although it has appreciated more against some currencies than others. The ongoing interest rate hikes by the Federal Reserve and the enduring robust growth momentum of the US economy help to explain the remarkable strength of the dollar. Of particular interest among regional currencies is the depreciation of the Chinese renminbi, which is sliding toward the psychologically significant exchange rate of CNY7–USD1. The renminbi has been among Asia's worst-performing currencies in 2018. On 18 October, the renminbi fell to a 21-month low. A widening interest rate differential with the US, the reversal of the current account balance from surplus to deficit (albeit a small one) in the first quarter of the year, trade tensions with the US, and a sharp slowing of capital inflows into the PRC's equity and bond markets have all contributed to the renminbi's weakness. However, the risks of more serious financial instability in the PRC and the rest of developing Asia seem limited at this point. Investors seem to increasingly discriminate between emerging markets with strong fundamentals versus those with weak fundamentals, even as they show a broader risk aversion toward emerging markets as a whole. By and large, more-discerning investors is good news for Asian markets.

Figure I: Indian Rupee and Indonesian Rupiah against the United States Dollar, 1 June–18 October 2018



LHS = left-hand side, RHS = right-hand side, USD = United States dollar.
Source: Bloomberg LP.

Figure J: Depreciation of Local Currency against the United States Dollar, 1 January–18 October 2018



Note: Data reflect changes between 1 January 2018 and 18 October 2018. These are changes in dollar value of per unit of local currency.
Source: Bloomberg LP.

Another major risk to Asia's financial and economic stability—the faster-than-expected normalization of US monetary policy and thus the unexpectedly rapid increase of US interest rates—will further exacerbate the generalized risk aversion toward emerging markets. Financial stability in emerging markets will suffer from currency depreciation vis-à-vis the US dollar as well as capital outflows, both of which will gain further momentum if the Federal Reserve raises the benchmark rate by more and at a faster pace than expected. The federal funds rate has been raised eight times since December 2015 when the Federal Reserve began to normalize monetary policy. When it announced the latest rate hike to a range of 2.00%–2.25% on 26 September, the Federal Reserve indicated that its outlook for the US economy was very positive. Therefore, surprisingly fast rate hikes cannot be ruled out. In Asia's case, in addition to the potentially adverse impact on the financial stability of emerging markets, the rate hikes pose a substantial additional risk stemming from the region's accumulation of private debt since the global financial crisis (**Box 3**). Tightening global conditions triggered by monetary policy normalization in the US are likely to increase the debt servicing burdens of companies and households that borrowed heavily during the recent era of exceptionally low global interest rates.

A number of downside risks hover over the world economy and global financial system. Foremost among these is escalating global trade tensions. Of particular concern is the heated trade conflict between the world's two biggest economies, the PRC and the US. At the time of writing, there were no signs of de-escalation or even any tangible signs that the two governments would try to negotiate a solution to a conflict that is ultimately detrimental for both economies and the world economy at large. To the contrary, on 24 September the US imposed tariffs on USD200 billion worth of Chinese goods and the PRC retaliated with tariffs on USD60 billion worth of American goods. The effects of the PRC–US trade conflict will not be limited to its damage to trade. It will also harm business confidence and disrupt business plans, and thus harm investment. Financial markets, especially equity markets, may also be impacted. Another current risk is global oil price volatility driven by geopolitical developments in a number of different parts of the world. Amid the current global environment of heightened uncertainty, downside risks clearly outweigh upside risks.

Box 3: Financial Business Cycles versus Normal Business Cycles—An Empirical Comparison

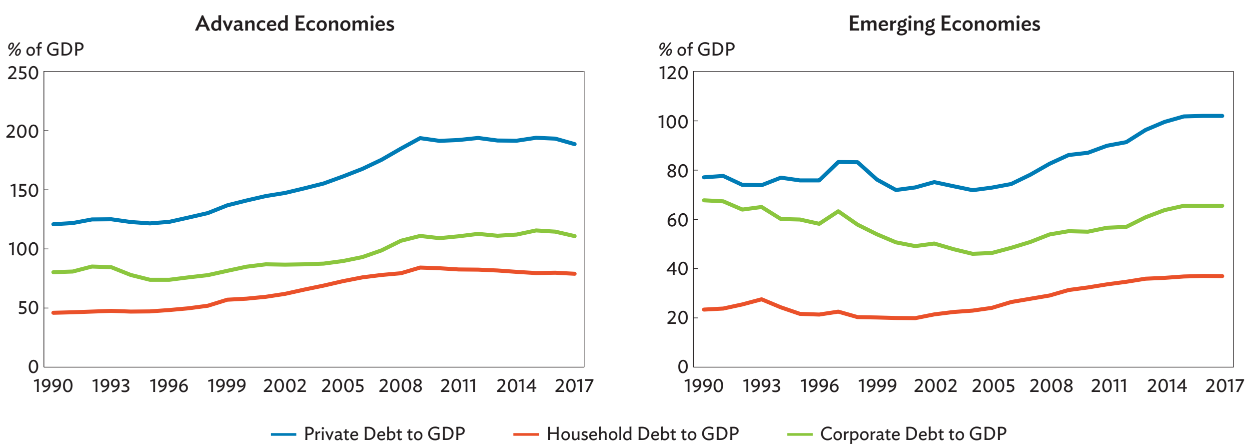
The current tightening of global liquidity conditions triggered by the United States Federal Reserve's monetary policy normalization brings to the fore the relationship between financial cycles and real-economy business cycles. In this connection, a number of studies find that financial upturns and downturns tend to inflict more damage on the real economy than normal business cycle recessions. Park, Shin, and Tian (forthcoming) empirically revisit this issue and analyze whether there are differences between the real-economy effects of financial recessions associated with household debt and corporate debt.

The first step of their empirical analysis identifies business cycles for the sample period 1970–2014. The Hodrick–Prescott filter is applied to per capita log real gross domestic product data to detect business cycle expansions and disruptions in 21 advanced economies and 17 emerging market economies. The procedure generates a total of 195 peaks in advanced economies and 140 peaks in emerging market economies.

The second step is to differentiate financial peaks from normal peaks using two definitions. The first definition follows Jordà, Schularick, and Taylor (2011) where financial crisis peaks are peaks that immediately precede financial crises. The second definition is based solely on the buildup speed of private debt, where a financial peak occurs if the annual change in private debt is higher than the sample median in the preceding boom. For economies with complete and disaggregated private debt data, financial crisis peaks (or financial peaks) were classified further into household debt- and corporate debt-driven peaks. If the growth in household debt is greater than corporate debt, this is classified as a household debt-driven financial crisis peak (or financial peak) and otherwise as a corporate debt-driven financial crisis peak (or financial peak). **Figure B3.1** shows the dynamics of private debt in advanced economies and emerging market economies in recent years. While the ratio of private debt to gross domestic product has leveled off in advanced economies since the global financial crisis, it grew rapidly in emerging market economies

Applying the two alternative definitions of financial peak, the authors identify (i) 26 financial crisis peaks (10 household financial crisis peaks and 12 corporate financial crisis peaks) under the Jordà, Schularick, and Taylor (2011) definition; and (ii) 65 financial peaks (20 household financial peaks and 24 corporate financial peaks) under the debt buildup speed definition. The number of household and corporate financial crisis peaks (financial peaks) do not add up to the total number of financial crisis peaks (financial peaks) since not all identified financial crisis

Figure B3.1: The Dynamics of Private Debt, Household Debt, and Corporate Debt



GDP = gross domestic product.
Notes: Debt is measured as a share of GDP. The advanced economies are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States. The emerging economies are Argentina; Brazil; Colombia; the Czech Republic; Hong Kong, China; Hungary; Indonesia; Israel; Malaysia; Mexico; Poland; the Republic of Korea; the Russian Federation; Saudi Arabia; Singapore; Thailand; and Turkey.
Source: Park, Shin, and Tian (forthcoming).

continued on next page

Box 3: Financial Business Cycles versus Normal Business Cycles—An Empirical Comparison
continued

peaks (financial peaks) can be disaggregated into either a household or corporate financial crisis peak due to data limitations. The business cycle identification process shows that financial crises are more associated with a rapid increase in corporate debt than in household debt. This differs sharply from recent studies that recessions are largely attributed to household debt buildups.

The behavior of three key real-economy variables—output, consumption, and investment—were examined during financial crisis peaks in advanced economies and in the full sample, which includes emerging market economies. In advanced economies, the average growth rates of real-economy variables are higher during expansions before normal peaks than before financial crisis peaks and much lower after financial crisis peaks than after normal peaks. The average output growth rate during corporate financial crisis peaks is slightly lower than in household financial crisis peaks during expansions and substantially lower during recessions. This suggests that corporate debt buildups can be as damaging as household debt buildups. A similar pattern can be observed when financial peaks are used instead of financial crisis peaks.

Significantly, the buildup speed of private debt—both household and corporate—does not slow down after normal peaks, financial crisis peaks, or household and corporate financial crisis peaks. This implies that debt deleveraging during recessions is a difficult process. Furthermore, there is strong evidence that price increases in housing and equities decline substantially after financial crisis peaks and financial peaks, but not after normal peaks, regardless of whether the financial crisis peaks and financial peaks are driven by household or corporate debt.

In emerging market economies, the growth rates of output, consumption, and investment are comparable during expansions across normal peaks and financial crisis peaks, but the growth rates are much lower for financial crisis peaks during recessions. There is no clear evidence of debt deleveraging during recessions. There are more financial crisis peaks where corporate debt increased more rapidly than household debt. Output growth related to corporate financial crisis peaks is slightly lower both during expansions and recessions. The growth rates of consumption and investment are also lower during financial crisis peak recessions induced by corporate debt rather than household debt. These findings indicate that corporate debt buildups and household debt buildups are equally damaging in emerging market economies.

Let us now compare normal peak recessions versus financial peak recessions, rather than financial crisis peak recessions. The estimations follow the Jordà, Schularick, and Taylor (2011) approach, which estimates the cumulative response of output, consumption, and investment over a time horizon of 1–5 years. The results show that in advanced economies, the cumulative changes in output are significantly lower after financial peaks than after normal peaks. Cumulative changes in consumption and investment are also lower in financial recessions, albeit by a very small margin. In the full sample that includes emerging market economies, the pattern of output changes in normal and financial recessions is broadly consistent with the pattern for advanced economies. The key difference is that the effect of financial recessions is even more pronounced for investment than for output, which implies that financial recessions adversely affect investment in emerging market economies.

Further analysis was done to analyze the effects of household versus corporate financial peaks. In advanced economies, the cumulative changes in output are substantially lower in both household and corporate financial recessions than in normal recessions, and there is no significant difference between household and corporate financial recessions. This reconfirms that the output impact of corporate financial recessions is as damaging as that of household financial recessions. For cumulative changes in consumption, the results suggest that neither household nor corporate financial recessions are different from normal recessions. Only cumulative investment changes related to household financial recessions are different from those related to normal recessions. If we extend the sample to include emerging market economies, the number of corporate financial peaks increases more than household financial peaks. The results for the full sample are broadly similar to those for advanced economies, except that cumulative investment changes related to corporate financial recessions are now statistically different from normal recessions.

Overall, the empirical findings of Park, Shin, and Tian (forthcoming) are consistent with those of earlier studies that find recessions associated with financial cycles tend to inflict more damage that normal business cycle recessions. Their results also indicate that corporate financial recessions and household financial recessions are equally detrimental

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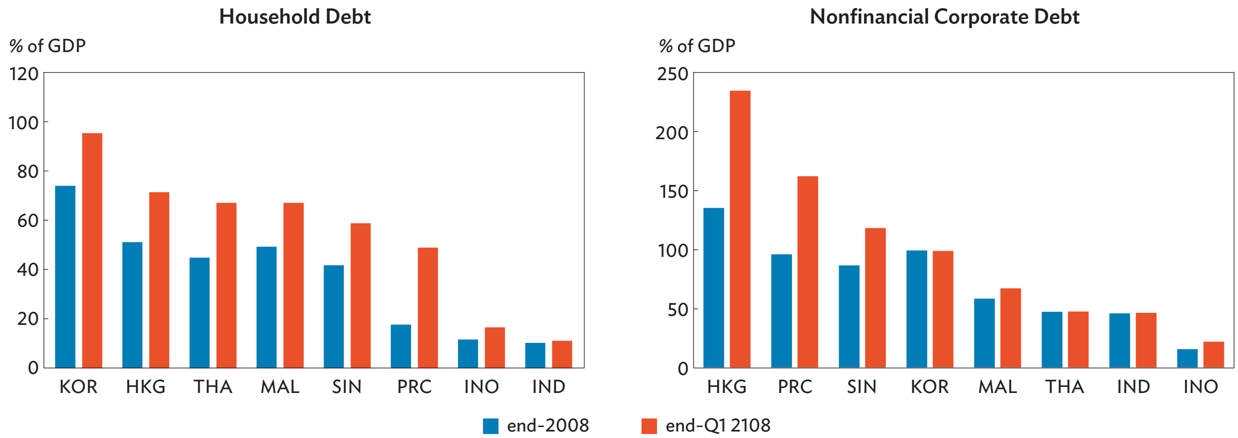
Box 3: Financial Business Cycles versus Normal Business Cycles—An Empirical Comparison
continued

Figure B3.2: Ratio of Debt to GDP in Selected Economies in Developing Asia



GDP = gross domestic product; HKG = Hong Kong, China; IND = India; INO = Indonesia; MAL = Malaysia; PRC = People's Republic of China; Q1 = first quarter, ROK = Republic of Korea, SIN = Singapore; THA = Thailand.
Note: End-Q1 2018 is an estimate.
Source: Institute of International Finance. 2016. *EM Debt Monitor March 2016*. Washington, DC.

to the real economy. While there are concerns over the rapid growth of corporate debt in some Asian economies and over household debt in other Asian economies (**Figure B3.2**), the Park, Shin, and Tian (forthcoming) analysis points to a need for policymakers in the region to closely monitor the growth of both types of private debt.

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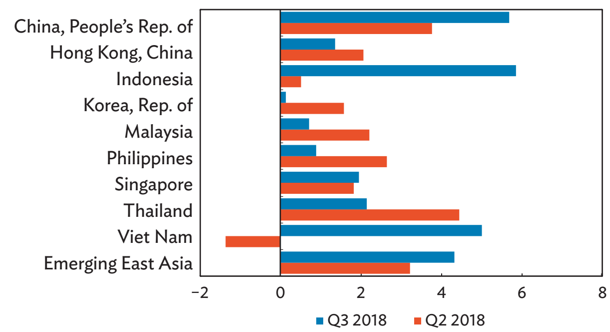
Bond Market Developments in the Third Quarter of 2018

Size and Composition

All LCY bond markets in emerging East Asia expanded in Q3 2018, with aggregate bonds outstanding rising to USD12.8 trillion.

Emerging East Asia's local currency (LCY) bond market expanded 4.3% quarter-on-quarter (q-o-q) to USD12.8 trillion at the end of September 2018.[3] Growth in the third quarter (Q3) of 2018 accelerated from 3.2% q-o-q in the second quarter (Q2) of 2018. All economies in the region posted q-o-q increases in their respective LCY bond markets in Q3 2018. However, q-o-q growth rates in most economies in the region decelerated from the previous quarter (**Figure 1a**).

Figure 1a: Growth of Local Currency Bond Markets in the Second and Third Quarters of 2018 (q-o-q, %)



q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter.

Notes:

1. Calculated using data from national sources.
2. Growth rates are calculated from local currency base and do not include currency effects.
3. Emerging East Asia growth figures are based on 30 September 2018 currency exchange rates and do not include currency effects.
4. For Hong Kong, China, Q3 2018 corporate bonds outstanding are based on *AsianBondsOnline* estimates. For Japan, Q3 2018 bonds outstanding are as of August 2018. For the Republic of Korea, Q3 2018 government bonds outstanding are based on *AsianBondsOnline* estimates. For Singapore, corporate bonds outstanding are based on *AsianBondsOnline* estimates. For Thailand, Q3 2018 bonds outstanding are based on *AsianBondsOnline* estimates.

Sources: People's Republic of China (*ChinaBond* and *Wind Information*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia; Directorate General of Budget Financing and Risk Management, Ministry of Finance; and Indonesia Stock Exchange); Republic of Korea (*EDAILY BondWeb* and The Bank of Korea); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury and Bloomberg LP); Singapore (Monetary Authority of Singapore, Singapore Government Securities, and Bloomberg LP); Thailand (Bank of Thailand); and Viet Nam (Bloomberg LP and Vietnam Bond Market Association).

The People's Republic of China (PRC) continued to drive the region's bond market performance in Q3 2018 as most economies in emerging East Asia posted slower q-o-q increases. The PRC's LCY bond market with an outstanding size of USD9.2 trillion, comprised 72% of the regional total at the end of September, and it posted the region's second-highest growth rate in Q3 2018 at 5.7% q-o-q. This was an acceleration from the 3.8% q-o-q increase registered in Q2 2018. The strong growth was driven by a surge in quarterly issuance for both government bonds and corporate bonds. The amount of the PRC's LCY government bonds outstanding jumped 6.3% q-o-q to USD6.7 trillion, led by 12.5% q-o-q growth in local government bonds. The issuance of local government bonds doubled in Q3 2018 compared with the volume issued in the previous quarter. As part of efforts to boost growth amid a slowdown in economic activity and risks posed by the ongoing trade dispute with the United States (US), the Government of the PRC imposed a target for local governments to issue "special bonds" to be used for infrastructure projects, with such issuance to have reached 92% of the respective full-year quota by the end of September.[4] The total annual quota for local government bonds in 2018 stands at CNY1.4 trillion. Only about CNY300 billion had been issued during the first half of the year, which resulted in a surge of local government bond issuance in Q3 2018. Corporate bonds also posted robust growth of 4.1% q-o-q to reach USD2.5 trillion at the end of September, compared with a 2.1% q-o-q increase in Q2 2018. Lower borrowing costs and additional liquidity in the market after the People's Bank of China cut reserve requirement ratios in July bolstered corporate issuance in Q3 2018.

The Republic of Korea's LCY bond market remained the second largest in emerging East Asia with a regional share of about 16%. The amount of outstanding bonds at the end of September reached USD2.0 trillion, inching up 0.1% q-o-q in Q3 2018 following 1.6% q-o-q growth in the previous quarter. The stock of government bonds

[3] 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.

[4] Bloomberg LP. 2018. *China's $195 Billion Debt Splurge Has Less Bang Than You Might Think*. 22 October.

declined 0.9% q-o-q due to lower issuance volume and large maturities of Korea Treasury Bonds. The government issued a smaller amount of central government bonds in Q3 2018 compared with the previous 2 quarters in line with its frontloading policy. The Republic of Korea's LCY corporate bond market also registered minimal growth of 0.9% q-o-q in Q3 2018. Corporate bond issuers remained on the sidelines during the quarter as the direction of yield movements was uncertain given domestic and external developments.

In Hong Kong, China, the growth of LCY bonds outstanding eased to 1.4% q-o-q in Q3 2018 from 2.1% q-o-q in the previous quarter. Hong Kong, China's LCY bond market reached a size of USD250 billion at the end of September. Growth was solely driven by the corporate sector as outstanding government bonds fell 0.4% q-o-q in Q3 2018. The stocks of Exchange Fund Notes and Hong Kong Special Administrative Region bonds declined in Q3 2018 on declining issuance volume and maturing notes and bonds. Only Exchange Fund Bills registered growth in Q3 2018, but only on a marginal rate. Hong Kong, China's LCY corporate bond market expanded 3.9% q-o-q as more companies issued bonds in anticipation of higher interest rates.

The aggregate size of the LCY bond markets of Association of Southeast Asian Nations (ASEAN) economies for which data are available grew to USD1.3 trillion at the end of September on 2.2% q-o-q growth. All six economies posted q-o-q increases in their respective bond markets in Q3 2018. Government bonds continued to dominate, totaling USD916 billion at the end of September on growth of 2.3% q-o-q and accounting for a share of about 68% of ASEAN bonds outstanding. Meanwhile, outstanding corporate bonds rose 2.2% q-o-q to USD431 billion.

Thailand remained the largest LCY bond market among all ASEAN economies with USD377 billion of bonds outstanding at the end of September. Its bond market expanded 2.1% q-o-q in Q3 2018, easing from the 4.4% q-o-q growth posted in Q2 2018. Growth was supported by both the government and corporate segments. Government bonds rose 2.0% q-o-q, led by rising stocks of central government bonds and central bank bonds. The continued rise in central bank bonds was due to the Bank of Thailand (BOT) increasing the auction volume of central bank bills starting in April, which was a gradual reversal from the easing of issuance that started in 2017, to manage currency volatility. Thailand's corporate bond market also expanded 2.5% q-o-q as more companies issued bonds in anticipation of rising interest rates given the possibility of the BOT raising policy rates in the near future.

The size of Malaysia's LCY bond market was barely changed in Q3 2018 at USD333 billion on marginal growth of 0.7% q-o-q, easing from the 2.2% q-o-q increase posted in the previous quarter. The slower growth was led by a minimal expansion of government bonds of 0.4% q-o-q due to lower issuance volume and a sizable amount of maturing Malaysian Government Securities during the quarter. Growth in LCY corporate bonds also eased to 1.1% q-o-q in Q3 2018 from 1.9% q-o-q in the previous quarter as the trend of tepid issuance continued. Corporate bond issuers remained on the sidelines as the fiscal and economic policies of the new government were being firmed up.

Malaysia continued to be home to the largest *sukuk* (Islamic bonds) market in emerging East Asia in Q3 2018 with total outstanding bonds of USD200 billion at the end of September. *Sukuk* also dominate the LCY bond market with a share of about 60% of the total market, accounting for nearly 76% of the corporate bond market and about 46% of the government bond market.

Singapore's LCY bond market grew 2.0% q-o-q in Q3 2018 to USD291 billion, slightly higher than the 1.8% q-o-q increase posted in the previous quarter. Growth was driven by both the government and corporate segments. Singapore's government bond market posted growth of 1.6% q-o-q, solely driven by the rise in the stock of bills issued by the Monetary Authority of Singapore. Issuance of such bills accelerated in Q3 2018, an indication that the Monetary Authority of Singapore was continuing to mop up excess liquidity in the market. The amount of Singapore Government Securities bills and bonds outstanding declined in Q3 2018 due to low issuance volumes relative to maturities. Corporate bonds also rose 2.5% q-o-q as issuance rebounded in Q3 2018 as more quasi-government entities issued bonds in line with the government's plan to boost infrastructure development.

Indonesia was home to the fastest-growing LCY bond market in the emerging East Asian region in Q3 2018, posting growth of 5.9% q-o-q, an acceleration from the marginal increase of 0.5% q-o-q in the previous quarter.

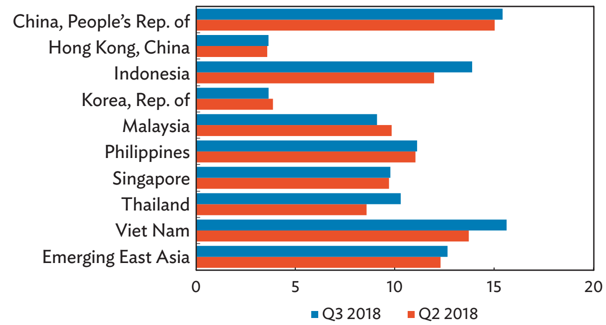
The high growth rate was driven by a rebound in issuance relative to Q2 2018, when fewer bonds were issued due to unsuccessful auctions as market participants sought higher yields. The stock of central bank bills also tripled in Q3 2018, primarily due to the reactivation of the issuance of 9-month and 12-month Sertifikat Bank Indonesia in July. The move was part of the efforts of Bank Indonesia to stabilize the rupiah as investors can purchase said instruments. Indonesia's corporate bond market remains small but posted growth of 4.1% q-o-q in Q3 2018.

The Philippines' LCY bonds outstanding were barely changed in Q3 2018 at USD107 billion at the end of September, reflecting a 0.9% q-o-q increase from the previous quarter. The growth in its bond market was primarily driven by the corporate segment as government bonds posted minimal growth of 0.04% q-o-q. The slow growth in the government bond segment was the result of a high base in Q2 2018 after a sizable amount of the Retail Treasury Bond issuance in June. Moreover, most auctions of Treasury bonds were rejected in Q3 2018 as market players sought higher yields. Treasury bills jumped 15.3% q-o-q due to successful auctions relative to longer-dated bonds, a reflection of the preference for short-term securities due to market uncertainties. Expectations of higher inflation and further rate hikes by the Bangko Sentral ng Pilipinas (BSP) continued to weigh on market participation. Corporate bonds rose 4.3% q-o-q in Q3 2018 as more companies tapped the bond market in anticipation of higher interest rates.

Viet Nam remained the smallest LCY bond market in the region at a size of USD53 billion at the end of September on 5.0% q-o-q growth, which was a reversal from the 1.4% q-o-q contraction registered in Q2 2018. The stock of government bonds rose 5.2% q-o-q, led by growth in Treasury bills and bonds, on a rebound in issuance compared with Q2 2018 when auctions were only partially awarded as traders sought higher yields. The outstanding amount of central bank bills also jumped in Q3 2018 despite less issuance by the State Bank of Vietnam than in the previous quarter. Viet Nam's corporate bond market remains small and underdeveloped but continues to expand, posting growth of 2.9% q-o-q in Q3 2018.

At the end of Q3 2018, emerging East Asia's LCY bond market had expanded 12.7% year-on-year (y-o-y), slightly higher than the 12.3% y-o-y growth posted at the end of Q2 2018 (**Figure 1b**). Most economies posted bigger y-o-y increases, albeit only in marginal increments. The y-o-y growth in Malaysia and the Republic Korea slowed in Q3 2018, while the PRC and Viet Nam posted the largest increases at 15.5% y-o-y and 15.7% y-o-y, respectively. Viet Nam's rapid growth was consistent with the expansion of an LCY bond market that is still in the development stage. Hong Kong, China and the Republic of Korea posted the slowest y-o-y increases at 3.6% y-o-y and 3.7% y-o-y, respectively, as both economies have fairly developed LCY bond markets.

Figure 1b: Growth of Local Currency Bond Markets in the Second and Third Quarters of 2018 (y-o-y, %)



Q2 = second quarter, Q3 = third quarter, y-o-y = year-on-year.
Notes:
1. Calculated using data from national sources.
2. Growth rates are calculated from local currency base and do not include currency effects.
3. Emerging East Asia growth figures are based on 30 September 2018 currency exchange rates and do not include currency effects.
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Sources: People's Republic of China (*ChinaBond* and *Wind Information*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia; Directorate General of Budget Financing and Risk Management, Ministry of Finance; and Indonesia Stock Exchange); Republic of Korea (*EDAILY BondWeb* and The Bank of Korea); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury and Bloomberg LP); Singapore (Monetary Authority of Singapore, Singapore Government Securities, and Bloomberg LP); Thailand (Bank of Thailand); and Viet Nam (Bloomberg LP and Vietnam Bond Market Association).

LCY government bonds outstanding in emerging East Asia reached USD8.6 trillion at the end of September and continued to dominate the region's overall bond market. Debt securities issued by governments, central banks, and state-owned entities comprised 67.3% of total LCY bonds at the end of September (**Table 1**). The outstanding amount of the region's government bonds rose 5.0% q-o-q in Q3 2018, up from the 4.0% q-o-q growth posted in the previous quarter.

Table 1: Size and Composition of Local Currency Bond Markets

	Q3 2017		Q2 2018		Q3 2018		Growth Rate (LCY-base %)				Growth Rate (USD-base %)			
	Amount (USD billion)	% share	Amount (USD billion)	% share	Amount (USD billion)	% share	Q3 2017		Q3 2018		Q3 2017		Q3 2018	
							q-o-q	y-o-y	q-o-q	y-o-y	q-o-q	y-o-y	q-o-q	y-o-y
China, People's Rep. of														
Total	8,221	100.0	9,026	100.0	9,195	100.0	5.3	14.2	5.7	15.5	7.3	14.5	1.9	11.9
Government	5,928	72.1	6,548	72.5	6,707	72.9	6.1	19.0	6.3	16.8	8.2	19.3	2.4	13.1
Corporate	2,293	27.9	2,479	27.5	2,488	27.1	3.3	3.5	4.1	12.0	5.3	3.8	0.4	8.5
Hong Kong, China														
Total	242	100.0	246	100.0	250	100.0	1.3	3.0	1.4	3.6	1.3	2.3	1.6	3.4
Government	143	59.2	148	60.1	147	59.0	3.7	4.6	(0.4)	3.4	3.6	3.8	(0.1)	3.2
Corporate	99	40.8	98	39.9	102	41.0	(2.0)	0.9	3.9	3.9	(2.0)	0.2	4.2	3.7
Indonesia														
Total	180	100.0	182	100.0	185	100.0	4.1	12.7	5.9	13.9	3.1	9.1	1.8	3.0
Government	153	85.2	154	84.6	157	84.8	3.4	10.7	6.2	13.5	2.4	7.2	2.1	2.6
Corporate	27	14.8	28	15.4	28	15.2	8.2	25.5	4.1	16.5	7.2	21.5	0.1	5.3
Korea, Rep. of														
Total	1,873	100.0	1,993	100.0	2,005	100.0	0.3	3.3	0.1	3.7	0.2	(0.7)	0.6	7.0
Government	769	41.0	841	42.2	837	41.7	(1.3)	2.9	(0.9)	5.5	(1.4)	(1.1)	(0.5)	8.9
Corporate	1,105	59.0	1,152	57.8	1,168	58.3	1.5	3.6	0.9	2.4	1.4	(0.4)	1.4	5.7
Malaysia														
Total	299	100.0	339	100.0	333	100.0	1.4	8.1	0.7	9.1	3.1	6.0	(1.7)	11.3
Government	159	53.1	179	52.8	175	52.6	0.1	6.2	0.4	8.1	1.8	4.1	(2.0)	10.3
Corporate	140	46.9	160	47.2	158	47.4	2.9	10.4	1.1	10.2	4.6	8.3	(1.4)	12.4
Philippines														
Total	102	100.0	108	100.0	107	100.0	0.8	8.5	0.9	11.2	0.03	3.4	(0.3)	4.6
Government	83	80.8	86	80.0	85	79.3	0.04	6.5	0.04	9.0	(0.7)	1.5	(1.2)	2.7
Corporate	20	19.2	22	20.0	22	20.7	4.2	18.1	4.3	20.1	3.4	12.5	3.0	13.0
Singapore														
Total	267	100.0	287	100.0	291	100.0	3.8	11.5	2.0	9.8	5.2	12.0	1.6	9.1
Government	162	60.8	174	60.7	176	60.5	6.7	20.6	1.6	9.3	8.1	21.1	1.3	8.5
Corporate	105	39.2	113	39.3	115	39.5	(0.4)	(0.1)	2.5	10.7	1.0	0.3	2.1	9.9
Thailand														
Total	331	100.0	361	100.0	377	100.0	0.5	4.2	2.1	10.3	2.4	8.1	4.4	13.7
Government	240	72.3	261	72.4	272	72.4	0.2	2.1	2.0	10.4	2.1	6.0	4.3	13.7
Corporate	92	27.7	99	27.6	104	27.6	1.5	10.0	2.5	10.2	3.3	14.2	4.8	13.6
Viet Nam														
Total	47	100.0	51	100.0	53	100.0	3.2	0.7	5.0	15.7	3.2	(1.2)	3.3	12.8
Government	44	94.3	48	93.4	49	93.5	2.9	0.4	5.2	14.7	2.9	(1.5)	3.5	11.8
Corporate	3	5.7	3	6.6	3	6.5	9.2	6.3	2.9	31.6	9.2	4.3	1.2	28.3
Emerging East Asia														
Total	11,563	100.0	12,592	100.0	12,796	100.0	4.0	11.3	4.3	12.7	5.5	10.8	1.6	10.7
Government	7,681	66.4	8,438	67.0	8,608	67.3	4.8	15.4	5.0	14.7	6.5	15.2	2.0	12.1
Corporate	3,882	33.6	4,154	33.0	4,189	32.7	2.5	4.0	3.0	8.9	3.8	2.9	0.9	7.9
Japan														
Total	10,171	100.0	10,445	100.0	10,319	100.0	0.4	1.7	1.4	2.5	0.3	(8.4)	(1.2)	1.5
Government	9,475	93.2	9,754	93.4	9,637	93.4	0.5	2.0	1.4	2.8	0.4	(8.1)	(1.2)	1.7
Corporate	695	6.8	691	6.6	683	6.6	(0.4)	(1.4)	1.4	(0.8)	(0.5)	(11.2)	(1.2)	(1.8)

( ) = negative, LCY = local currency, q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter, USD = United States dollar, y-o-y = year-on-year.

Notes:

1. For Hong Kong, China, Q3 2018 corporate bonds outstanding are based on *AsianBondsOnline* estimates. For Japan, Q3 2018 bonds outstanding are as of August 2018. For the Republic of Korea, Q3 2018 government bonds outstanding are based on *AsianBondsOnline* estimates. For Singapore, corporate bonds outstanding are based on *AsianBondsOnline* estimates. For Thailand, Q3 2018 bonds outstanding are based on *AsianBondsOnline* estimates.
2. Corporate bonds include issues by financial institutions.
3. Bloomberg LP end-of-period LCY–USD rates are used.
4. For LCY base, emerging East Asia growth figures are based on 30 September 2018 currency exchange rates and do not include currency effects.
5. 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.

Sources: People's Republic of China (*ChinaBond* and *Wind Information*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia; Directorate General of Budget Financing and Risk Management, Ministry of Finance; and Indonesia Stock Exchange); Republic of Korea (*EDAILY BondWeb* and The Bank of Korea); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury and Bloomberg LP); Singapore (Monetary Authority of Singapore, Singapore Government Securities, and Bloomberg LP); Thailand (Bank of Thailand); Viet Nam (Bloomberg LP and Vietnam Bond Market Association); and Japan (Japan Securities Dealers Association).

The PRC (USD6.7 trillion) remained the largest LCY government bond market in the region, accounting for about 78% of the region's total government bonds outstanding at the end of September. The Republic of Korea's government bond market, at a size of USD837 billion, remained the second-largest government bond market with a regional share of about 10%. Among ASEAN economies, Thailand (USD272 billion) had the largest government bond market, followed by Singapore (USD176 billion) and Malaysia (USD175 billion). The Philippines (USD85 billion) and Viet Nam (USD49 billion) remained the smallest government bond markets in the region. In terms of growth, the PRC and Indonesia posted the fastest Q3 2018 growth rates at 6.3% q-o-q and 6.2% q-o-q, respectively.

The region's aggregate corporate bond market grew 3.0% q-o-q in Q3 2018, up from the 1.7% q-o-q pace posted in the previous quarter. The PRC also dominates the region's corporate bond market with outstanding corporate bonds of USD2.5 trillion, comprising about 60% of the region's total at the end of September. The Republic of Korea remained the second-largest corporate bond market at USD1.2 trillion and a share of about 28%. Among ASEAN economies, Malaysia (USD158 billion) and Singapore (USD115 billion) have the largest corporate bond markets. The Philippines (USD22 billion) and Viet Nam (USD3 billion) remained the smallest corporate bond markets in the region. All markets posted q-o-q increases in Q3 2018, with the Philippines registering the fastest growth at 4.3% q-o-q.

The ratio of emerging East Asia's LCY bond market to the region's gross domestic product (GDP) inched up to 73.1% at the end of September from 71.2% at the end of June (**Table 2**). The shares of the region's government and corporate bond markets to the region's GDP rose in Q3 2018 to 49.1% and 23.9%, respectively. The Republic of Korea and Malaysia continued to have the highest bonds-to-GDP ratios in the region at 127.0% and 96.7%, respectively.

In Q3 2018, the shares of foreign investor holdings in emerging East Asian bond markets stabilized as central banks in vulnerable markets raised policy rates.

Overall, the shares of foreign investor holdings in the LCY government bond markets of emerging East Asia stabilized in Q3 2018 (**Figure 2**).

Table 2: Size and Composition of Local Currency Bond Markets (% of GDP)

	Q3 2017	Q2 2018	Q3 2018
China, People's Rep. of			
Total	68.1	69.1	71.3
Government	49.1	50.1	52.0
Corporate	19.0	19.0	19.3
Hong Kong, China			
Total	72.0	69.7	70.9
Government	42.6	41.9	41.8
Corporate	29.4	27.9	29.0
Indonesia			
Total	18.2	18.4	18.7
Government	15.5	15.6	15.9
Corporate	2.7	2.8	2.8
Korea, Rep. of			
Total	125.4	126.2	127.0
Government	51.5	53.3	53.0
Corporate	74.0	73.0	74.0
Malaysia			
Total	95.2	98.4	96.7
Government	50.6	51.9	50.9
Corporate	44.7	46.5	45.8
Philippines			
Total	33.7	34.7	34.6
Government	27.3	27.8	27.5
Corporate	6.5	7.0	7.2
Singapore			
Total	81.9	85.3	86.7
Government	49.8	51.8	52.5
Corporate	32.1	33.5	34.3
Thailand			
Total	72.6	74.8	78.1
Government	52.5	54.2	56.5
Corporate	20.1	20.6	21.6
Viet Nam			
Total	22.2	22.5	23.0
Government	21.0	21.0	21.5
Corporate	1.3	1.5	1.5
Emerging East Asia			
Total	70.0	71.2	73.1
Government	46.5	47.7	49.1
Corporate	23.5	23.5	23.9
Japan			
Total	210.4	210.2	207.6
Government	196.1	196.3	193.9
Corporate	14.4	13.9	13.7

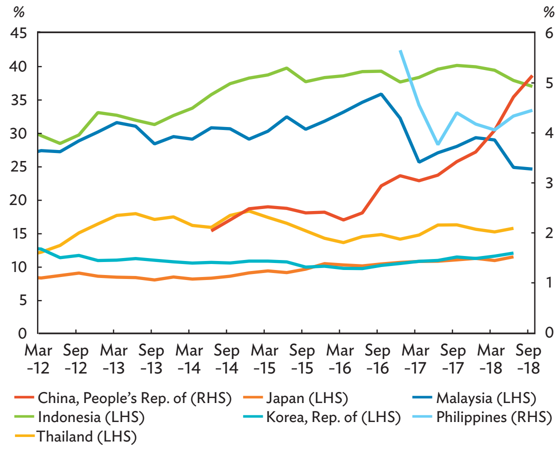
GDP = gross domestic product, Q2 = second quarter, Q3 = third quarter.

Notes:

1. Data for GDP is from CEIC. Q3 2018 GDP figures carried over from Q2 2018 except for the People's Republic of China and Viet Nam.
2. For Hong Kong, China, Q3 2018 corporate bonds outstanding are based on *AsianBondsOnline* estimates. For Japan, Q3 2018 bonds outstanding are as of August 2018. For the Republic of Korea, Q3 2018 government bonds outstanding are based on *AsianBondsOnline* estimates. For Singapore, corporate bonds outstanding are based on *AsianBondsOnline* estimates. For Thailand, Q3 2018 bonds outstanding are based on *AsianBondsOnline* estimates.

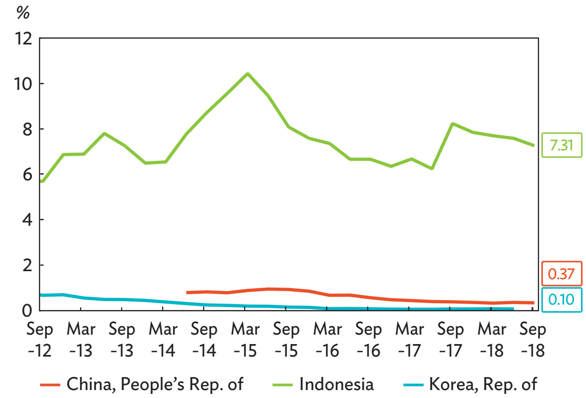
Sources: People's Republic of China (*ChinaBond* and *Wind Information*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia; Directorate General of Budget Financing and Risk Management, Ministry of Finance; and Indonesia Stock Exchange); Republic of Korea (*EDAILY BondWeb* and The Bank of Korea); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury and Bloomberg LP); Singapore (Monetary Authority of Singapore, Singapore Government Securities, and Bloomberg LP); Thailand (Bank of Thailand); Viet Nam (Bloomberg LP and Vietnam Bond Market Association); and Japan (Japan Securities Dealers Association).

Figure 2: Foreign Holdings of Local Currency Government Bonds in Select Asian Economies (% of total)



LHS = left-hand side, RHS = right-hand side.
Note: Data as of end-September 2018 except for Japan, the Republic of Korea, and Thailand (end-June 2018).
Source: *AsianBondsOnline*.

Figure 3: Foreign Holdings of Local Currency Corporate Bonds in Select Emerging East Asian Economies (% of total)



Note: Data as of 30 September 2018 except for the Republic of Korea (30 June 2018).
Sources: Based on data from *Wind*, Otoritas Jasa Keuangan, and The Bank of Korea.

In Q3 2018, the largest increase in the share of foreign holdings of LCY government bonds occurred in the PRC, where foreign holdings rose to 5.1% from 4.7% in the previous quarter. The PRC is the only government bond market in which the share of foreign holdings has consistently risen since 2016, coinciding with the gradual liberalization of its bond market.

The Philippines also experienced an increase in its share of foreign holdings of LCY government bonds in Q3 2018, which increased to 4.4% from 4.3% in Q2 2018 as aggressive rate hikes by the BSP helped temper investor concerns.

In Malaysia, the foreign holdings share of LCY government bonds decreased slightly to 24.6% in Q3 2018 from 24.8% in the previous quarter. The decline was much smaller than in previous periods as investor confidence improved following the May elections, while remaining somewhat dampened by external volatility.

In Indonesia, the foreign investor share in the LCY government bond market fell to 36.9% in Q3 2018 from 37.8% in the previous quarter. Investor sentiment improved following steps taken by Bank Indonesia to defend the currency through aggressive policy rate increases. Foreign investor holdings in governments bonds actually increased, but the gains were outpaced by much faster increases in total government bonds outstanding.

Both the Republic of Korea and Thailand showed a slight increase in their respective foreign holdings shares during Q2 2018, the latest quarter for which data are available, largely reflecting strong economic fundamentals and investor perceptions that these LCY government bond markets will be among the least affected in the region by rising US yields.

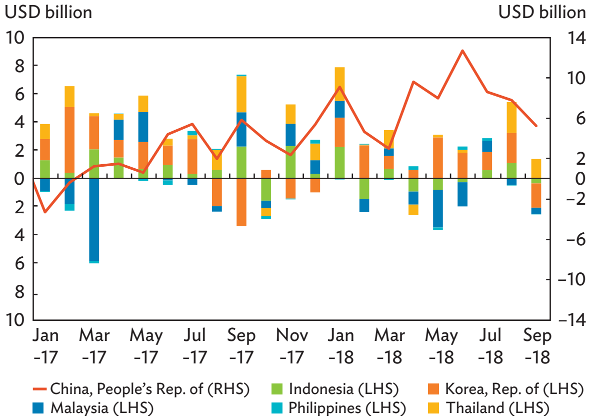
In emerging East Asian markets for which data are available, the foreign investor share of corporate bonds was broadly unchanged between the end of June and the end of September (**Figure 3**).

Most emerging East Asian LCY bond markets showed net inflows in Q3 2018, although some outflows were noted in individual markets in July and September.

Overall, emerging East Asian LCY bond markets had net inflows in Q3 2018 as investor sentiments stabilized. The strongest inflows occurred in July, when all markets showed positive inflows with the exception of Thailand, which had marginal net outflows (**Figure 4**).

All markets except the PRC and Thailand had net outflows in September, following the US policy rate hike and indications from the Federal Reserve that the US economy remained strong.

Figure 4: Foreign Bond Flows in Select Emerging East Asian Economies



LHS = left-hand side, RHS = right-hand side, USD = United States dollar.
Notes:
1. The Republic of Korea and Thailand provided data on bond flows. For the People's Republic of China, Indonesia, Malaysia, and the Philippines, month-on-month changes in foreign holdings of local currency government bonds were used as a proxy for bond flows.
2. Data as of 30 September 2018.
3. Figures were computed based on 30 September 2018 exchange rates to avoid currency effects.

Sources: People's Republic of China (*Wind Information*); Indonesia (Directorate General of Budget Financing and Risk Management, Ministry of Finance); Republic of Korea (Financial Supervisory Service); Malaysia (Bank Negara Malaysia); Philippines (Bureau of the Treasury); and Thailand (Thai Bond Market Association).

The PRC recorded inflows in all 3 months of Q3 2018 and these were sizable relative to other markets in emerging East Asia. However, foreign holdings remained a small share of the overall LCY government bond market in the PRC.

Total LCY debt issuance in emerging East Asia continued to increase in Q3 2018, albeit at a slower pace than in the previous quarter.

Total LCY bond issuance in emerging east Asia in Q3 2018 increased to USD1,395 billion on growth of 13.5% q-o-q and 6.0% y-o-y (**Table 3**). The pace of growth was slower compared with 29.3% q-o-q and 12.9% y-o-y in Q2 2018. The PRC, Indonesia, Malaysia, Singapore, and Thailand experienced increased issuance in Q3 2018, while declines were observed in Hong Kong, China; the Republic of Korea; the Philippines; and Viet Nam; with declines in the latter two markets reaching as much as 35.0% q-o-q. Despite the large drops in issuance observed in some markets, the PRC's 27.4% q-o-q issuance growth rate lifted the regional total as its market comprises by far the largest share of emerging East Asia's bond market. On an annual basis, all markets registered an increase in issuance in Q3 2018 with the exception of the Republic of Korea, the Philippines, and Viet Nam.

Issuance of LCY government bonds in Q3 2018 amounted to USD983 billion on an increase of 15.7% q-o-q, moderating from growth of 38.6% q-o-q in Q2 2018. The increase was largely driven by the surge in debt sold by the PRC in order to support GDP growth. Other markets that saw increases in government bond issuance were Hong Kong, China; Singapore; Thailand; Malaysia; and Indonesia. The latter's government bond market saw issuance more than double during the quarter. On the contrary, declines in issuance were seen in the Republic of Korea, the Philippines, and Viet Nam, which collectively restrained quarterly growth in the region's total government issuance. By type of government bond, Treasury and other government securities increased 23.7% q-o-q, while central bank securities increased 0.7% q-o-q. On a y-o-y basis, government bonds grew 3.8%, which was also slower compared with 9.2% y-o-y in Q2 2018. Government bonds comprised about 70% of the total issuance in emerging East Asia in Q3 2018.

The growth of LCY corporate bonds in Q3 2018 in the region also moderated to 8.5% q-o-q to total USD412 billion. Due to the cautiousness among market participants resulting from global risk developments, issuance in Q3 2018 was less active compared with the previous quarter, which registered growth of 12.3% q-o-q. However, growth was slower compared with the growth of government bond issuance during the quarter. Positive growth in issuance was seen in Q3 2018 in the PRC, Indonesia, Singapore, and Thailand. This was partially offset by declining issuance in Hong Kong, China; the Republic of Korea; Malaysia; the Philippines; and Viet Nam. Singapore's and Viet Nam's issuance levels were the most notable during the quarter: Singapore's issuance increased almost threefold, while Viet Nam barely issued any corporate bonds. However, their respective shares are too small to influence the region's corporate bond market. On an annual basis, emerging East Asia's corporate bond issuance was up 11.6% y-o-y at the end of September.

The PRC's LCY bond issuance remained the largest in the region in Q3 2018 at USD887 billion. Growth during the quarter was slower at 27.4% q-o-q compared with 59.7% q-o-q in Q2 2018. Compared with a year earlier, issuance was higher by 5.2%. Debt issuance from the government increased 29.2% q-o-q to USD606 billion,

Table 3: Local-Currency–Denominated Bond Issuance (gross)

	Q3 2017		Q2 2018		Q3 2018		Growth Rate (LCY-base %)		Growth Rate (USD-base %)	
							Q3 2018		Q3 2018	
	Amount (USD billion)	% share	Amount (USD billion)	% share	Amount (USD billion)	% share	q-o-q	y-o-y	q-o-q	y-o-y
China, People's Rep. of										
Total	871	100.0	723	100.0	887	100.0	27.4	5.2	22.8	1.9
Government	624	71.6	487	67.4	606	68.3	29.2	0.3	24.5	(2.8)
Central Bank	0	0.0	0	0.0	0	0.0	–	–	–	–
Treasury and Other Govt.	624	71.6	487	67.4	606	68.3	29.2	0.3	24.5	(2.8)
Corporate	247	28.4	236	32.6	281	31.7	23.7	17.4	19.2	13.7
Hong Kong, China										
Total	107	100.0	116	100.0	115	100.0	(0.9)	7.7	(0.7)	7.4
Government	98	91.7	103	89.3	104	90.3	0.2	6.1	0.4	5.8
Central Bank	98	91.6	103	88.6	104	90.1	0.8	5.9	1.0	5.7
Treasury and Other Govt.	0.1	0.1	0.8	0.7	0.2	0.2	(72.3)	200.0	(72.2)	199.3
Corporate	9	8.3	12	10.7	11	9.7	(10.2)	25.2	(10.01)	25.0
Indonesia										
Total	15	100.0	8	100.0	15	100.0	94.6	9.3	87.2	(1.2)
Government	12	78.7	6	74.7	13	85.0	121.6	18.1	113.1	6.7
Central Bank	0.5	3.3	0.2	2.1	2	13.9	1,165.4	356.4	1,116.8	312.6
Treasury and Other Govt.	11	75.3	6	72.5	11	71.1	90.8	3.1	83.5	(6.8)
Corporate	3	21.3	2	25.3	2	15.0	15.3	(23.1)	10.8	(30.5)
Korea, Rep. of										
Total	163	100.0	198	100.0	167	100.0	(16.0)	(0.7)	(15.6)	2.5
Government	73	44.8	84	42.5	75	45.2	(10.6)	0.2	(10.2)	3.5
Central Bank	35	21.6	40	20.4	34	20.7	(15.1)	(5.1)	(14.7)	(2.0)
Treasury and Other Govt.	38	23.1	44	22.0	41	24.5	(6.5)	5.2	(6.1)	8.6
Corporate	90	55.2	114	57.5	91	54.8	(20.0)	(1.4)	(19.6)	1.8
Malaysia										
Total	18	100.0	22	100.0	22	100.0	1.4	20.1	(1.1)	22.4
Government	8	43.7	13	56.1	14	61.7	11.4	69.6	8.7	72.9
Central Bank	0.2	1.3	5	20.9	6	28.8	39.5	2,550.0	36.1	2,602.6
Treasury and Other Govt.	8	42.4	8	35.2	7	32.9	(5.3)	(6.8)	(7.6)	(4.9)
Corporate	10	56.3	10	43.9	9	38.3	(11.4)	(18.3)	(13.6)	(16.7)
Philippines										
Total	6	100.0	8	100.0	5	100.0	(37.8)	(17.6)	(38.6)	(22.4)
Government	5	84.4	7	88.7	4	81.8	(42.6)	(20.2)	(43.3)	(24.8)
Central Bank	0	0.0	0	0.0	0	0.0	–	–	–	–
Treasury and Other Govt.	5	84.4	7	88.7	4	81.8	(42.6)	(20.2)	(43.3)	(24.8)
Corporate	1	15.6	0.9	11.3	0.9	18.2	(0.3)	(3.7)	(1.5)	(9.4)
Singapore										
Total	88	100.0	103	100.0	106	100.0	3.7	21.5	3.4	20.7
Government	85	96.5	101	98.3	102	95.5	0.7	20.3	0.4	19.4
Central Bank	81	92.4	93	90.2	95	89.7	3.1	18.0	2.7	17.2
Treasury and Other Govt.	4	4.1	8	8.1	6	5.8	(25.7)	71.4	(25.9)	70.2
Corporate	3	3.5	2	1.7	5	4.5	174.4	55.7	173.5	54.6
Thailand										
Total	57	100.0	67	100.0	71	100.0	3.6	19.4	5.9	23.1
Government	47	82.1	56	83.3	59	83.1	3.4	20.9	5.7	24.6
Central Bank	40	68.9	45	67.6	51	71.5	9.7	24.0	12.2	27.8
Treasury and Other Govt.	8	13.2	10	15.7	8	11.6	(23.8)	4.5	(22.1)	7.7
Corporate	10	17.9	11	16.7	12	16.9	4.8	12.8	7.1	16.3

continued on next page

Table 3 *continued*

	Q3 2017		Q2 2018		Q3 2018		Growth Rate (LCY-base %)		Growth Rate (USD-base %)	
							Q3 2018		Q3 2018	
	Amount (USD billion)	% share	Amount (USD billion)	% share	Amount (USD billion)	% share	q-o-q	y-o-y	q-o-q	y-o-y
Viet Nam										
Total	13	100.0	10	100.0	7	100.0	(33.3)	(49.1)	(34.3)	(50.4)
Government	13	97.6	10	96.3	6	99.3	(31.2)	(48.3)	(32.3)	(49.6)
Central Bank	12	90.7	9	86.0	5	72.6	(43.7)	(59.3)	(44.6)	(60.3)
Treasury and Other Govt.	0.9	7.0	1	10.3	2	26.7	73.1	94.9	70.3	90.0
Corporate	0.3	2.4	0.4	3.7	0.05	0.7	(86.6)	(83.8)	(86.8)	(84.2)
Emerging East Asia										
Total	1,339	100.0	1,254	100.0	1,395	100.0	13.5	6.0	11.2	4.2
Government	965	72.1	866	69.1	983	70.4	15.7	3.8	13.4	1.8
Central Bank	267	19.9	294	23.5	297	21.3	0.7	10.9	1.0	11.4
Treasury and Other Govt.	698	52.1	572	45.6	685	49.1	23.7	1.0	19.8	(1.8)
Corporate	374	27.9	388	30.9	412	29.6	8.5	11.6	6.3	10.2
Japan										
Total	419	100.0	399	100.0	391	100.0	0.4	(5.8)	(2.2)	(6.7)
Government	387	92.5	364	91.1	353	90.3	(0.5)	(8.0)	(3.1)	(9.0)
Central Bank	0	0.0	0	0.0	0	0.0	–	–	–	–
Treasury and Other Govt.	387	92.5	364	91.1	353	90.3	(0.5)	(8.0)	(3.1)	(9.0)
Corporate	31	7.5	35	8.9	38	9.7	9.6	22.0	6.8	20.7

( ) = negative, – = not applicable, LCY = local currency, q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter, USD = United States dollar, y-o-y = year-on-year.
Notes:
1. Corporate bonds include issues by financial institutions.
2. For Japan and Thailand, Q3 2018 issuance data are based on *AsianBondsOnline* estimates. For the Republic of Korea, Q3 2018 government bond issuance data are based on *AsianBondsOnline* estimates. For Hong Kong, China, Q3 2018 corporate bond issuance data are based on *AsianBondsOnline* estimates.
3. Bloomberg LP end-of-period LCY–USD rates are used.
4. For LCY-base, emerging East Asia growth figures are based on 30 September 2018 currency exchange rates and do not include currency effects.
Sources: People's Republic of China (*ChinaBond* and *Wind Information*); Hong Kong, China (Hong Kong Monetary Authority); Indonesia (Bank Indonesia; Directorate General of Budget Financing and Risk Management, Ministry of Finance; and Indonesia Stock Exchange); Republic of Korea (*EDAILY Bondweb* and The Bank of Korea); Malaysia (Bank Negara Malaysia); Philippines (Bloomberg LP); Singapore (Singapore Government Securities and Bloomberg LP); Thailand (Bank of Thailand and ThaiBMA); Viet Nam (Bloomberg LP and Vietnam Bond Market Association); and Japan (Japan Securities Dealers Association).

driven by the jump in sales of special infrastructure bonds as the government attempted to buttress the PRC's slowing economy. The issuance of such bonds started slowly earlier in the year on the back of unfavorable financial conditions and measures to stabilize the PRC's public finances. However, government authorities ordered the acceleration of debt sales, which led to spikes in issuance in August and September that reached 92% of the annual target by the end of Q3 2018 (footnote 4). In the corporate sector, LCY bond issuance increased in Q3 2018 to 23.7% q-o-q, accelerating from 14.2% q-o-q in the previous quarter. The pick-up resulted from intensive policy easing and stimulus measures in recent months.

The Republic of Korea's total LCY debt sales decreased 16.0% q-o-q in Q3 2018, reversing the positive growth of 15.1% posted in Q2 2018, with all bond segments declining during the quarter. The Republic of Korea is the largest bond issuer in emerging East Asia after the PRC, with a 16% share of the region's issuance total. Issuance from the government declined 10.6% q-o-q in contrast with an increase in the previous quarter. The drop was mainly due to the high base in Q2 2018 attributed to the frontloading policy of the government that resulted in generally higher debt sales in the first half of the year. Issuance from the corporate sector was also lackluster, declining 20.0% q-o-q from an increase of similar magnitude in Q2 2018.

Hong Kong, China's total bond issuance declined 0.9% q-o-q in Q3 2018 after a marginal increase of 0.8% in the previous quarter. Growth in total government issuance was only 0.2% q-o-q in Q3 2018 on the back of a small increase in issuance of central bank bonds and a decline in Hong Kong Special Administrative Region bonds. Central bank bonds almost entirely made up total government issuance in Q3 2018. Corporate bond issuance declined 10.2% q-o-q in Q3 2018. While corporate issuance only comprised 9.7% of

Hong Kong, China's total issuance during the quarter, the decline contributed to the slight dip in total issuance.

Total issuance in Indonesia surged 94.6% q-o-q in Q3 2018, registering the highest growth in emerging East Asia. This was in contrast to the previous quarter when total issuance declined by about 55% q-o-q. The increased issuance in Q3 2018 was underpinned by growth in both government and corporate debt sales that totaled USD15 billion. Government issuance more than doubled in Q3 2018, amounting to USD13 billion, driven by both central government bonds and central bank bonds. The steep q-o-q increase was partially due to the low issuance base from Q2 2018. While in Q3 2018, the Ministry of Finance issued a larger volume of debt and accepted bids of more than the targeted amount in order to finance the budget deficit. In addition, central bank issuance surged as Bank Indonesia resumed issuance of conventional SBI beginning July. Corporate issuance in Q3 2018 accelerated to 15.3% q-o-q from 5.2% in Q2 2018. Issuance during the quarter included a dual-tranche green bond issuance from Saran Multi Infrastraktur in July amounting to IDR500 billion.

Malaysia's total debt issuance increased 1.4% q-o-q in Q3 2018, reversing the decline in the previous quarter. It was the slowest growth among emerging East Asian markets that saw increases during the quarter. Total issuance amounted to USD22 billion, mainly on the back of increased debt sales from the government as issuance activities in the corporate sector remained bleak. Government issuance increased 11.4% q-o-q, lifted by the central bank but countered by the decreased issuance from the central government. Central bank bills continued to expand, with more issuance of Bank Negara Malaysia Interbank Bills as part central bank efforts to enhance short-selling and liquidity in the bond market. On the other hand, issuance of Malaysian Government Securities and Government Investment Issues both declined by roughly 10% q-o-q in Q3 2018 as issuance targets were smaller relative to Q2 2018. Bond issuance from the corporate sector continued to edge downward in Q3 2018. Debt sales amounted to USD9 billion, reflecting a decline of 11.4% q-o-q after dipping 6.3% q-o-q in Q2 2018. The lower issuance volume was expected as corporates frontloaded their debt sales prior to the May election. After the election, corporates tapered their issuances as they adopted a wait-and-see stance following the unexpected change in government. Overall, issuance has been muted amid some uncertainty as the government pursues cost rationalization for various infrastructure projects.

In the Philippines, total issuance amounted to USD5.0 billion in Q3 2018, reflecting a decline of 37.8% q-o-q after registering an increase of 43.1% in the previous quarter. The Philippines registered the biggest q-o-q drop among all markets in the region in Q3 2018. The issuance was mainly dragged down by the government segment, whose debt sales declined 42.6% q-o-q from a high base in Q2 2018 when the government issued PHP121.8 billion (USD2.3 billion) worth of Retail Treasury Bonds. Government issuance in Q3 2018 totaled USD4.0 billion. Similarly, corporate bond issuance in Q3 2018 declined a marginal 0.3% q-o-q to USD900 million.

Singapore's total bond issuance increased 3.7% q-o-q to USD106 billion in Q3 2018, driven by both the government and the corporate segments. Issuance from the government climbed slightly, reaching USD102 billion, which accounted for about 96% of total LCY bond issuance. Compared with the previous quarter, growth was slower. Corporate bond issuance increased almost threefold to USD5 billion in Q3 2018, although it only comprised a small portion of Singapore's total issuance at a share of 4.5%. The number of corporate issuers was broadly unchanged during the quarter; however, the issuance amount was larger. Notable corporate issuances included bonds from the stated-owned Land Transport Authority and Housing Development Board amounting to SGD1.5 billion and SGD1.4 billion, respectively. Singapore had the most LCY bond issuance in Q3 2018 among the ASEAN economies.

Thailand's total bond issuance increased to USD71 billion in Q3 2018, supported by both the government and corporate segments, on growth of 3.6% q-o-q after registering a decline of 2.3% in Q2 2018. Growth in government issuance rose in Q3 2018 to 3.4% q-o-q from 2.5% q-o-q in Q2 2018, buoyed by increased debt sales from the central bank, which comprised about 72% of the total. On the other hand, issuance of Treasury and other government securities declined 23.8% q-o-q, following modest growth of 2.2% in the previous quarter. Corporate bond issuance was vibrant in Q3 2018, with sales growth rebounding to 4.8% q-o-q from a drop of 20.5% q-o-q in Q2 2018. Market participants expect higher issuance from the corporate sector in 2018, likely breaking the annual record, as firms want to lock in lower funding costs ahead of an expected interest rate hike by the BOT. Firms with debt rollover also see this as the right time to enter the market on the back of sound LCY bond market and economic fundamentals. Moreover, several merger and acquisition deals were done during the quarter, which led to larger debt sales, including Thailand's largest corporate issuance during the quarter (THB77 billion) from Thai Beverage.

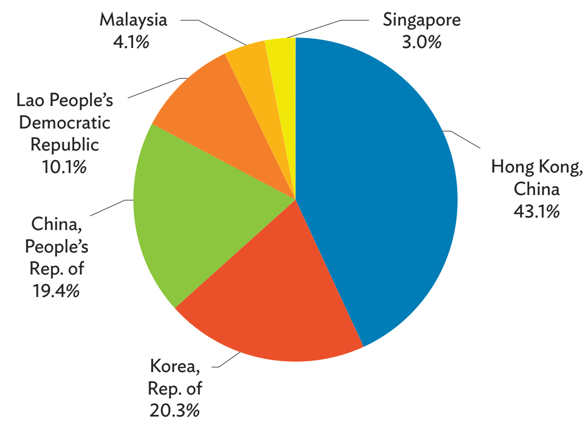
Viet Nam registered the second-largest drop in total issuance in Q3 2018 among emerging East Asian markets with a decline of 33.3% q-o-q. However, this was smaller than the 54.7% q-o-q dip in Q2 2018. Declining issuance was observed in both the government and corporate bond segments, with much of the drag coming from the government as it comprises nearly the entire LCY bond market. Within the government segment, central bank issuance continued to contract in Q3 2018, falling 43.7% q-o-q, while Treasury and government securities reversed a contraction in Q2 2018 to grow 73.1% q-o-q. Viet Nam's corporate issuance, which barely comprised 1% of its total issuance, decreased 86.6% q-o-q in Q3 2018 due to a high volume of issuance in Q2 2018.

Cross-border bond issuance in emerging East Asia reached USD4.2 billion in Q3 2018.

Total cross-border bond issuances from emerging East Asian economies amounted to USD4.2 billion in Q3 2018, representing declines of 19.2% q-o-q and 32.7% y-o-y. Singapore saw the largest decline of 76.6% q-o-q in its cross-border issuance to USD0.1 billion from USD0.5 billion in Q2 2018. This was followed by the PRC, which saw a decline of 64.4% q-o-q in its issuance to USD0.8 billion from USD2.3 billion. The Republic of Korea's intra-regional issuance declined about 13% to USD0.9 billion from USD1.0 billion in Q2 2018. Malaysia more than doubled its cross-border issuance to USD0.2 billion from USD0.1 billion in the previous quarter. Hong Kong, China's issuance increased about 30% to USD1.8 billion from USD1.4 billion. The Lao People's Democratic Republic (Lao PDR) resumed intra-regional issuance in Q3 2018 with a USD0.4 billion issue after a period of inactivity in Q2 2018.

Six markets engaged in intra-regional bond issuances during the quarter, with Hong Kong, China accounting for 43.1% of the region's quarterly total (**Figure 5**). This was followed by the Republic of Korea with a regional share of 20.3% and the PRC at 19.4% and the Lao PDR at 10.1%. Rounding out the list of markets with intra-regional bond issuances in Q3 2018 were Malaysia (4.1%) and Singapore (3.0%).

Figure 5: Origin Economy of Intra-Emerging East Asian Bond Issuance in the Third Quarter of 2018



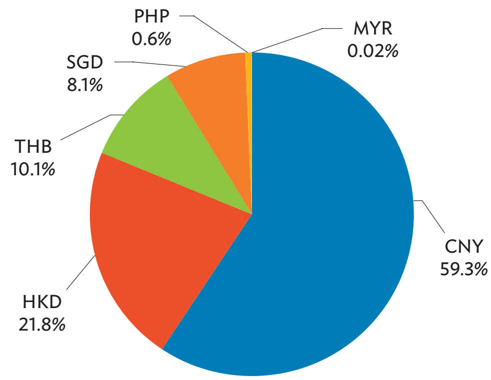
Source: *AsianBondsOnline* calculations based on Bloomberg LP data.

All of Hong Kong, China's cross-border issuance in Q3 2018 was in Chinese renminbi, with more dimsum than panda bonds being issued.[5] Cross-border issuances by the Republic of Korea were denominated in both Chinese renminbi and Hong Kong dollars. The PRC issued bonds denominated in Hong Kong dollars, Malaysian ringgit, and Singapore dollars. The Lao PDR's cross-border issuance came from electricity-generation company EDL-Generation Public Company and was entirely in Thai baht. The Malaysian bond market saw issuances in Chinese renminbi, Hong Kong dollars, and Singapore dollars, while in Singapore issuances were in Chinese renminbi and Philippine pesos.

The top 10 issuers in Q3 2018 accounted for 80.9% of all cross-border bond issuances, with an aggregate value of USD3.4 billion. GLP China Holdings, a transportation and logistics company, led all issuers with a 9-year bond with a variable coupon and a 3-year bond with a 5.24% coupon, both denominated in Chinese renminbi. This was followed by renewable electricity company China Conch Venture

[5] Panda bonds are bonds denominated in Chinese renminbi and issued by foreign companies in the PRC. Dimsum bonds are denominated in Chinese renminbi and issued in Hong Kong, China.

Figure 6: Currency Share of Intra-Emerging East Asian Bond Issuance in the Third Quarter of 2018



CNY = Chinese renminbi, HKD = Hong Kong dollar, MYR = Malaysian ringgit, PHP = Philippine peso, SGD = Singapore dollar, THB = Thai baht.
Source: *AsianBondsOnline* calculations based on Bloomberg LP data.

Holdings, which issued a 5-year convertible zero coupon bond to enhance its working capital and strengthen its capital base and financial position.

Six currencies were utilized through intra-regional bond issuances in emerging East Asia (**Figure 6**). CNY-denominated bonds by issuers from Hong Kong, China; the Republic of Korea; Malaysia; and Singapore dominated the issuances, totaling USD2.5 billion or 59.3% of all cross-border issuances. Hong Kong dollar bonds worth USD0.9 billion (21.8%) were issued by the PRC, the Republic of Korea, and Malaysia. THB-denominated bonds from issuers in the Lao PDR amounted to USD0.4 billion, or 10.1% of all intra-regional bond issuances. Singapore dollar bonds issued by the PRC and Malaysia totaled USD0.3 billion, or 8.1% of all issuances. A small share of the pie comprised PHP-denominated bonds (USD0.03 billion, 0.6%) from Singapore and MYR-denominated bonds (USD0.001 billion, 0.02%) from issuers in the PRC.

Emerging East Asia's G3 bond issuances reached USD218.1 billion in the first 3 quarters of the year.

G3-currency-denominated bond sales slowed in the first 9 months of the year, as liquidity conditions remained tight in the global market.[6] Total G3 bond issuance reached USD218.1 billion during January–September, down 9.3% y-o-y from USD240.4 billion in the same 9-month period in 2017 (**Table 4**). The G3 issuance total for the first 9 months of the year was equivalent to only 63.8% of the full-year 2017 total.

The US dollar continued to dominate issuances as it remained the preferred currency of government and corporate issuers. Its share of the total, however, declined to 89.5% during January–September from 92.5% in the same period a year earlier. The corresponding shares of bonds denominated in euros and Japanese yen inched up to 8.0% and 2.5%, respectively. Some borrowers chose to tap deals in currencies other than the US dollar amid the greenback's broad strengthening against most other major currencies, which made US dollar borrowing costs more expensive.

The PRC remained the largest source of G3 bonds, as it accounted for nearly 60% of emerging East Asia's aggregate issuance during the review period. G3 bonds from issuers in the PRC totaled USD128.4 billion in January–September. This was lower compared with USD150.9 billion of issuance in the same 9-month period a year earlier. Investors were concerned about high-yield bonds, making it increasingly difficult for PRC-based issuers to tap G3 funding. Investors are demanding higher rates to account for higher credit risks as liquidity in the PRC tightened due to the government's deleveraging push and some corporate defaults. Adding to issuers' woes was the renminbi's devaluation, which makes borrowing in foreign currency more expensive. Monthly issuance trends, however, recovered strongly in September, with the number of issues rising to 60 from a low of 29 in July.

From January to September, the largest issuer from the PRC was CNAC HK Finbridge, which raised an equivalent of USD6.3 billion from the sale of multitranche bonds denominated in euros and US dollars in March. It was followed by Tencent Holdings, which issued USD5.0 billion of multitranche bonds in January. In the third spot was China Construction Bank (HK) with total issuance equivalent to USD2.8 billion denominated in both euros and US dollars. In Q3 2018, the single-largest issue also came from China Construction Bank (HK): a USD1.0 billion 3-year floating rate bond.

[6] G3 currency bonds are denominated in either euros, Japanese yen, or US dollars.

Table 4: G3 Currency Bond Issuance

2017			January to September 2018		
Issuer	Amount (USD billion)	Issue Date	Issuer	Amount (USD billion)	Issue Date
China, People's Rep. of	**225.4**		**China, People's Rep. of**	**128.4**	
Postal Savings Bank of China 4.50% Perpetual	7.3	27-Sep-17	Tencent Holdings 3.595% 2028	2.5	19-Jan-18
China Evergrande Group 8.75% 2025	4.7	28-Jun-17	CNAC (HK) Finbridge 5.125% 2028	1.8	14-Mar-18
Alibaba Group Holding 3.40% 2027	2.6	6-Dec-17	CNAC (HK) Finbridge 1.75% 2022	1.4	14-Mar-18
State Grid Overseas Investment 3.50% 2027	2.4	4-May-17	CNAC (HK) Finbridge 4.625% 2023	1.3	14-Mar-18
China Zheshang Bank 5.45% 2050	2.2	29-Mar-17	Tsinghua Unic 4.75% 2021	1.1	31-Jan-18
Kaisa Group Holdings 9.38% 2024	2.1	30-Jun-17	Baidu 3.875% 2023	1.0	29-Mar-18
CNAC (HK) Synbridge Company 5.00% 2020	2.0	5-May-17	Bank of China (HK) 2.89728% 2023	1.0	8-Mar-18
CNAC (HK) Finbridge Company 3.85% 2020	2.0	22-Dec-17	Bank of China (HK) 2.79728% 2021	1.0	8-Mar-18
Others	200.3		Others	117.5	
Hong Kong, China	**36.7**		**Hong Kong, China**	**24.7**	
Radiant Access Limited 4.60% Perpetual	1.5	18-May-17	CHMT Peaceful Development Asia Property 7.50% 2019	3.3	25-Apr-18
China Cinda Finance 3.65% 2022	1.3	9-Mar-17	Bank of China Hong Kong 5.9% Perpetual	3.0	14-Sep-18
Others	33.9		Others	18.3	
Cambodia	**0.0**		**Cambodia**	**0.3**	
Indonesia	**26.7**		**Indonesia**	**15.4**	
Perusahaan Penerbit SBSN *Sukuk* 4.15% 2027	2.0	29-Mar-17	Perusahaan Penerbit SBSN *Sukuk* 4.40% 2028	1.8	1-Mar-18
Indonesia (Sovereign) 4.35% 2048	1.8	11-Dec-17	Perusahaan Penerbit SBSN *Sukuk* 3.75% 2023	1.3	1-Mar-18
Perusahaan Listrik Negara 4.13% 2027	1.5	15-May-17	Indonesia (Sovereign) 1.75% 2025	1.2	24-Apr-18
Indonesia (Sovereign) 3.5% 2028	1.3	11-Dec-17	Indonesia (Sovereign) 4.10% 2028	1.0	24-Apr-18
Indonesia (Sovereign) 2.15% 2024	1.2	18-Jul-17	Perusahaan Listrik Negara 6.15% 2028	1.0	21-May-18
Others	19.0		Others	9.3	
Korea, Rep. of	**29.8**		**Korea, Rep. of**	**23.2**	
Republic of Korea (Sovereign) 2.75% 2027	1.0	19-Jan-17	Hanwha Life Insurance 4.70% 2048	1.0	23-Apr-18
Export–Import Bank of Korea 3.00% 2022	1.0	1-Nov-17	Export–Import Bank Korea 0.625% 2023	0.9	11-Jul-18
Export–Import Bank of Korea 0.50% 2022	0.9	30-May-17	Export–Import Bank Korea 2.87531% 2021	0.8	1-Jun-18
Others	26.9		Others	20.5	
Lao People's Democratic Rep.	**0.03**		**Lao People's Democratic Rep.**	**0.0**	
Malaysia	**4.4**		**Malaysia**	**1.2**	
Genting Overseas Holdings Limited Capital 4.25% 2027	1.0	24-Jan-17	Cindai Capital 0.00% 2023	0.3	8-Feb-18
CIMB Bank 1.93% 2020	0.6	15-Mar-17	Malayan Banking 3.2405% 2023	0.3	10-Aug-18
CIMB Bank 3.26% 2022	0.5	15-Mar-17	Malayan Banking 0.00% 2048	0.2	29-Mar-18
Others	2.3		Others	0.4	
Philippines	**4.0**		**Philippines**	**6.1**	
Republic of the Philippines (Sovereign) 3.7% 2042	2.0	2-Feb-17	Republic of the Philippines (Sovereign) 3.00% 2028	2.0	1-Feb-18
Others	2.0		Others	4.1	
Singapore	**12.5**		**Singapore**	**14.3**	
DBS Bank 0.38% 2024	0.9	23-Jan-17	Temasek Financial I 3.625% 2028	1.4	1-Aug-18
DBS Group Holdings 1.71% 2020	0.8	8-Jun-17	DBS Group Holdings 4.52% 2028	0.8	11-Jun-18
Others	10.9		Others	12.2	
Thailand	**2.2**		**Thailand**	**4.1**	
PTTEP Treasury Center Company 4.60% Perpetual	0.5	17-Jul-17	Bangkok Bank (Hong Kong) 4.05% 2024	0.6	19-Sep-18
Others	1.7		Others	3.5	
Viet Nam	**0.0**		**Viet Nam**	**0.5**	
Emerging East Asia Total	**341.6**		**Emerging East Asia Total**	**218.1**	
Memo Items:			**Memo Items:**		
India	**15.1**		**India**	**5.2**	
Vedanta Resources 6.375% 2022	1.0	30-Jan-17	Export–Import Bank of India 3.875% 2028	**1.0**	1-Feb-18
Others	14.1		Others	4.2	
Sri Lanka	**3.7**		**Sri Lanka**	**3.9**	

USD = United States dollar.
Notes:
1. Data exclude certificates of deposits.
2. G3 currency bonds are bonds denominated in either euros, Japanese yen, or US dollars.
3. Bloomberg LP end-of-period rates are used.
Source: *AsianBondsOnline* calculations based on Bloomberg LP data.

Borrowers from Hong Kong, China were the next largest source of G3 bonds during the 9-month review period. G3 bond sales in Hong Kong, China totaled USD24.7 billion, representing a 16.8% y-o-y decline from the same period a year earlier. CHMT Peaceful Development Asia Property was the largest issuer with a USD4.1 billion dual-tranche deal in April. Next was ICBC Asia, which tapped the market four times (March, June, July, and August) for an aggregate issuance total of USD3.2 billion. Bank of China (HK) was the third-largest issuer during the review period with bonds valued at USD3.0 billion. Its variable-rate perpetual bonds comprised the largest issue from Hong Kong, China in Q3 2018.

The Republic of Korea was the third-largest G3 issuer in the first 9 months of the year, with gross bond issuance valued at an equivalent of USD23.2 billion. Its aggregate issuance moderated compared with the same period in 2017. The lead issuer during the 9-month period was the Export–Import Bank of Korea, which raised funds in all three G3 currencies amounting to an equivalent of USD4.5 billion. Next was another state-owned lender, Korea Development Bank, which also issued in all three G3 currencies at an equivalent amount of USD2.5 billion. In Q3 2018, the Export–Import Bank of Korea's EUR-denominated bond was the single-largest issue and was valued at an equivalent of USD0.9 billion. The bond, issued in July, had a maturity of 5 years at a fixed coupon rate of 0.625%.

G3 bond sales in ASEAN member economies reached USD41.8 billion in the first 9 months of the year, up 16.5% y-o-y from the same 9-month period in 2017. Collectively, issuance of G3 bonds by ASEAN markets accounted for 19.2% of emerging East Asia's total issuance of bonds in G3 currencies during the review period. Leading the list of issuers among ASEAN member markets were Indonesia, Singapore, and the Philippines.

From January to September, issuers in Indonesia sold a total of USD15.4 billion worth of G3 bonds. Indonesia's aggregate issuance represented 36.9% of the G3 issuance volume for ASEAN member economies. The largest G3 issuer was the Government of Indonesia as it tapped bonds in all three G3 currencies, amounting to an equivalent of USD6.0 billion, as part of its plan to diversify funding sources. The government's G3 issuance accounted for nearly 40% of Indonesia's aggregate G3 bond sales during the review period. Bank Indonesia was next with aggregate issuance volume amounting to USD3.4 billion. Bank Indonesia issues USD-denominated foreign exchange bills on a regular basis as one of its monetary tools. In Q3 2018, the single-largest issue came from Bank Indonesia's USD0.6 billion worth of foreign exchange bills issued in July.

In Singapore, G3 bond issues rose 55.9% y-o-y to reach an equivalent of USD14.3 billion in the first 9 months of the year. The largest issuer from Singapore was United Overseas Bank, with total issuance amounting to the equivalent of USD2.5 billion denominated in both euros and US dollars. It was followed by Oversea-Chinese Banking Corporate's aggregate G3 issuance valued at USD1.7 billion, also in euros and US dollars. The single-largest G3 issue in Q3 2018 was Temasek Financial with a USD1.4 billion 10-year bond at a coupon rate of 3.625% in August.

The Philippines G3 bond issuance tallied USD6.1 billion in the January–September period, denominated in Japanese yen and US dollars. Its issuance volume in 2018 nearly doubled from USD3.1 billion in the same period a year earlier. The largest issuer was the sovereign government, with issuance denominated in Japanese yen and US dollars for an aggregate value of USD3.4 billion. In Q3 2018, the largest issue was the 3-year samurai bond issued by the government in August and valued at USD0.9 billion at a coupon rate of 0.38%. The Government of the Philippines tapped the samurai market in August for the first time in 8 years with a multitranche deal worth USD1.4 billion.

G3 bond sales from Thailand more than doubled in the January–September period to USD4.1 billion from USD1.7 billion a year earlier. All G3 issuances were denominated in US dollars, with Bangkok Bank (HK) as the largest issuer with total issuance worth USD1.2 billion from a dual-tranche deal. The bank's 5.5-year bond and 10-year bond issued in September amounted to USD0.6 billion each and were the largest G3 issues in Thailand in Q3 2018.

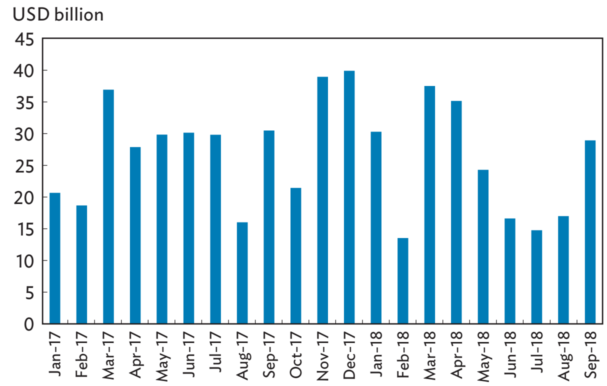
In the first 9 months of the year, issuance of G3 bonds from Malaysia totaled USD1.2 billion, reflecting a 65.7% y-o-y decline from USD3.4 billion in the same period in 2017. All bonds were denominated in US dollars except for one issue in Japanese yen. The largest issuer during the 9-month period was Malayan Banking Berhad (Maybank) with aggregate issuance valued at

USD0.7 billion. In Q3 2018, the largest issue also came from Maybank via a 5-year floating rate bond worth USD0.3 billion.

There were no new bond issuances coming from Viet Nam or Cambodia in Q3 2018. Viet Nam's G3 bond sales amounted to USD0.5 billion and comprised an April issuance from No Va Land Investment Group and a June issuance from Vinpearl. The lone issuer from Cambodia was Naga Corporation with a USD0.3 billion 3-year bond issued in May at a coupon rate of 9.375%.

Figure 7 presents the monthly trends in G3-denominated bond issuance in emerging East Asia. G3 monthly bond sales exhibited a declining trend in 2018 after peaking in March at USD37.5 billion. Bond issuance recovered in August and September as issuance trended upward.

Figure 7: G3 Currency Bond Issuance in Emerging East Asia



USD = United States dollar.

Notes:

1. Emerging East Asia comprises Cambodia; the People's Republic of China; Hong Kong, China; Indonesia; the Republic of Korea; the Lao People's Democratic Republic; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam.
2. G3 currency bonds are bonds denominated in either euros, Japanese yen, or US dollars.
3. Figures were computed based on 30 September 2018 currency exchange rates and do not include currency effects.

Source: *AsianBondsOnline* calculations based on Bloomberg LP data.

Nearly all government bond yield curves in emerging East Asia rose between 31 August and 15 October, driven by the ongoing rate hikes of the Federal Reserve and other central banks in the region, as well as increased volatility.

Yields across the region moved upward between 31 August and 15 October, pressured by continued monetary tightening in the US and other advanced economies. GDP growth in advanced economies remains on track, particularly in the US where the economy has made significant gains.

The US economy posted GDP growth of 3.5% y-o-y in Q3 2018, following 4.2% y-o-y growth in Q2 2018. Other indicators of economic growth, such as labor and unemployment, remained strong; the US unemployment rate fell to 3.7% in September from 3.9% in August. Nonfarm payroll additions showed a decline in September to 118,000 from 286,000 in August due to the effects of Hurricane Florence, but the impact is largely expected to be transient.

More significantly, the Federal Reserve upgraded its economic forecast in September for full-year GDP growth in 2018 from 2.8% to 3.1%. This allowed the Federal Reserve to maintain its current pace of rate hikes by raising the federal funds rate 25 basis points (bps) at the 25–26 September meeting of the Federal Open Market Committee. The release of the minutes from the September meeting placed more pressure on yields as they indicated that some committee members felt the Federal Reserve would need to keep the policy target range above neutral to prevent inflation from overshooting the target.

In the euro area, economic growth and the outlook has moderated, with GDP expanding in Q3 2018 at an annual rate of 1.7% versus 2.2% in the previous quarter. In addition, staff projections reduced expected 2018 GDP growth to 2.0% in September from 2.1% in June. The European Central Bank announced in its 25 October monetary policy briefing that, while recent economic indicators were weaker, economic growth persisted, resulting in the central bank affirming that it would reduce monthly asset purchases to EUR15 billion from October through December, and cease these purchases thereafter.

While the Bank of Japan has not given an indication of changing its monetary policy stance, it unexpectedly reduced bond purchases on 19 September. The Bank of Japan stated that the move was not a shift in monetary policy and that a change in the yield target would be more indicative of a shift in its monetary policy stance. The move may be in line with the central bank's previously stated goal of allowing more volatility in its yield movements. Economic growth in Japan has been strong, with GDP expanding at an annualized rate of 3.0% in Q2 2018 after a 0.9% decline in the previous quarter.

In addition to the strengthening economic growth in some advanced economies, emerging East Asia's bond yields have also been driven upward by rising financial volatility; in particular, rising US yields have placed additional pressures on some emerging East Asian economies, leading to capital flight and a worsening current account deficit. Among emerging market economies, the worst hit have been Turkey and Argentina, with concerns of spillover effects in emerging East Asia.

There has also been uncertainty with regard to trade tensions between the PRC and the US, and the potential impact on global economic growth. By far, the most significant impact to date has been to the PRC, where yields have fallen over concerns that the PRC's economy will be negatively affected. Since the start of September, there has been a decline in the PRC's 2-year yield (**Figure 8a**).

There was a slight spike in yields toward the end of September due to a tightening of liquidity in the PRC as consumers withdrew funds in preparation for a long holiday in October. In addition, liquidity was strained by corporate quarterly tax payments and supply concerns, specifically, that central government bond issuance would increase following the imposition of quotas on local government bond issuance and increased fiscal spending.

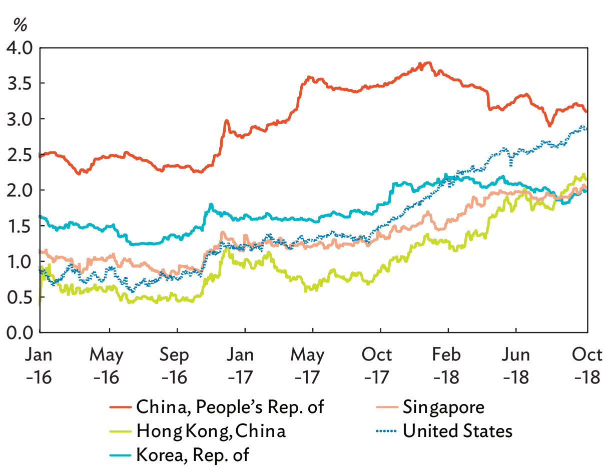
Viet Nam also saw a decline in its 2-year yield during the review period due to improved liquidity following a decline in interbank yields (**Figure 8b**).

Outside of the PRC and Viet Nam, 2-year yields have largely risen for most emerging East Asian economies. The steepest gains were noted in Indonesia and the Philippines. The rise in US yields has negatively affected both of these economies by placing pressure on their respective currencies and capital accounts.

For 10-year yields, movements during the review period largely followed the movements of the respective 2-year yield in each economy. Again, only in the PRC and Viet Nam did 10-year yields decline (**Figures 9a, 9b**).

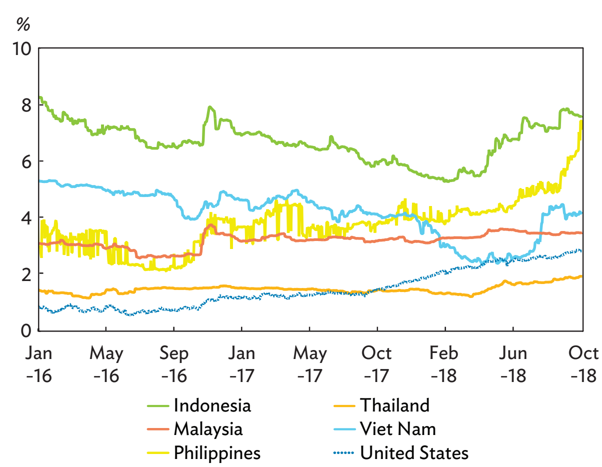
Similar to the 2-year and 10-year yield movements, emerging East Asia's government bond yield curves shifted upward for all markets with the exception of the PRC and Viet Nam, which saw downward shifts in their yield curves between 31 August and 15 October (**Figure 10**).

Figure 8a: 2-Year Local Currency Government Bond Yields



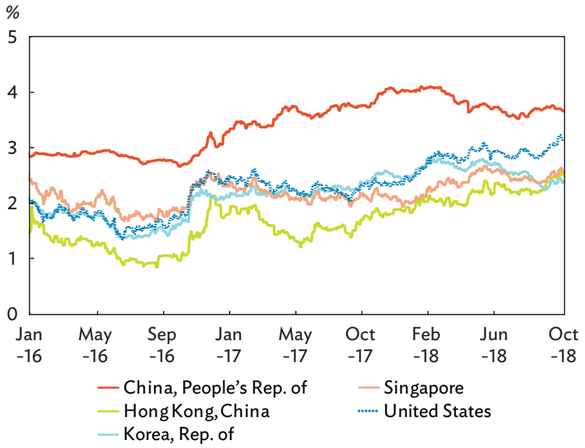
Note: Data as of 15 October 2018.
Source: Based on data from Bloomberg LP.

Figure 8b: 2-Year Local Currency Government Bond Yields



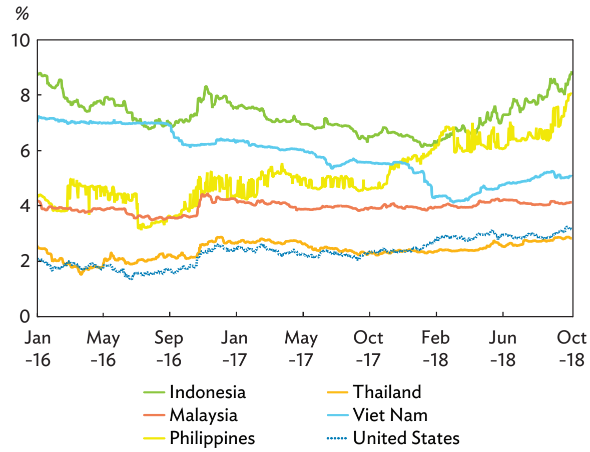
Note: Data as of 15 October 2018.
Source: Based on data from Bloomberg LP.

Figure 9a: 10-Year Local Currency Government Bond Yields



Note: Data as of 15 October 2018.
Source: Based on data from Bloomberg LP.

Figure 9b: 10-Year Local Currency Government Bond Yields



Note: Data as of 15 October 2018.
Source: Based on data from Bloomberg LP.

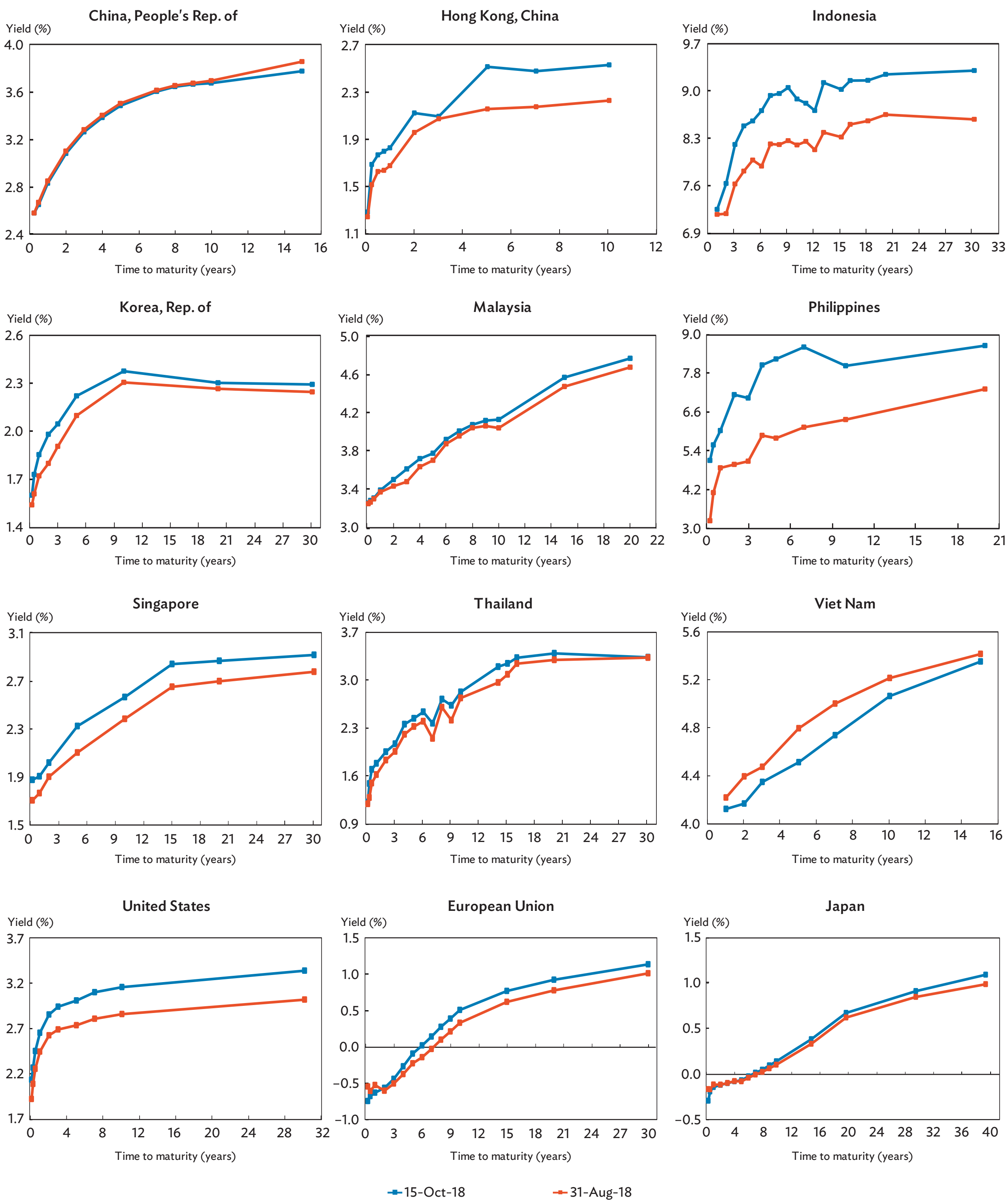
Global economic uncertainty is starting to impact emerging East Asian economies. In the PRC, GDP growth slowed to 6.5% y-o-y in Q3 2018 from 6.7% y-o-y in Q2 2018. Advance estimates in the Republic of Korea also indicated a slowdown, with GDP growth falling to 2.0% y-o-y in Q3 2018 from 2.8% y-o-y in the previous quarter. Advance estimates in Singapore showed GDP growth declining to 2.6% y-o-y in Q3 2018 from 4.1% y-o-y in the previous quarter. Viet Nam's economy has largely proven resilient, with GDP for January–September showing growth of 7.0%, down only marginally from 7.1% for January–June.

Inflation has been more mixed in Q3 2018. Despite a slowdown in the economic environment in emerging East Asia, consumer price inflation has trended upward in some markets. Singapore's inflation has risen on stronger growth in previous quarters (**Figure 11a**). The same is true in the PRC and the Republic of Korea despite weaker Q3 2018 GDP growth. While Viet Nam's inflation has trended slightly downward since August, it remains high relative to previous periods. The region's highest rate of consumer price inflation has been in the Philippines, where prices of goods and services soared 6.7% y-o-y in September (**Figure 11b**).

As a result of higher inflation in the Philippines, the BSP has been forced to aggressively raise its policy rates by 50 bps each in its last two monetary meetings on 27 September and 9 August, compared with more typical increases of 25 bps (**Figure 12a**). The BSP has also more aggressively hiked interest rates in order to defend the currency. Similar to the Philippines, Bank Indonesia has been forced to raise interest rates in order to protect the currency and improve its current account balance, raising policy rates 25 bps on 27 September (**Figure 12b**). Bank Indonesia and the BSP are the only central banks in the region to have continuously raised policy rates this year. Hong Kong, China also recently raised its base rate on 27 September, but this move was largely automatic as the Hong Kong Monetary Authority follows US Federal Reserve policy rate hikes.

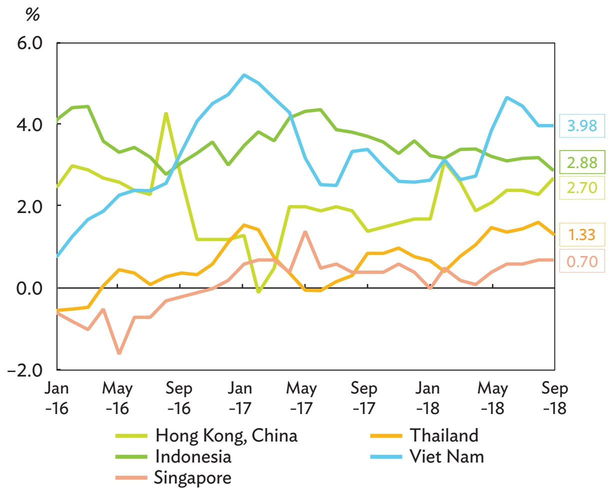
Other central banks in the region have left policy rates unchanged, but recent monetary policy meetings have indicated the likelihood of raising policy rates this year. While the BOT left its policy rate unchanged on 19 September, in its decision there were two dissenting members who voted to raise policy rates, suggesting that the BOT could turn increasingly hawkish. While the Bank of Korea left its policy rate unchanged at its 18 October meeting, there were earlier expectations of a possible rate hike within the year following comments made by the Prime Minister and the governor of the Bank of Korea in September and October.

Figure 10: Benchmark Yield Curves—Local Currency Government Bonds



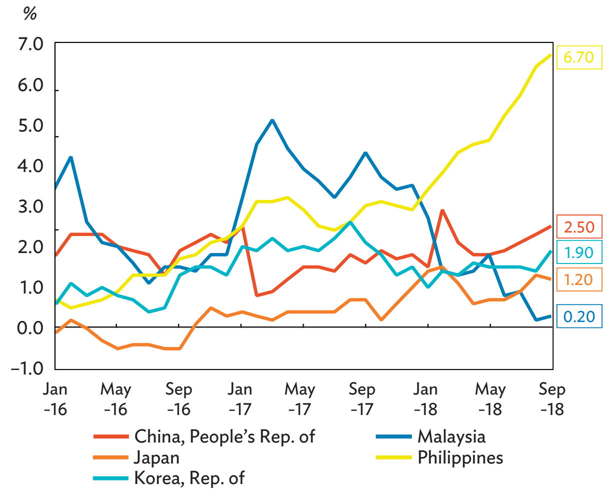
Sources: Based on data from Bloomberg LP and Thai Bond Market Association.

Figure 11a: Headline Inflation Rates



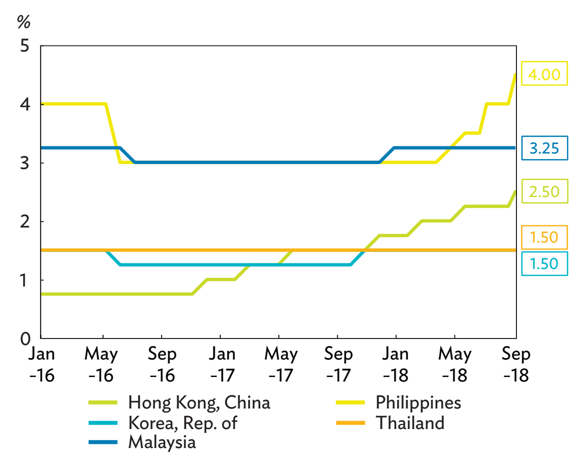
Note: Data as of September 2018.
Source: Based on data from Bloomberg LP.

Figure 11b: Headline Inflation Rates



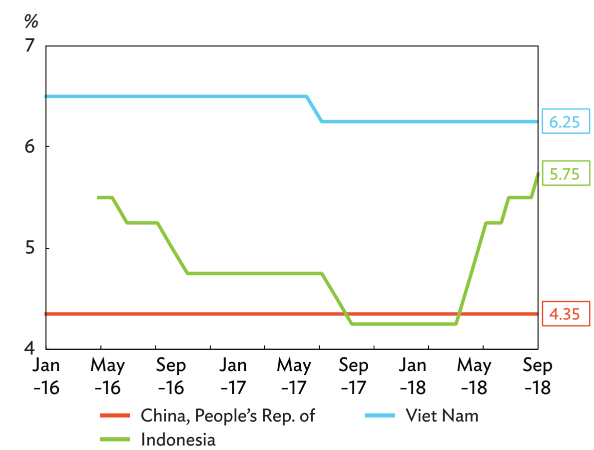
Note: Data as of September 2018.
Source: Based on data from Bloomberg LP.

Figure 12a: Policy Rates



Notes:
1. Data as of end-September 2018.
2. The policy rate of the Philippines was adjusted to 3.0% from 4.0% in June 2016 following the shift in the Bangko Sentral ng Pilipinas' monetary operations to an interest rate corridor system.
Source: Based on data from Bloomberg LP.

Figure 12b: Policy Rates



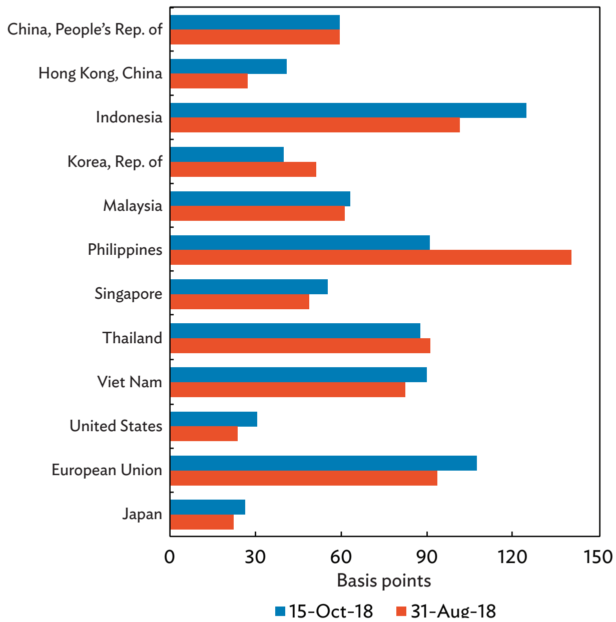
Notes:
1. Data as of end-September 2018.
2. Bank Indonesia shifted its policy rate to the 7-day reverse repurchase rate effective 19 August 2016.
Source: Based on data from Bloomberg LP.

While Singapore does not have a monetary policy rate, it adjusted the slope of its exchange rate to a slight appreciation amid continually rising inflation.

The PRC has been the sole exception to these trends. It has adjusted its reserve requirement ratio several times this year and most recently reduced the reserve requirement ratio for banks by 100 bps on 7 October.

The 2-year versus 10-year yield spread rose in all emerging East Asian economies except the Republic of Korea, the Philippines, and Thailand (**Figure 13**).

Figure 13: Yield Spreads Between 2-Year and 10-Year Government Bonds



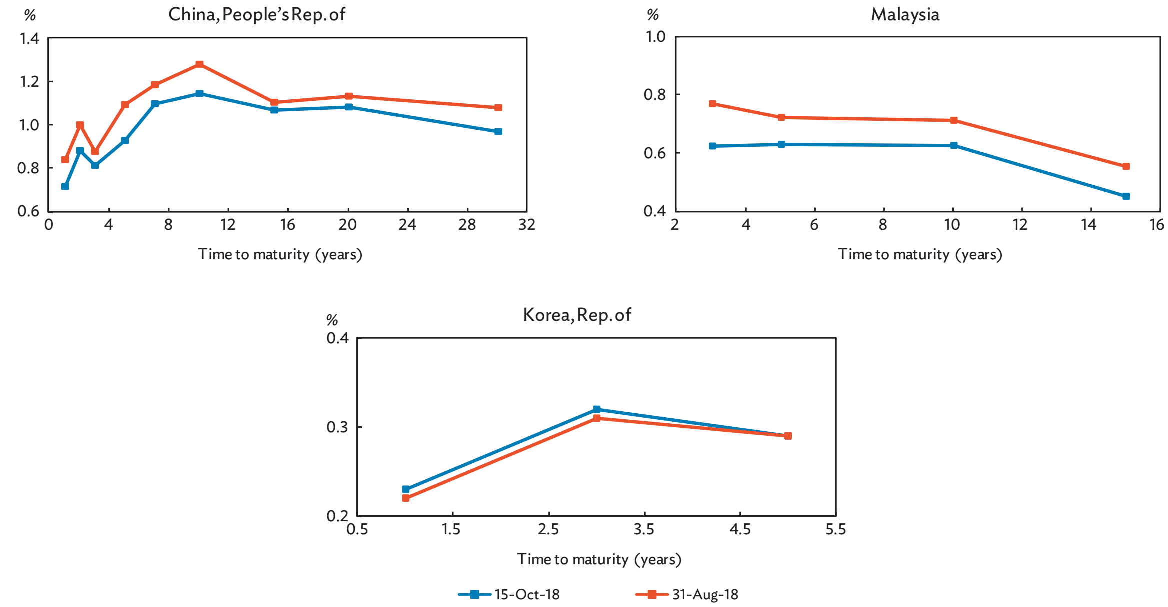
Source: Based on data from Bloomberg LP.

The AAA-rated corporate versus government yield spread fell in the PRC and Malaysia, but rose in the Republic of Korea.

Rising risk aversion in the PRC over corporate bond defaults and an overall decline in yields led to a fall in the spread of AAA-rated corporate bonds and government bonds between 31 August and 15 October as investors demanded higher-yielding securities and avoided speculative-grade corporate bonds (**Figure 14a**). The spread also fell in Malaysia as rising global oil prices are expected to be beneficial for Malaysia's corporate bonds.

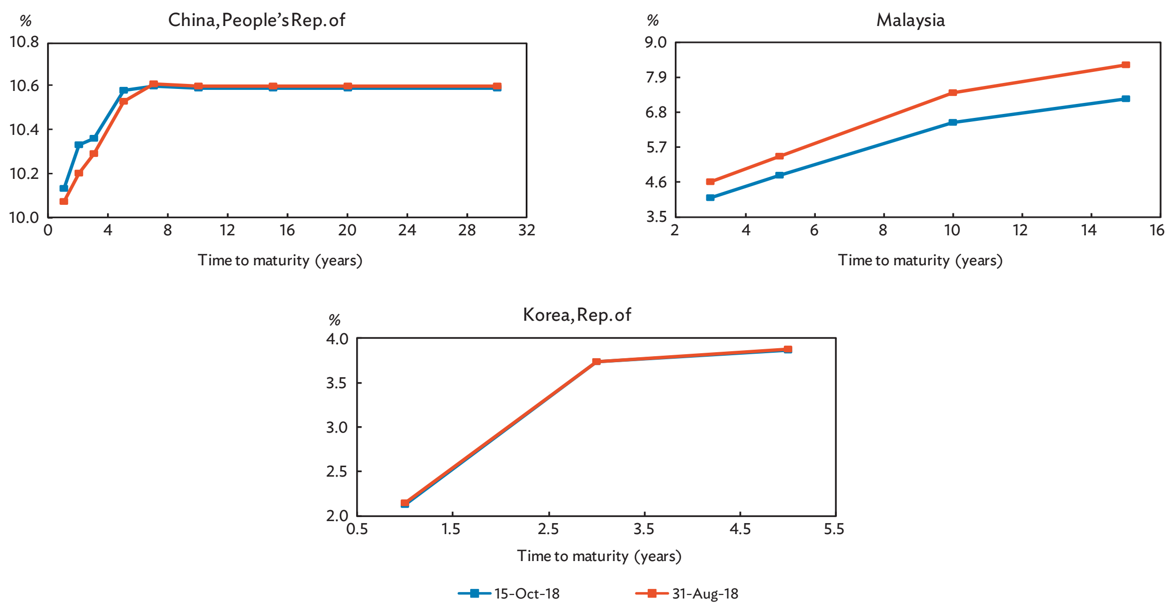
In contrast, the spread rose between AAA-rated corporate bonds and lower-rated bonds in the PRC during the review period due to the abovementioned risk aversion at the shorter-end of the yield curve. Meanwhile, the spread was unchanged in the Republic of Korea (**Figure 14b**).

Figure 14a: Credit Spreads—Local Currency Corporates Rated AAA vs. Government Bonds



Notes:
1. Credit spreads are obtained by subtracting government yields from corporate indicative yields.
2. For Malaysia, data on corporate bond yields are as of 30 August and 12 October 2018 while data for government bond yields are as of 30 August and 15 October 2018.
Sources: People's Republic of China (*Wind Information*), Republic of Korea (*EDAILY BondWeb*), and Malaysia (Bank Negara Malaysia).

Figure 14b: Credit Spreads—Lower-Rated Local Currency Corporates vs. AAA



Notes:
1. For the People's Republic of China and the Republic of Korea, credit spreads are obtained by subtracting corporate indicative yields rated AAA from corporate indicative yields rated BBB+.
2. For Malaysia, credit spreads are obtained by subtracting corporate indicative yields rated AAA from corporate indicative yields rated BBB. Data on corporate bond yields are as of 30 August and 12 October 2018.
Sources: People's Republic of China (*Wind Information*), Republic of Korea (*EDAILY BondWeb*), and Malaysia (Bank Negara Malaysia).

Policy and Regulatory Developments

People's Republic of China

People's Bank of China Reduces Reserve Requirement Ratio

On 7 October, the People's Bank of China (PBOC) reduced the reserve requirement ratio of large commercial banks, joint stock commercial banks, city commercial banks, non-country rural commercial banks, and foreign-funded commercial banks by 100 bps. In addition, the PBOC announced that maturing funds from its Medium-Term Lending Facility for that day would not be renewed, effectively using some funds freed by the reserve requirement ratio cut to repay the lending facility. The PBOC said that the net effect would be a release of CNY750 billion of funds into the banking system.

Hong Kong, China

Delivery-versus-Payment Settlement Fully Implemented in Bond Connect

In August, delivery-versus-payment settlement was fully implemented under the Bond Connect program. This mechanism allows for the payment and delivery of securities in real time, reduces settlement risks, and facilitates settlement efficiency, providing more convenience to international investors through Bond Connect.

Indonesia

Bank Indonesia Lowers the Minimum Transaction Limit for Foreign Exchange Swaps to USD2 Million

In August, Bank Indonesia lowered the minimum transaction limit for conducting foreign exchange hedging via swaps to USD2 million from USD10 million. With the reduced floor for hedging transactions, Bank Indonesia expects the volume of hedging transactions to increase. The hedging facility is available for transactions involving US dollars, Japanese yen, euros, and Chinese renminbi. In addition, the central bank is planning to relax documentary requirements for tapping the facility.

Republic of Korea

Government Announces Measures to Promote Investment and Boost Employment

In October, the Government of the Republic of Korea announced measures to promote investment and boost employment, noting the slowdown in growth as investment and employment continued to be weak. To help economic growth regain momentum, the government plans to promote private sector investment, increase public investment, pursue innovation-driven growth, and support the job market. Measures include the allotment of KRW2.3 trillion in the first quarter of 2019 to projects that have been delayed due to financial and regulatory challenges. A total of KRW15.0 trillion worth of facility investment support programs will be launched within the year. The government will also pursue the development of new markets such as remote healt-care services and the sharing economy.

Malaysia

Securities Commission Malaysia Liberalizes the Corporate Bond and *Sukuk* Markets for Retail Investors

The Securities Commission Malaysia announced on 19 September the liberalization of its regulatory framework to provide greater access for retail investors to Malaysia's corporate bond and *sukuk* markets. The liberalized framework will allow a more efficient issuance process for corporate bonds and *sukuk* to be offered to retail investors, as well as expand the range of corporate bonds and *sukuk* that can be offered. The Securities Commission Malaysia also introduced a new seasoning framework to enable retail investors to access existing corporate bonds and *sukuk*, which are currently traded by sophisticated investors in the over-the-counter market. The regulation came into effect on 11 October.

Philippines

BSP Approves Rules on Bond Issuance

On 10 August, the Bangko Sentral ng Pilipinas (BSP) enhanced rules on bond issuances in order to develop the LCY bond market. Aside from complying with the Securities Regulations Code, universal banks, commercial banks, and quasi-banks need to satisfy additional criteria to be eligible to issue bonds and commercial paper. They must have a CAMELS rating of at least 3, with a management rating not lower than 3. They must not have major risk management and compliance concerns, must be compliant with BSP rules, and must not have pending enforcement actions from the BSP. For quasi-banks, they must have at least an acceptable RAS rating. In order to promote security, price transparency, and price discovery, the bonds to be issued must be traded in a Securities and Exchange Commission-recognized market. An issuance does not need approval from the central bank. The concerned bank need only submit a certification that they have complied with and met all criteria for issuing bonds. The additional rules aim to help promote an efficient debt market that protects investors.

Singapore

MAS Introduces New Structure for Investment Funds

On 10 September, the Monetary Authority of Singapore (MAS) introduced a new corporate structure for investment funds called Variable Capital Company (VCC), an entity that manages local and international funds. The framework allows VCCs greater flexibility in terms of capital structure so that it can be used by both open-ended and closed-ended funds with varying investment strategies depending on their needs. VCCs, which are deemed to be cost-efficient, can be established as a standalone or an umbrella structure with multiple subfunds having different investment objectives. In order to cater to the needs of investors in global investment funds, VCCs are allowed to use different accounting standards in preparing financial statements. Finally, the framework prevents VCCs from commingling assets and liabilities between funds. These developments will help strengthen Singapore's position as a financial hub by providing full services for both local and international investors and fund managers.

Thailand

Thailand Plans to Develop "Bond Coin" to Facilitate Settlement of Corporate Bonds

The Thai Bond Market Association is studying the development of a digital token or "bond coin" to facilitate settlement and clearing of corporate bonds. Under the plan, participants will have information regarding payment stages, interest rates, and other time-sensitive information. The aim will be to shorten traditional banking processes from about 7–10 days to 1–3 days and to reduced corporate bond clearing from 2 days to less than 24 hours. The plan will come in three phases: (i) the development of a bond registrar subscription system to record bond transactions between participants; (ii) the inclusion of additional features such as bond deposit servicing and system development; and (iii) structuring of the "bond coin," which will include a clearing and settlement infrastructure using the digital token.

Viet Nam

State Treasury Lowers Bond Issuance Plan for 2018

In October, the State Treasury lowered its bond issuance plan for 2018 to VND175 trillion from VND200 trillion as originally planned. The breakdown of issuance volume for each maturity is as follows: (i) 5-year bonds at VND31 trillion, (ii) 7-year bonds at VND11 trillion, (iii) 10-year bonds at VND64 trillion, (iv) 15-year bonds at VND51 trillion, (v) 20-year bonds at VND9 trillion, and (vi) 30-year bonds at VND9 trillion.

AsianBondsOnline Annual Bond Market Liquidity Survey

Introduction

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

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

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

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

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

Quantitative Indicators for Government Bond Markets

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

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

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

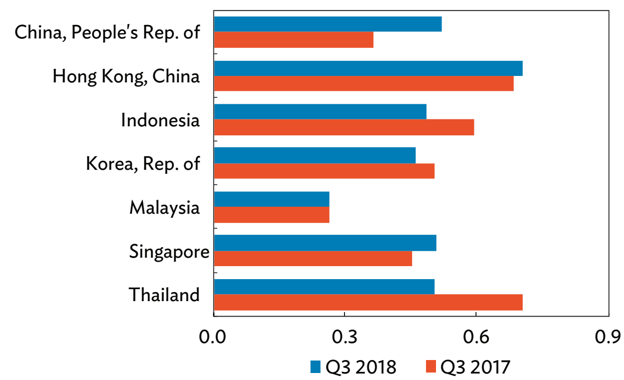
Figure 15 presents the quarterly turnover ratios for emerging East Asian markets in which data are available. In line with market sentiments, the observed changes in turnover ratios versus the same period last year were mixed. The turnover ratio in the third quarter (Q3) of 2018 was down in Indonesia,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

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

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

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

Figure 15: Local Currency Government Bond Turnover Ratios



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

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

Table 5: Local Currency Government Bond Markets Quantitative Indicators

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

– = not applicable; bps = basis points; CV = coefficient of variation; HKG = Hong Kong, China; INO = Indonesia; KOR = Republic of Korea; LCY = local currency; MAL = Malaysia; PHI = Philippines; PRC = People's Republic of China; SD = standard deviation; SIN = Singapore; THA = Thailand; USD = United States dollar; VIE = Viet Nam.
Note: The bid–ask spreads for Indonesian Treasury bonds presented above are expressed in terms of yields or basis points to make them comparable with bid–ask spreads in other emerging East Asian markets.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

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

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

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

Characteristics of Individual Government Bond Markets

People's Republic of China

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

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

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

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

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

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

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

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

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

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

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

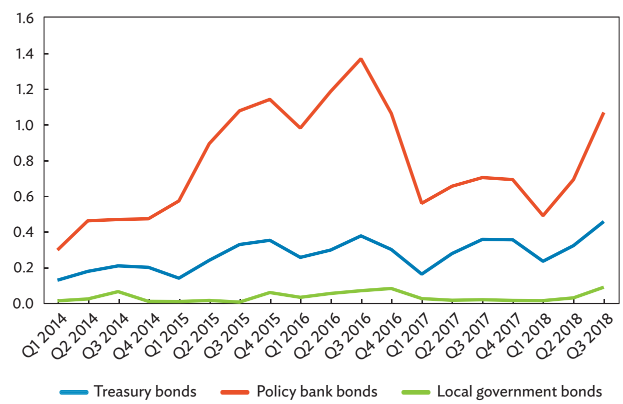
The highest bid–ask spreads came from local government bonds, with the bid–ask spreads rising to 5.2 bps in 2018 from 4.3 bps in the previous year. Local government bonds have considerably less liquidity as they are less actively traded, with investors tending to hold on to them rather than trading.

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

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

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

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



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

Hong Kong, China

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

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

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

worrisome and that financial market participants still have ample liquidity.

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

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

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

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

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

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

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

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

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

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

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

Indonesia

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

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

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

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

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

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

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

Table 8: Local Currency Government Bond Survey Results—Indonesia

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

bps = basis points, IDR = Indonesian rupiah.
Notes: The bid–ask spreads for Indonesian Treasury bonds presented above are expressed in terms of yields or basis points to make them comparable with bid–ask spreads in other emerging East Asian markets. Bid–ask spreads for government bonds are most often expressed in terms of "cents" in the Indonesian market. The Indonesian market quotes bid–ask spread for Treasury bills in terms of yields or basis points.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

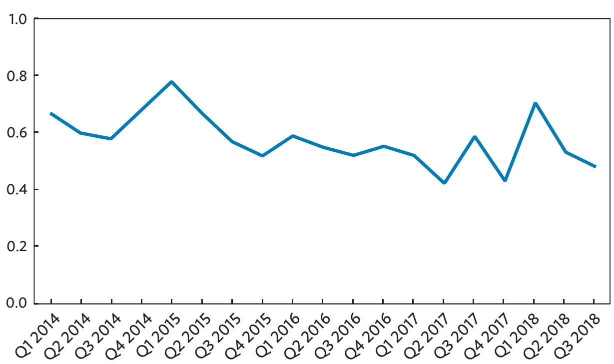
The average trading size for both on-the-run and off-the-run issues climbed for Treasury bonds. The average single ticket size for on-the-run Treasury bonds climbed to IDR35.5 billion in this year's survey from IDR25.0 billion in 2017. Most market participants quoted a range of IDR10 billion to IDR50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

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

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

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

Figure 17: Quarterly Government Bond Turnover Ratio in Indonesia



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

Republic of Korea

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

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

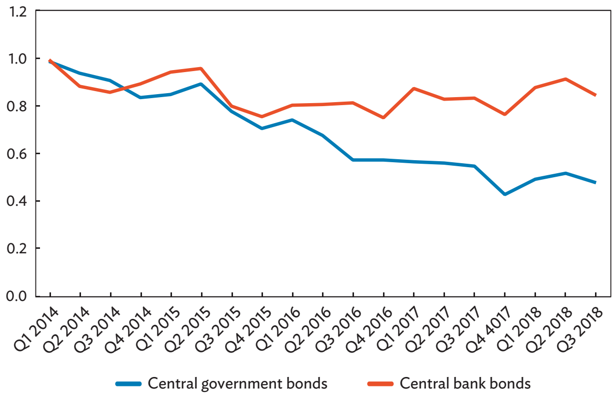
	Treasury Bonds	Central Bank Bonds
On-the-Run		
Bid–Ask Spread (bps)	0.5	0.5
Average Trading Size (KRW billion)	10.0	9.7
Off-the-Run		
Bid–Ask Spread (bps)	0.7	0.6
Average Trading Size (KRW billion)	9.9	9.7

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

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

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

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



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

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

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

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

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

Malaysia

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

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

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

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

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

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

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

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

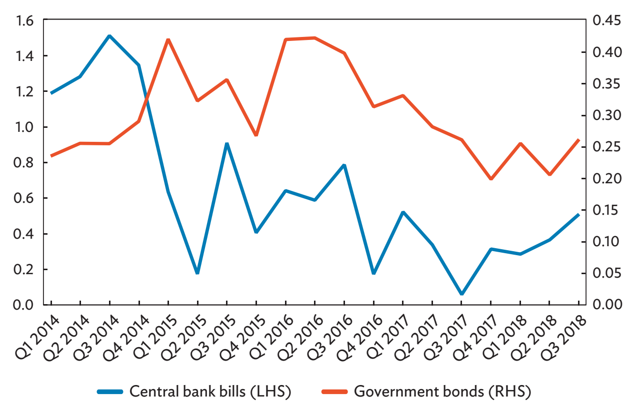
Table 10: Local Currency Government Bond Survey Results—Malaysia

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

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

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

Figure 19: Quarterly Government Bond Turnover Ratios in Malaysia



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

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

Philippines

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

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

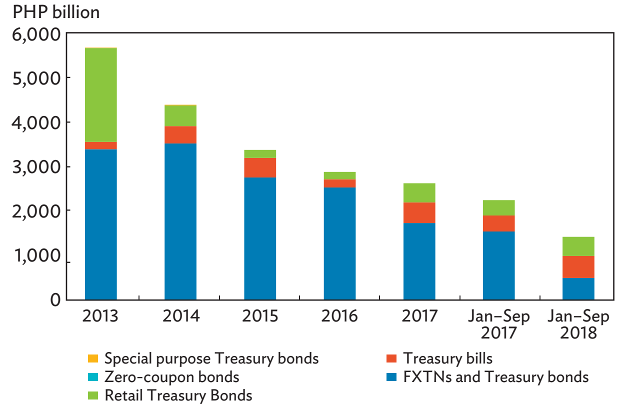
Table 11: Local Currency Government Bond Survey Results—Philippines

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

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

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

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



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

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

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

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

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

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

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

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

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

Singapore

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

Table 12: Local Currency Government Bond Survey Results—Singapore

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

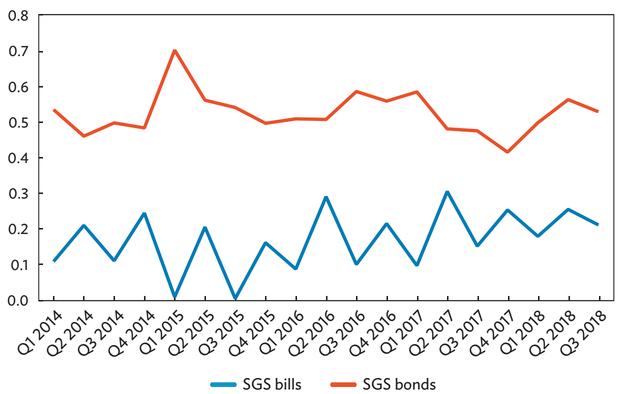
bps = basis points, MAS = Monetary Authority of Singapore, SGD = Singapore dollar, SGS = Singapore Government Securities.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

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

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

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

Figure 21: Quarterly Government Bond Turnover Ratios in Singapore



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

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

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

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

Thailand

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

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

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

Table 13: Local Currency Government Bond Survey Results—Thailand

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

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

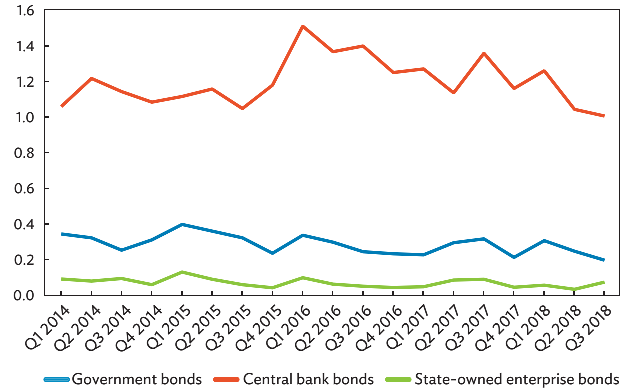
There were no new regulatory measures in 2018 that significantly affected the liquidity of the bond market. Survey participants, however, cited the impending tax on mutual funds that might be finalized and implemented in the second half of 2019. Most respondents think that the regulation will not have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

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

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

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

Figure 22: Quarterly Government Bond Turnover Ratios in Thailand



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

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

Viet Nam

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

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

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

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

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

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

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

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

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

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

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

Qualitative Indicators for Government Bond Markets

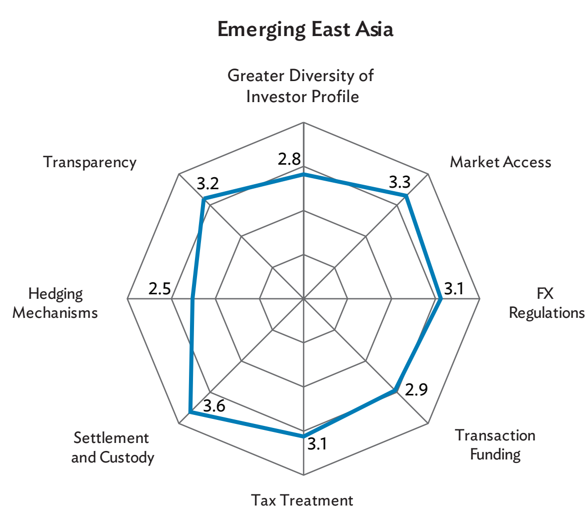
The second section of the *AsianBondsOnline* liquidity survey pertains to the assessment of structural issues that can influence liquidity conditions in the region's bond market. Participants in the survey were asked to provide their perception of the degree of development of their respective markets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

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

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

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

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



FX = foreign exchange.
Note: Emerging East Asia comprises the People's Republic of China; Hong Kong, China; Indonesia; the Republic of Korea; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

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

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

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

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

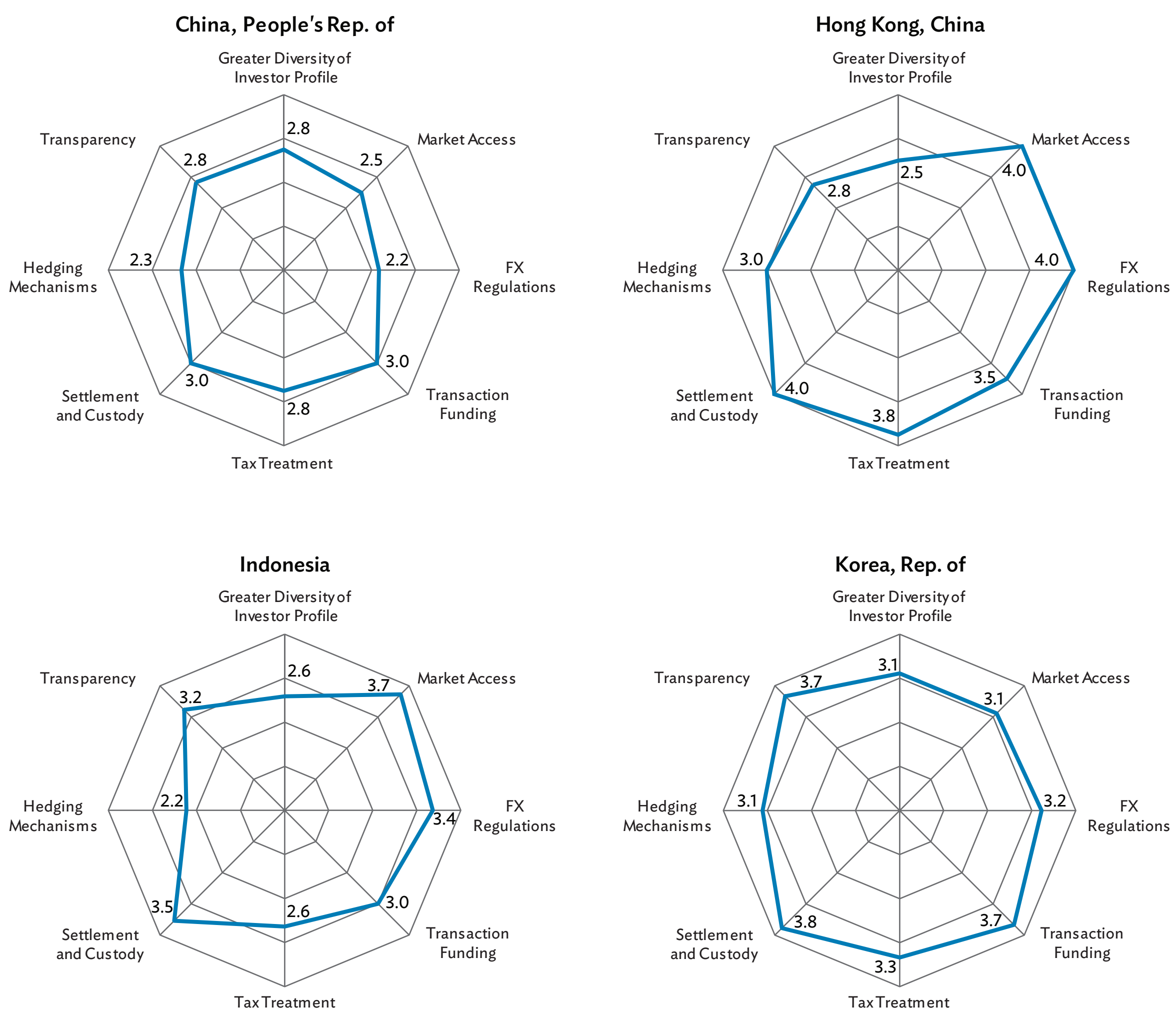


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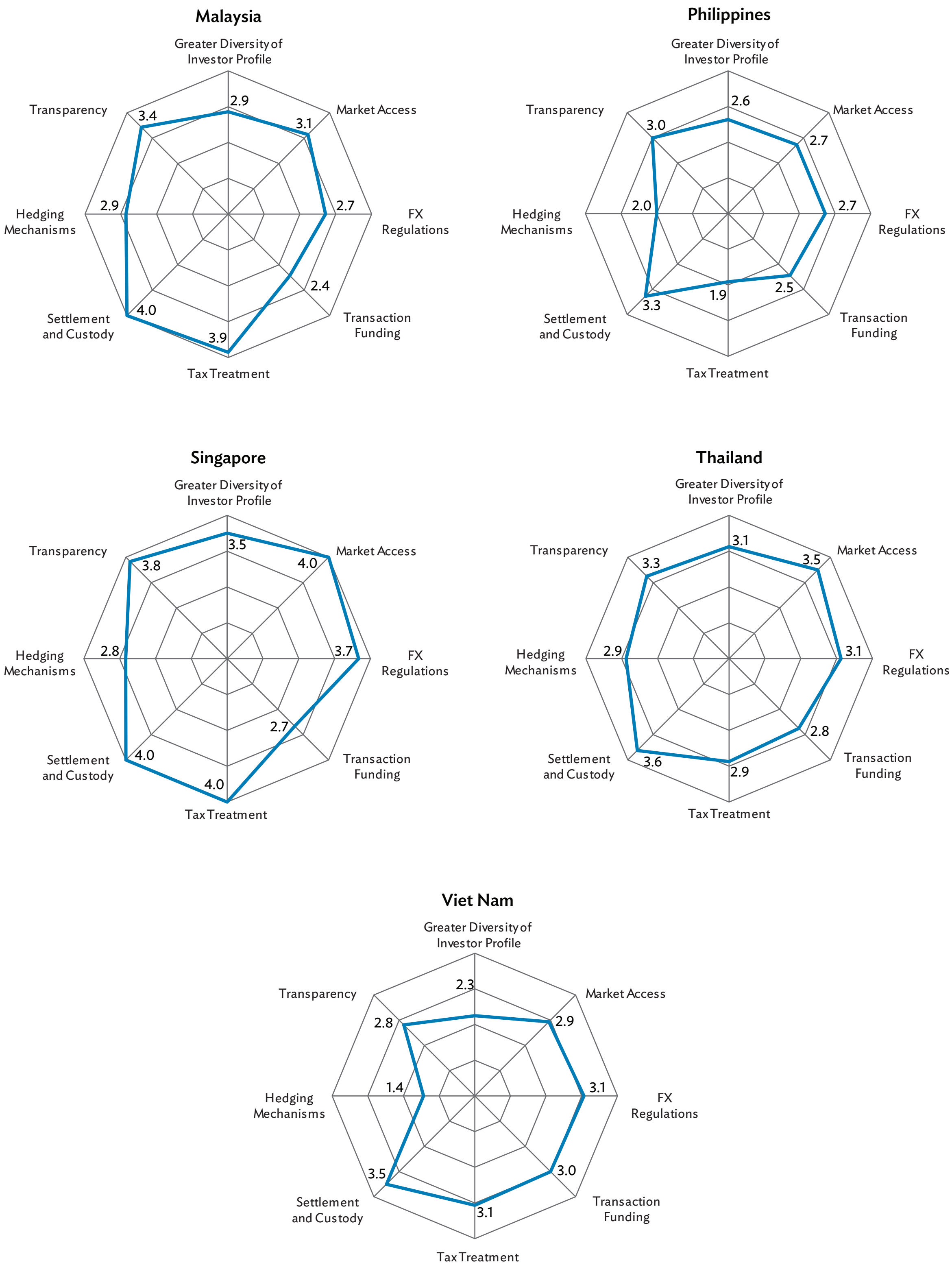
Figure 24 *continued*



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

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

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

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

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

Quantitative Indicators for Corporate Bond Markets

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

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

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

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

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

Market	Capital Inflow			Capital Outflow	
	Money Market Instruments	Bond Market Instruments	Equity Instruments	Resident Investors	Nonresident Investors
China, People's Republic of	Qualified Foreign Institutional Investors (QFII) may purchase money market funds, subject to a lockup period.	QFIIs are allowed to invest in exchange-traded bonds subject to quotas but interbank-traded bonds purchases have no limits. Renminbi Qualified Foreign Institutional Investors (RQFII) are allowed to invest in exchange-traded bonds subject to quotas and in interbank-traded bonds without limits. Financial institutions, such as commercial banks, insurance companies, securities companies, fund management companies, other asset management institutions and People's Bank of China-approved institutions such as pension funds, charitable funds, endowment funds, and other medium- and long-term institutional investors may invest in the interbank bond market without limits.	QFIIs are allowed to invest in A-shares subject to quotas. No single QFII may hold more than 10% of a listed company. Foreign investors may not own more than 30% of a single company. The overall limit for all QFIIs is USD150 billion, and the upper limit of a single QFII is a certain ratio of its base quota, subject to a USD5 billion ceiling. Foreign investors may also make strategic investments in A-shares of listed companies subject to certain criteria and restrictions. RQFIIs are allowed to invest in listed equities subject to quotas. RQFIIs are allowed to fund investments using renminbi sourced abroad.	Qualified Domestic Institutional Investors (QDII) are allowed to buy and hold offshore securities subject to certain quotas. Insurance companies may invest subject to approval and total overseas investment cannot exceed 15% of the insurance company's total assets.	QFII pension and insurance funds, mutual funds, charitable foundations, endowment funds, government investment management companies, and open-end funds have a principal lock-up of 3 months. Other QFIIs are required to keep their investments in the People's Republic of China (PRC) for 1 year. For RQFIIs, there is no holding period. Repatriation of foreign exchange requires the approval of the State Administration for Foreign Exchange.
Hong Kong, China	There are no specific restrictions on portfolio investments and foreign investors may place funds directly in money market instruments.	Nonresidents are free to purchase debt instruments.	Nonresidents are free to purchase equity securities. Investment in banks requires Hong Kong Monetary Authority (HKMA) approval.	Residents are generally free to invest abroad. Overseas investment by institutional investors (e.g., insurance companies, banks) must be within certain limits and may require HKMA approval.	No restrictions on repatriation of capital and profits.
Indonesia	Foreign investors are allowed to purchase money market instruments in the secondary market. For Sertifikat Bank Indonesia (SBI), domestic and foreign investors are required to comply with a 1-week holding period.	Foreign investors are allowed to purchase debt securities without limit except for retail bonds for which they are only allowed to purchase in the secondary market.	Foreign investors are allowed to purchase shares without limit with the exception of shares in joint securities companies that are also finance companies. Insurance and reinsurance companies' may invest up to 40% of their total investment in equity investment abroad.	Pension funds are not allowed to invest in securities abroad. Mutual fund investments are limited to 15% of their net asset value while protected mutual fund has a limit of 30% of their net asset value. Insurance and reinsurance companies are allowed to invest up to 20% of total investment in a single bond issuer.	No restrictions apply to repatriation of capital, remittance of dividends, and profits.
Japan	Nonresidents are free to purchase money market securities.	Nonresidents are free to purchase debt securities.	Controls will only apply if the purchase of equity instruments is affected by inward direct investment laws.	Residents are allowed to purchase capital instruments issued abroad.	No restrictions on repatriation of capital, profits, dividends, and interest.

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Table 15 *continued*

Market	Capital Inflow			Capital Outflow	
	Money Market Instruments	Bond Market Instruments	Equity Instruments	Resident Investors	Nonresident Investors
Korea, Republic of	Nonresidents are allowed to invest in domestic money market instruments. For residents, the sale of foreign currency-denominated money market instruments abroad requires notification to a designated foreign exchange bank. Sale of foreign currency-denominated money market instruments exceeding USD30 million or local currency-denominated money market instruments by residents abroad requires notification to the Ministry of Strategy and Finance.	Nonresidents are allowed to buy bonds and other debt securities sold by residents, but notification to a foreign exchange bank or The Bank of Korea is required if the purchase is not made through an account exclusively for investment.	Nonresidents are freely allowed to invest in shares of local companies, but notification to a foreign exchange bank or The Bank of Korea is required if the purchase is not made through an account exclusively for investment. The purchase of listed shares issued by resident public sector utilities in the process of privatization is subject to controls. The purchase of shares of unlisted or unregistered corporations may be subject to laws on inward direct investment and establishment.	Residents are allowed to buy capital instruments issued abroad, but notification to The Bank of Korea is required if the purchase is not made through an account exclusively for investment.	Effective 18 July 2017, no restrictions apply to repatriation on proceeds from capital transactions. Nonresidents may issue bonds in the domestic capital market but a notification to the Ministry of Strategy and Finance is required.
Malaysia	Nonresidents are allowed to purchase money market instruments without any restrictions.	Nonresidents are allowed to purchase bond market instruments without any restrictions.	Nonresidents are allowed to purchase equity instruments listed in Bursa Malaysia.	Residents with domestic borrowing are subject to certain limits.	Nonresidents are free to repatriate funds from divestment of local currency-denominated assets or profits and dividends arising from investments.
Philippines	Registration of money market instruments purchased by nonresidents is required only if the foreign exchange needed for capital repatriation and remittance of profits and earnings will be purchased from Bangko Sentral ng Pilipinas' (BSP) Authorized Agent Banks (AAB) and AAB-forex corporations.	Nonresidents are allowed to purchase bond market instruments without any restrictions.	When one of the parties in a transaction is a bank or a nonbank financial institution, securities purchased must be held by a BSP-accredited securities custodian or Securities and Exchange Commission-authorized central securities depository that is a third party. Registration of equity instruments purchased by nonresidents is required if the foreign exchange needed for capital repatriation and remittance of dividends, profits and earnings will be purchased from AABs and AAB-forex corporations.	A resident's investment abroad in excess of USD60 million a year requires prior regulatory approval.	No restrictions on repatriation of capital, profits, dividends, and interest if the foreign exchange needed will be purchased from AABs and AAB-forex corporations.
Singapore	No restrictions for nonresidents to purchase money market instruments.	No restrictions for nonresidents to purchase bond market instruments.	No restrictions for nonresidents to purchase equity instruments.	No restrictions on investments by residents abroad.	Nonresident financial insitutions are required to convert Singapore dollar proceeds from equity listings and bond issuances into foreign currency before using the funds to finance activities outside Singapore. Nonresidents may undertake equity and bond offering subject to submission of prospectus to investors with approval from the Monetary Authority of Singapore.

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Table 15 *continued*

Market	Capital Inflow			Capital Outflow	
	Money Market Instruments	Bond Market Instruments	Equity Instruments	Resident Investors	Nonresident Investors
Thailand	Nonresidents can invest in THB-denominated money market instruments, except bills of exchange issued by domestic financial institutions. Investment of a nonresident group in THB-denominated money market instruments issued by a domestic financial institution is capped at THB10 million.	Nonresidents can invest in THB-denominated debt securities. Investment of a nonresident group in THB-denominated debt securities issued by a domestic financial institution is capped at THB10 million.	Nonresidents can invest in equities, but foreign participation may be limited if a company is subject to the provisions of the Foreign Business Act or other related laws. Nonresident financial institutions may hold up to 25% of the total shares of a locally-incorporated bank, credit finance company, and finance company. Nonresidents may hold up to 100% of the shares of an asset management company or a securities company subject to approval by the Bank of Thailand. For most other Thai corporations, foreign equity participation is up to 49%.	Institutional investors may invest in foreign securities issued abroad up to a certain limit imposed by the directors, management, or supervisory authority of the institutional investors. Qualified investors with financial assets worth THB100 million may invest in securities abroad up to USD5 million a year without the need for local intermediaries. Other individual and corporate investors may invest through private funds or securities companies or commercial banks holding relevant securities business licenses.	Proceeds of up to USD50,000 or its equivalent can be retained abroad, while proceeds in excess of this amount must be repatriated on receipt within 360 days of the transaction date.
Viet Nam	Foreign investors are allowed to purchase money market instruments locally. These transactions must be executed in VND through an account at a licensed bank in Viet Nam. Nonresidents are required to register and obtain a trading code with a depository member of the Vietnam Securities Depository (VSD) before engaging in trading transactions in the stock market.	There is no limit on investments however foreign investors are required to open a VND-denominated securities trading account to sell or purchase debt securities. These transactions must be executed in VND through an account at a licensed bank in Viet Nam. Nonresidents are required to register and obtain a trading code with depository member of the VSD before investing and trading.	Foreign investors are required to open a VND-denominated securities trading account to sell or purchase listed securities on the stock exchange. Foreign investors are allowed to hold up to 49% of a company's current shares, except in the banking sector, which has a limit of 30%. Nonresidents are required to register and obtain a trading code with a depository member of the VSD before engaging in trading transactions in the stock market.	Residents may invest in shares and bonds abroad subject to regulation set by the State Bank of Vietnam. Resident investors other than credit institutions are required to obtain license for indirect investment abroad and open an account to transfer capital offshore and transfer legal capital, profits, and earnings from offshore indirect investment to Viet Nam under the State Bank of Vietnam regulations.	There is no provision for timeline on repatriation of profits. However, profits from foreign indirect investment must be repatriated via foreign exchange accounts at authorized credit institutions.

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

Table 16: Tax Treatments in Emerging East Asian Markets

Market	Withholding Tax on Interest Income	
	Government	Corporate
China, People's Rep. of	Exempt from tax	Domestic and nonresident enterprises are subject to a 10% withholding tax. For nonresident enterprises, a reduced rate is applied based on applicable tax treaties. A 6% value-added tax also applies to interest payments.
Hong Kong, China	Exempt from tax	Beginning with year assessment 2018/19, a two-tiered profits tax regime was implemented. For corporations (excluding financial institutions), the first HKD2 million of assessable profits is subject to 8.25% profits tax, and the exceeding amount is subject to the standard tax rate of 16.5%. For unincorporated businesses, the first HKD2 million is subject to 7.5% profits tax, and the exceeding amount is subject to the standard tax rate of 15%. For corporate groups, only one member of the group will be able to apply the reduced rate.
Indonesia	Residents and permanent establishments are subject to a 15% tax on bonds and a 20% tax on Sertifikat Bank Indonesia. Nonresidents are subject to a 20% tax, which is subject to reduction based on applicable treaties. For mutual funds registered with Otoritas Jasa Keuangan, the tax rate is 5% until 2020 and 10% thereafter. For sovereign foreign currency bonds, residents and nonresidents are exempted from tax.	Residents and permanent establishments are subject to a 15% tax. Nonresidents are subject to a 20% tax, which is subject to reduction based on applicable treaties. For mutual funds registered with Otoritas Jasa Keuangan, the tax rate is 5% until 2020 and 10% thereafter.
Korea, Rep. of	Resident and nonresident investors are subject to a 15.4% tax. For nonresidents, the tax is subject to reductions based on appliable treaties.	Resident and nonresident investors are subject to a 15.4% tax. For nonresidents, the tax is subject to reduction based on applicable treaties.
Malaysia	Residents and nonresidents individuals and companies are tax exempt.	Resident individuals or companies are tax exempt. Nonresident individuals are tax exempt. Nonresident companies are exempt from tax on MYR-denominated sukuk and debentures approved by the Securities Commission.
Philippines	Citizens, resident and nonresident individuals engaged in trade or business are subject to a 20% final withholding tax. Noresident individuals are subject to a 25% final tax. Domestic and resident foreign corporations are subject to 20% final withholding tax. Nonresident foreign corporations not engaged in trade or business are subject to a 30% final tax (i.e. to be deducted from the gross amount of income derived in the Philippines).	Citizens, resident and nonresident individuals engaged in trade or business are subject to a 20% final withholding tax. Nonresident individuals are subject to a 25% final tax. Domestic and resident foreign corporations are subject to 20% final withholding tax. Nonresidents foreign corporation not engaged in trade or business are subject to a 30% final tax.
Singapore	Resident and nonresident individuals, institutions and corporations are tax exempt. Resident and nonresident institutions and corporations are subject to a 10% concessionary tax.	Resident and nonresident individuals are tax exempt. Resident institutions and corporations are exempt from tax, while Nonresident institutions and corporations are exempt from withholding tax, subject to qualifying conditions. Resident institutions and corporations are subject to a 10% concessionary tax.
Thailand	Domestic individual investors are subject to a 15% withholding tax. Foreign individual investors are tax exempt. Domestic corporate investors are subject to a 1% withholding tax; tax exempt when the bondholder and issuer are a commercial bank, finance company, securities company, or credit foncier company; tax exempt when the bondholder is a foundation or association prescribed by the minister and the issuer is a registered partnership which does business in Thailand. Foreign corporate investors are tax exempt.	Domestic individual investors are subject to a 15% withholding tax. Foreign individual investors are tax exempt. Domestic corporate investors are subject to a 1% withholding tax; tax exempt when the bondholder and issuer are a commercial bank, finance company, securities company, or credit foncier company; tax exempt when the bondholder is a foundation or association prescribed by the minister and the issuer is a registered partnership which does business in Thailand. Foreign corporate investors are subject to a 15% withholding tax.
Viet Nam	Exempt from tax	Resident and nonresident investors are subject to a 5% withholding tax. For nonresidents, the applicable tax rate is subject to reduction based on applicable tax treaty.

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

Table 17: Local Currency Corporate Bond Markets Quantitative Indicators

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

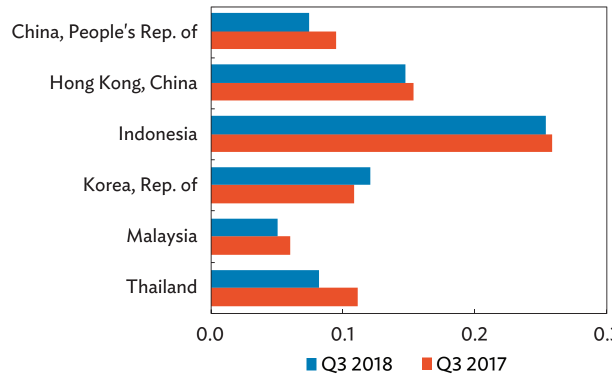
bps = basis points; CV = coefficient of variation; HKG = Hong Kong, China; INO = Indonesia; KOR = Republic of Korea; LCY = local currency; MAL = Malaysia; PHI = Philippines; PRC = People's Republic of China; SD = standard deviation; SIN = Singapore; THA = Thailand; USD = United States dollar; VIE = Viet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

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

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

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

Figure 25: Local Currency Corporate Bond Turnover Ratios



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

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

Characteristics of Individual Corporate Bond Markets

People's Republic of China

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

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

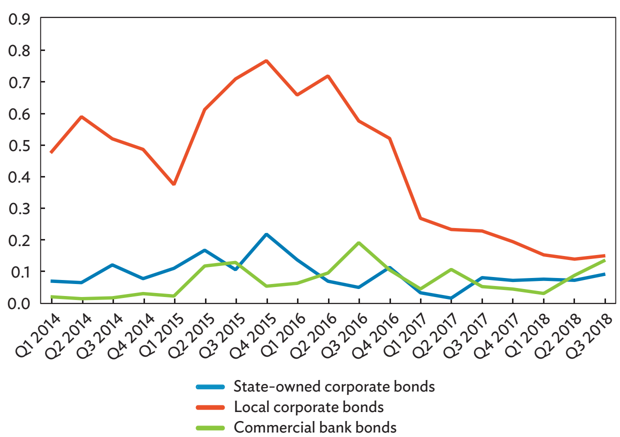
As a result, bid–ask spreads for state-owned enterprise bonds fell to 6.1 bps in 2018 from 7.3 bps in 2017, while

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

	SOE Bonds	Local Corporate Bonds	MTNs	Commercial Bank Bonds	Commercial Paper
Average Issue Size (CNY million)	3,000.0	890.1	1,202.7	3,786.6	1,096.9
Bid–Ask Spread (bps)	6.1	11.4	9.2	8.9	7.9
Average Trading Size (CNY million)	33.3	27.2	27.2	44.4	37.8

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

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



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

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

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

Indonesia

As in 2017, most respondents to this year's survey observed that there is an active secondary market for corporate bonds. However, they observed that trading is less active for corporate bonds relative to government

Table 19: Local Currency Corporate Bond Survey Results—Indonesia

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

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

bonds. This may be due to the small size of Indonesia's corporate bond segment.

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

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

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

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

Republic of Korea

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

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

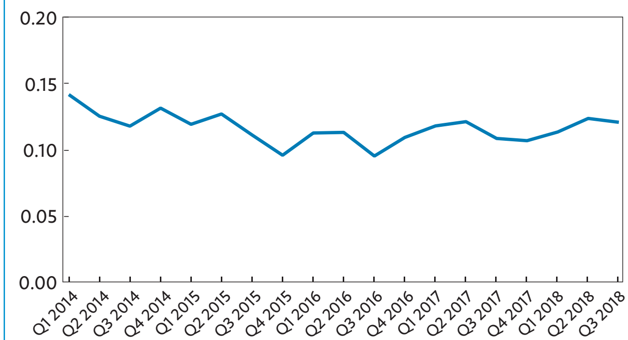
	Corporate Bonds
Average Issue Size (KRW billion)	56.3
Bid–Ask Spread (bps)	1.9
Average Trading Size (KRW billion)	9.7

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

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

Survey respondents noted that the trading of corporate bonds is still much lower compared with government bonds. However, 2018 saw more trading activity in the corporate bond market given uncertainties driving the government bond market. Corporate bond trading is very

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



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

much concentrated in financial bonds and high-rated corporate bonds, as liquidity is still driven by credit ratings due to internal compliance requirements for investors. Issue size and the industry of the issuer also drive liquidity of a specific corporate bond. A survey respondent noted measures being worked on by policymakers to improve liquidity in the corporate bond market. There are plans to allow small and medium-sized enterprises, which have lower credit ratings, to issue bonds.

Malaysia

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

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

Table 21: Local Currency Corporate Bond Survey Results—Malaysia

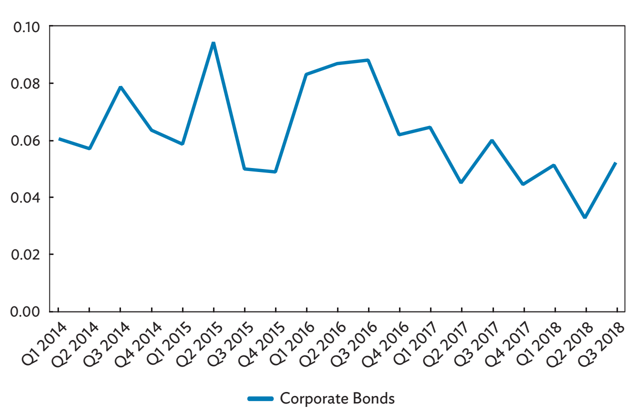
	Corporate Bonds
Average Issue Size (MYR million)	397.6
Bid–Ask Spread (bps)	8.0
Average Trading Size (MYR million)	5.1

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

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

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

Figure 28: Quarterly Corporate Bond Turnover Ratio in Malaysia



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

Philippines

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

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

Table 22: Local Currency Corporate Bond Survey Results—Philippines

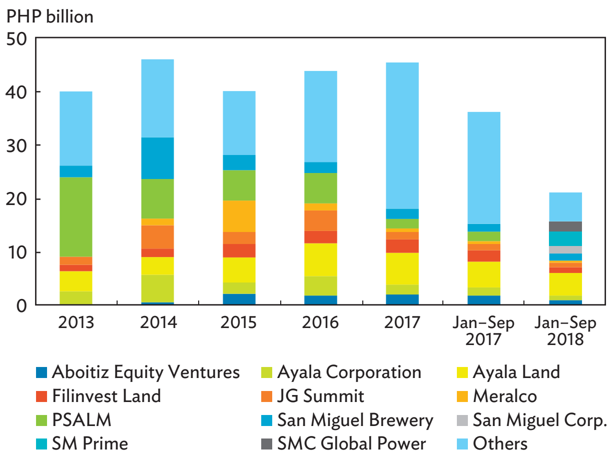
	Corporate Bonds
Average Issue Size (PHP million)	5,894.7
Bid–Ask Spread (bps)	65.0
Average Trading Size (PHP million)	6.9

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

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

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

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



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

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

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

Singapore

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

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

Table 23: Local Currency Corporate Bond Survey Results—Singapore

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

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

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

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

Thailand

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

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

Table 24: Local Currency Corporate Bond Survey Results—Thailand

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

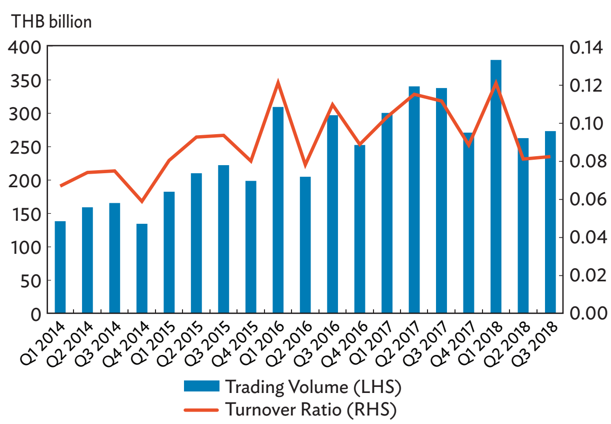
bps = basis points, THB = Thai baht.
Source: *AsianBondsOnline* 2018 Local Currency Bond Market Liquidity Survey.

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

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

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

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



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

Viet Nam

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

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

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

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

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

Qualitative Indicators for Corporate Bond Markets

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

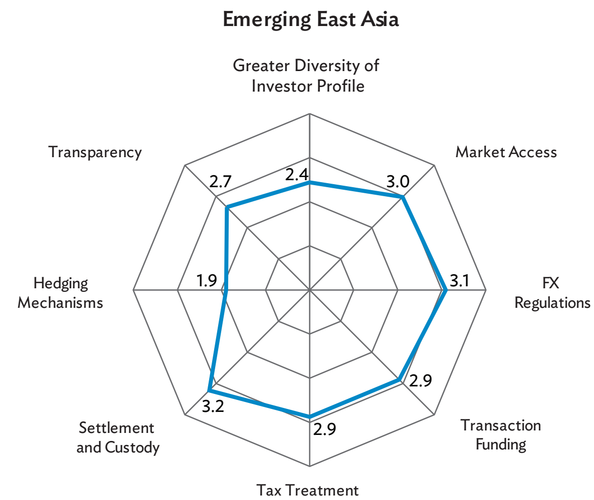
Other factors impede the development of corporate bond market liquidity vis-à-vis government bonds. One is that government bond markets tend to be more homogenous. In contrast, there is greater variety in corporate bond markets in the types of issuers that can be segmented according to industry and credit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

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

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

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

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



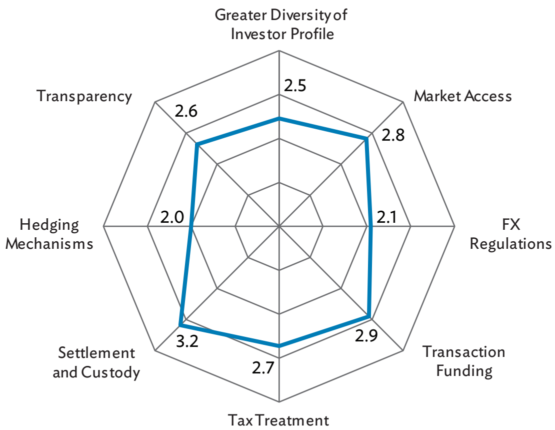
FX = foreign exchange.
Note: Emerging East Asia comprises the People's Republic of China; Hong Kong, China; Indonesia; the Republic of Korea; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam.
Source: *AsianBondsOnline* 2018 LCY Bond Market Liquidity Survey.

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

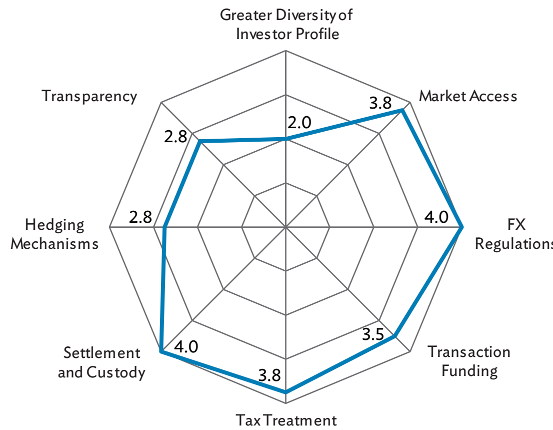
FX Regulations are the next highest with a regional score of 3.1. This reflects the gradual opening and liberalization of bond markets as they continue to develop and expand. Along similar lines, Market Access was scored the third highest at 3.0. The individual markets that scored highest in the region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

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

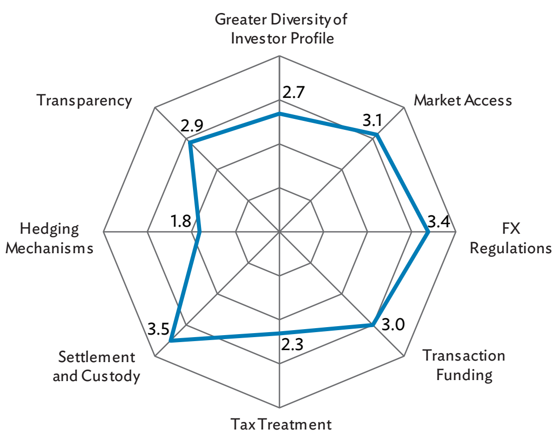
China, People's Rep. of



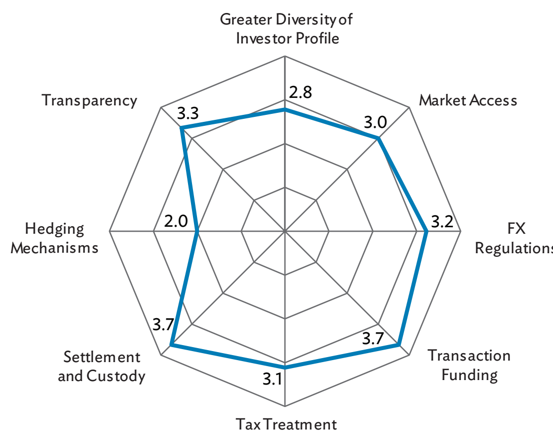
Hong Kong, China



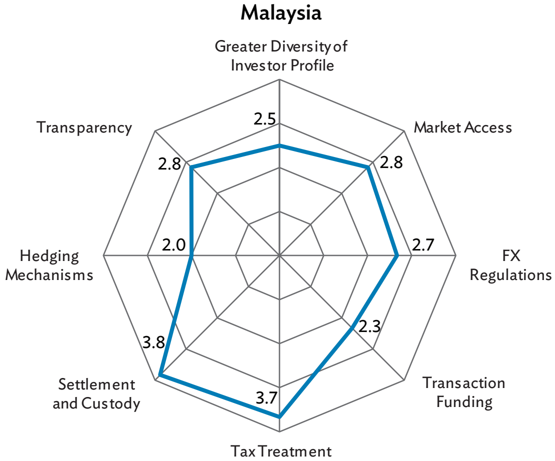
Indonesia



Korea, Rep. of



Malaysia



Philippines

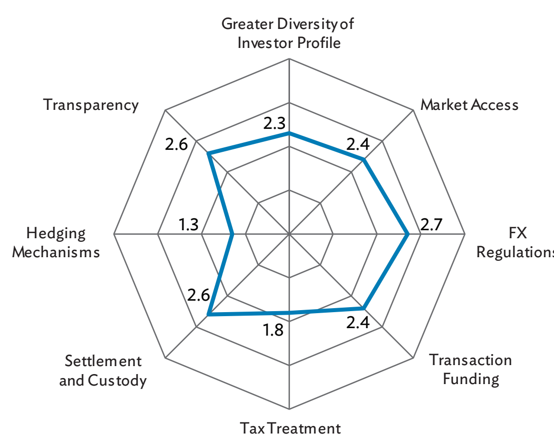


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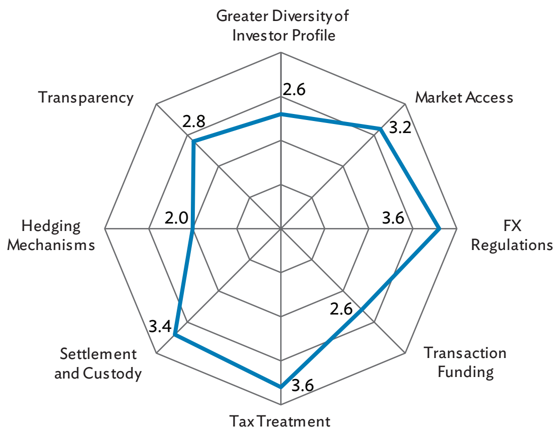
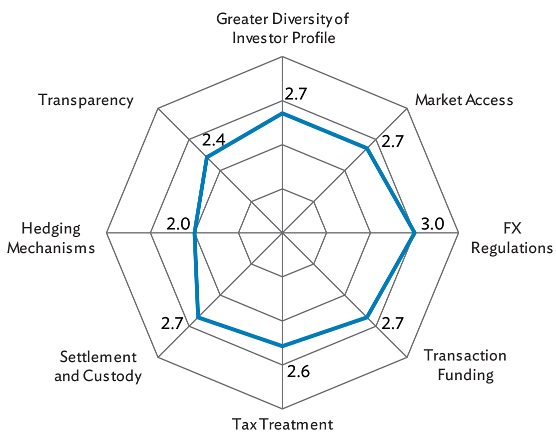
Figure 32 *continued*

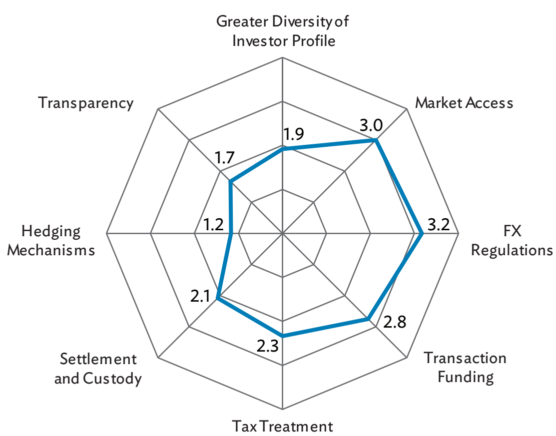
Singapore



Thailand



Viet Nam



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

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

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

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

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

Assessing the Impact of the Asian Bond Markets Initiative on Bond Market Development in Asia

Introduction

The development of local bond markets has been a priority for policy makers in the region since the 1997/98 Asian financial crisis. The Asian Bond Markets Initiative (ABMI) attempts to prevent the recurrence of another financial crisis by mitigating the double mismatch in financing—maturity mismatch and currency mismatch—that has been identified as the reason for the financial crisis. The regional initiative also aims to address Asia's savings glut by reinvesting savings within the region. Thanks to ABMI and economy-level efforts, substantial growth has been made in terms of market quantity; that is, more bonds are being issued and traded.

Qualitative growth, however, has been limited by existing regulatory and institutional barriers, and the stark difference in economic and capital market development across the region's economies. In terms of currency mismatch, little progress has been made due to strict foreign exchange regulations on local currency (LCY) transactions. Also problematic is the fact that the infrastructure for cross-border bond issuance and trading is underdeveloped, thus limiting the channeling of savings within the region. Having acknowledged these problems, a working-level committee comprising members from both the private and public sectors established the ASEAN+3 Bond Market Forum (ABMF) in September 2010. ABMF has since pursued the harmonization and the standardization of cross-border bond transactions, and the integration of regional bond markets.

Despite the abovementioned challenges, it is widely accepted that ABMI, as a regional initiative, has contributed much to bond market development in Asia. Several papers have investigated this development such as Eichengreen and Luengnaruemitchai (2006), Bhattacharyay (2011), and Baek and Kim (2013). However, to the best of our knowledge, there is little literature such as Mizen and Tsoukas (2014) that empirically assesses the impact of ABMI on the development of bond markets in the region. For this purpose, we have made further comparative analysis of Asia and Latin America, two regions that have taken different approaches to develop bond markets after experiencing financial crises and credit instabilities in recent decades. Asian economies have collectively tried to develop and integrate their bond markets on a regional platform, pursuing the harmonization and standardization of different rules and regulations. Latin American economies, in competition with one another, have attempted to individually develop their bond markets to attract foreign investors.

The remainder of this theme chapter proceeds as follows. The second section reviews the historical process of bond market development in Asia from the perspective of a regional policy process, ABMI. The third section attempts to analyze empirically the determinants of bond market development and assess the contribution of ABMI to bond market development in Asia. Lastly, we conclude the paper with interpretations of the empirical results and discuss the policy implications for further development of Asian bond markets.

Review of Bond Market Development in Asia

Historical Review of ABMI

The structure of ABMI has been changed four times—in 2005 (ABMI Roadmap), 2008 (New ABMI Roadmap), 2012 (New Roadmap+), and 2016 (New Medium-Term Roadmap)—to ensure tangible outcomes. Risks posed by rising trade protectionism and faster-than-expected tightening in global financial conditions, as well as uncertainties surrounding geopolitical tensions, could threaten the global economic recovery, inducing large capital outflows and financial volatility in Asia. Therefore, the structure of ABMI should address evolving issues and challenges faced by member economies of the Association of Southeast Asian Nations plus the People's Republic of China (PRC), Japan, and the Republic of Korea—collectively known as ASEAN+3.

Launching of ABMI in 2003

ABMI was formally launched on 7 August 2003 with the ASEAN+3 Finance Ministers' Meeting as its highest decision-making group and the Focal Group, which is a director-level meeting, as its planning and coordination body. Under the Focal Group, six working groups were formed and categorized by subject or issue area (**Table 25**). Five issues were initially selected, with the Technical Assistance Coordination Group being added during the launch of ABMI.

Table 25: Initial Working Group Issues and Tasks of ABMI in 2003

Working Group 1 **(Thailand)** **Creating New Securitized Debt Instruments** – Bonds with Withholding Tax Exemption – Issuance of Securitized Debt Instrument – Study on Multi-Currency Bond	**Working Group 4** **(PRC)** **Multilateral Development Banks, Multinational Companies, and Foreign Government Agencies Issuance** – Country Case Studies on Local Currency Bond Issuance by Foreign Issuers
Working Group 2 **(Republic of Korea, PRC)** **Credit Guarantee and Investment Mechanisms** – Research on the Regional Guarantee and Investment Mechanisms	**Working Group 5** **(Singapore, Japan)** **Rating System and Information Dissemination** – *AsianBondsOnline* Website – Collaboration with a Caucus of Local Credit Rating Agencies
Working Group 3 **(Malaysia)** **Foreign Exchange Transactions and Settlement Issues** – Research on the Regional Clearing and Settlement Mechanism (Asia Link) – Research on the Impediments on Cross-Border Bond Investment and Issuance	**Working Group 6** **(Indonesia, Philippines, Malaysia)** **Technical Assistance (TA) Coordination** – TA brought JAFTA to Develop Regional Bond Markets – Assessment on Actual TA Needs

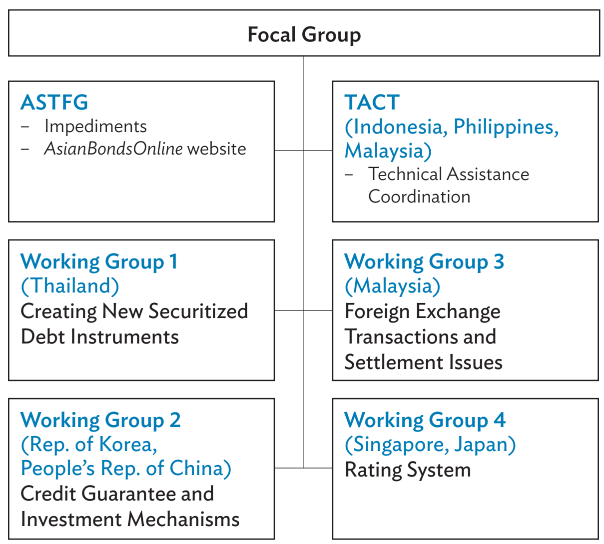
ABMI = Asian Bond Markets Initiative, JAFTA = Japan ASEAN Free Trade Agreement, PRC = People's Republic of China.
Source: Authors' compilation.

ABMI Roadmap in 2005

The ABMI Roadmap was proposed as a new framework at the November 2004 Focal Group Meeting in Tokyo and was officially endorsed at the April 2005 ASEAN+3 Finance Ministers' Meeting in the Lao People's Democratic Republic. The 2005 ABMI Roadmap was conceived to effectively carry out ABMI following three principles. First, the number of working groups should be kept to the minimum necessary so that the efficiency of the ABMI framework can be maintained. Second, continuity and consistency should be maintained regarding future work that draws on past efforts. Third, flexibility is critical for a new framework to respond to the changing regional environment.

The six existing working groups were reorganized into four working groups (**Figure 33**). Then, two teams—the Ad Hoc Support Team for the Focal Group (ASTFG) and the Technical Assistance Coordination Team (TACT)—were created for the Focal Group. ASTFG's mission is to complement and fortify the functions of the Focal Group and to gather, share, and disseminate information. Additional tasks include compiling and updating progress reports. Through ASTFG, the Focal Group can respond to dynamic changes in the region and deal with emerging issues that cut across the mandates of the working groups.

Figure 33: Operating Framework of ABMI in 2005



ABMI = Asian Bond Markets Initiative, ASTFG = Ad Hoc Support Team for the Focal Group, TACT = Technical Assistance Coordination Team.
Source: Authors' compilation.

"Information Dissemination" was given to ASTFG with the undertaking of the *AsianBondsOnline* website, which was established under Working Group 5. The "Study of Impediments to Cross-Border Bond Investment and Issuance in Asian Countries" under Working Group 3 was also transferred to ASTFG since this study raised issues related to the mandate of all working groups and required a response from each economy. Working Group

6 was transformed into TACT in order to emphasize the importance of the coordination and provision of technical assistance in a more timely, effective, and visible manner given the rapid advancement of the region's bond markets.

New ABMI Roadmap in 2008

In 2008, ASEAN+3 economies agreed to extend the work being conducted under ABMI. A new roadmap was designed to encourage members to make voluntary efforts to develop LCY-denominated bond markets. The efforts of individual economies, as well as those of ASEAN+3 as a whole, were intended to develop a regional bond market that is more accessible for both issuers and investors. In addition, areas that required institutional building were to be identified and solutions devised accordingly.

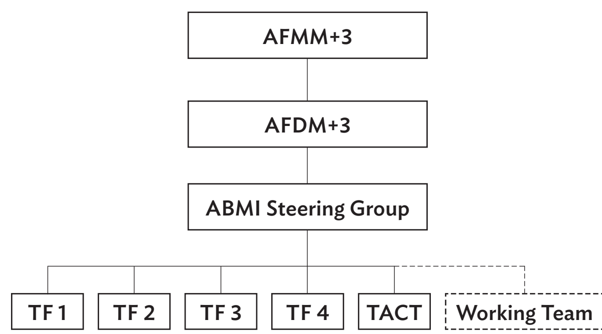
Issues to be addressed were identified and categorized into four key areas with task forces responsible for each area:

(i) Promoting the Issuance of LCY Bonds (TF1)
(ii) Facilitating Demand for LCY Bonds (TF2)
(iii) Improving the Regulatory Framework (TF3)
(iv) Improving the Related Infrastructure for Bond Markets (TF4)

To ensure voluntary efforts by member economies in developing their LCY bond markets, a reference for self-assessment was developed to serve as a benchmark. The organizational framework of ABMI was also modified with a Steering Group replacing the Focal Group as the central planning and coordinating body, and working groups being renamed task forces. The specific tasks of the Steering Group are to (i) set, review, and revise the ABMI roadmap; (ii) oversee and provide guidance to the activities of task forces, TACT, and working teams; (iii) formulate strategies to promote public awareness of ABMI; (iv) monitor the progress of studies by task forces; (v) assign tasks to appropriate task forces or create, if necessary, a working team; and (vi) promote information exchanges among member economies on the development of LCY and regional bond markets through a self-assessment process. The Steering Group will report to the ASEAN+3 Finance Deputies' Meeting, which will in turn report to the ASEAN+3 Finance Ministers' Meeting.

A working team is a contingent group, set into motion if necessary to execute a specific recommendation by the Steering Group once a decision has been made on its institutional design or mechanism. Given the importance of technical assistance, TACT lessens the disparity in bond market development among member economies. The operational framework of ABMI following the 2008 restructuring is shown in **Figure 34**. The four working groups were changed into four task forces and the range of tasks was adjusted. To increase the speed and efficiency of the decision-making process, the Focal Group and ASTFG were integrated into the Steering Group, mostly comprising director general-level members.

Figure 34: Organizational Structure of ABMI in 2008



ABMI = Asian Bond Markets Initiative, AFDM+3 = ASEAN+3 Finance Deputies' Meeting, AFMM+3 = ASEAN+3 Finance Ministers' Meeting, TACT = Technical Assistance Coordination Team, TF = task force.
Source: Authors' compilation.

New ABMI Roadmap+ in 2012

The New Roadmap+ was adopted in 2012 to produce tangible outcomes, with support from the Asian Development Bank (ADB), and to reinvigorate ABMI discussions. The New Roadmap+ lists nine priorities based on three directions and is subject to periodical review every 3 years to reprioritize the agenda and/or introduce new items. Given the different pace of progress, each task force is encouraged to set its own review schedule.

Three Basic Directions in the New Roadmap+

- To produce tangible outcomes, current and critical ongoing issues need to be further developed.

- To strengthen the momentum for ABMI discussions, important but undiscussed issues related to bond markets should be added.
- To meet and accommodate changing global financial needs, including the mitigation of volatility in capital flows, relevant issues need to be addressed.

Nine Priorities in the New Roadmap+

- Launch guarantee programs of the Credit Guarantee and Investment Facility
- Develop infrastructure-financing schemes (including a Lao People's Democratic Republic–Thailand pilot project)
- Foster an investment-friendly environment for institutional investors and share ABMI findings with them
- Enhance ABMF activities such as the ASEAN+3 Multi-Currency Bond Issuance Framework (AMBIF)
- Facilitate establishment of the Regional Settlement Intermediary
- Further develop government bond markets
- Enhance financial access to consumers and small and medium-sized enterprises
- Strengthen the foundation for a regional credit rating system
- Raise financial awareness

To achieve the objectives of ABMI, policy makers want to facilitate access to bond markets by expanding the number and variety of issuers, promoting a diverse range of bonds, and by creating an environment to support bond markets development. Every 3 years, ASEAN+3 policy makers review the progress made under the ABMI framework and modify its scope and activities as appropriate. As the scope and activities have evolved over time, the review assesses the progress made by looking at all measures that ABMI has supported since its launch in 2003.

New Medium-Term Roadmap in 2016

The 19th meeting of the ASEAN+3 Finance Ministers and Central Bank Governors in 2016 endorsed ABMI's New Medium-Term Roadmap outlining activities to be supported under ABMI over the next 3 years. The New Medium-Term Roadmap promotes green bonds, covered bonds, prime collateral for repo markets, and municipal finance in selected member economies to help meet the demand for infrastructure development with LCY-denominated bonds.

The factors for promoting such bonds include the heightened international recognition of the importance of a "green economy" and "green growth" in the case of green bonds, and in the case of covered bonds, their efficiency as a means of fund-raising for infrastructure investment. In addition, activities under the roadmap are to build on achievements made to date and advance regional market integration.

In 2018, ADB published a report on promoting LCY green bonds for infrastructure development under the New Medium-Term Roadmap. Furthermore, the Credit Guarantee and Investment Facility's Medium-Term Business Strategy and the Capital Increase Proposal (from USD700 million to USD1.2 billion) were both approved, and the *AsianBondsOnline* website was revamped as a flagship information source on the region's bond markets by improving its usability and database.

Bond Market Development in Asia

Due to the underdevelopment of the region's bond markets, Asian economies have depended heavily upon short-term bank borrowing in a foreign currency. This bank-centered financial system in Asia has been blamed for the so-called double mismatch that makes the region vulnerable to volatility in short-term capital flows. Bank-centered financial systems are susceptible to the systemic risk of credit crunches and bankruptcies when regulations fail to contain asset bubbles. Excessive short-term loans in the banking sector have usually been financed in United States dollars, while most of the underlying assets were denominated in the domestic currency and longer-term with regard to the revenue being generated.

The development of bond markets was identified by ASEAN+3 authorities as one solution to the abovementioned problems. Well-functioning local bond markets can substitute or complement the banking sector in terms of financial intermediation. There is also the need to effectively recycle regional savings into regional investments. The development of local bond markets was deemed necessary to implement intra-regional recycling and alleviate the problem of global imbalances. In short, the objectives of ABMI, against which progress can be assessed and measured, can be summarized as follows:

(i) develop robust domestic and regional bond markets,
(ii) avoid the double mismatch of maturity and currency, and
(iii) promote regional financial harmonization and standardization.

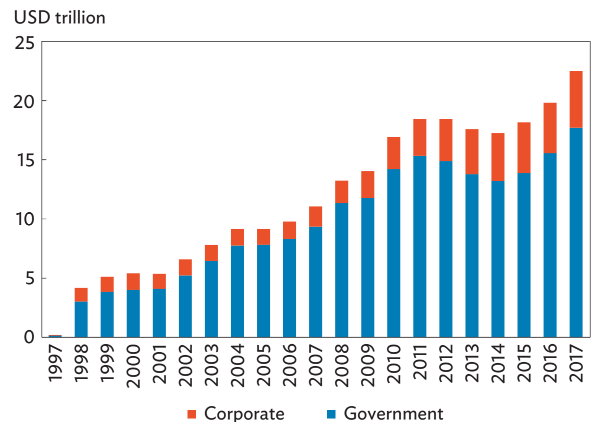
Growth of Bond Markets in ASEAN+3

The 1997/98 Asian financial crisis convinced the authorities in ASEAN+3 member economies of the need for regional financial cooperation, with a focus on bond market development. In response to the crisis, Asian economies actively encouraged the development of domestic bond markets through financial collaboration and cooperation with each other. Governments and central banks in Asia prioritized domestic bond market development for the purpose of financial deepening in order to reduce the vulnerability of their financial systems.

Through regional initiatives such as ABMI and Asian Bond Funds (ABF), bond markets in Asia have substantially grown since the 1997/98 Asian financial crisis (**Figure 35**). According to Jang and Hyun (2009), Spiegel (2009), and Turner (2012), these policy efforts combined with domestic-level support to drive steady growth in Asian bond markets. As a result, the size of the ASEAN+3 bond markets grew from USD1.3 trillion in 2003 to USD22.5 trillion in 2017.[9] The government bond market continues to dominate the overall LCY market, suggesting there is more room for developing corporate bond markets in the region.

The Bank for International Settlements (2012) highlighted the renewed attention that LCY bond market development received following the global financial crisis from regional policy makers who were interested in enhancing the markets' ability to act as a "spare tire" in cushioning a credit contraction. The increase in LCY issuance within the region since 2008, as shown in Figure 35, is significant because it indicates that corporate bond markets can play this important role. In 2002, then Federal Reserve Chairman Alan Greenspan

Figure 35: Historical Growth of ASEAN+3 Bond Markets



Source: *AsianBondsOnline*.

suggested that if well-functioning bond markets had provided Asian economies with a spare tire for financial intermediation in the late 1990s, then these economies might have better weathered the 1997/98 Asian financial crisis. Chan et al. (2012) provide a discussion on the spare tire role of LCY corporate bond markets. The experience of 2008–2009 lends support to that idea.

Avoiding the Currency Mismatch

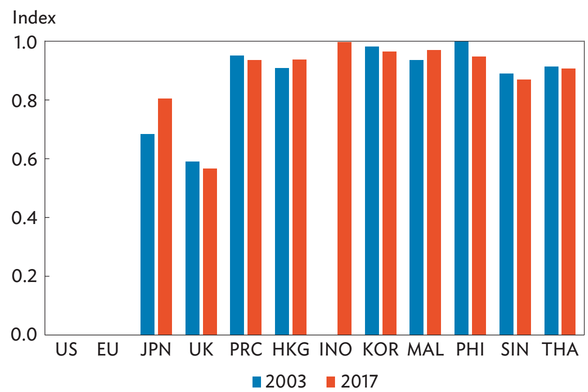
ABMI aims to mitigate the impacts of currency mismatch by developing domestic and regional bond markets. The "original sin" hypothesis is defined by Barry Eichengreen and Ricardo Hausmann (1999) and Eichengreen, Hausmann, and Panizza (2002) as most economies not being able to borrow abroad in their own currency. Original sin is usually measured as shares of LCY-denominated bank loans and international bond debt. Looking at currency mismatch, as measured in **Figure 36**, the levels of the original sin index for Asian economies that experienced the 1997/98 Asian financial crisis remained the same between 2003 and 2017, suggesting that they are still exposed to currency mismatch due to strict foreign exchange regulations and the noninternationalization policies of their currencies.

$$\text{Original Sin Index}_i =$$

$$1 - \frac{\text{securites issued by economy } i \text{ in currency } i}{\text{securities issued by economy } i}$$

[9] The ASEAN+3 economies include the People's Republic of China; Hong Kong, China; Indonesia; Japan; the Republic of Korea; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam.

Figure 36: Original Sin Index



EU = euro area; HKG = Hong Kong, China; INO = Indonesia; JPN = Japan; KOR = Republic of Korea; MAL = Malaysia; PHI = Philippines; PRC = People's Republic of China; SIN = Singapore; THA = Thailand; UK = United Kingdom; US = United States.
Source: Bank for International Settlements.

Harmonization and Standardization of Asian Bonds through ABMF

The promotion and standardization of cross-border transactions is impetus to further advance ABMI. Increased involvement from the private sector is required to further develop Asian bond markets; to date, ABMI has mainly been policy-driven by the public sector. To facilitate more participation from the private sector, ABMF was established in September 2010 as a common platform to foster the standardization of market practices and the harmonization of regulations related to cross-border transactions in the region.

ABMF reports its activities to Task Force 3 of ABMI under the institutional framework of the ASEAN+3 Finance Ministers Meeting. The activities of ABMF are becoming increasingly important. Therefore, the relationship between ABMF and ABMI must be clarified to facilitate private sector participation. In particular, comprehensive discussions should be implemented within ABMF and various topics should be discussed for the purpose of promoting cross-border transactions in the region.

ABMF launched its activities with the establishment of two sub-forums: (i) Sub-Forum 1 (SF1) to collate and compare regulations and market practices in the region and produce a comprehensive bond market guide for each economy; and (ii) Sub-Forum 2 (SF2) to harmonize and standardize transaction procedures and bond-messaging formats to enhance straight-through-processing and reduce the cost of cross-border deals. Steady progress has been made toward implementing central securities depository–real-time gross settlement linkages between the Bank of Japan and the Hong Kong Monetary Authority, in accordance with the roadmap for establishing a regional settlement intermediary in ASEAN+3.

SF1 members consist of industry associations, exchanges in the region, and other organizations such as research institutes. SF2 members mainly comprise domestic central securities depositories as well as local, regional, and global custodians.[10] The ASEAN+3 Bond Market Guide was first published in 2012 as an outcome of these activities and is periodically updated to bridge the information gap in the region. The guide offers extensive information on market infrastructure, regulatory frameworks, and market trading practices for bond markets in the individual economies of the region.

A common bond issuance framework has been implemented for the ASEAN+3 region through AMBIF. As a regional platform for market participants, ABMF is expected not only to lead the region toward more harmonized and integrated markets, but also to act as the nexus between ASEAN+3 and the rest of the world for international standard-setting and rule-making. ABMF seeks enhanced dialogue between the private sector and ASEAN+3 government officials to develop bond markets and promote harmonization, standardization, and, consequently, integration in the region. Additionally, ABMF provides opportunities to exchange knowledge, expertise, and experience between the private and public sectors.

Challenges for the Further Development of ABMI

Based on historical process and the degree of bond market development, there are three levels of development under ABMI. The first (cognitive) level on which a consensus is formed and promulgated; the second (policy) level from which authorities in individual countries direct policies to develop their bond markets; and the third (market) level where the public and

[10] The General Principles for participation of non-ASEAN+3 economies as ABMF observers was approved in 2018.

private sectors participate financially in the expansion of bond markets.

Some have criticized the ABMI process as being slow and overly focused on research rather than implementation. ABMI has reached the third level of development and thus has to implement more concrete financial schemes in collaboration with government financial institutions such as export–import banks and private financial institutions to realize tangible outcomes from the various discussions and research performed to date.

ABMI has made some concrete achievements since 2003, especially in response to the turmoil of the global financial crisis and the European debt crisis. Examples include the Credit Guarantee and Investment Facility, ABMF, and *AsianBondsOnline*. Utilization of regional savings to finance regional investment has been partially achieved through bond markets development.

ADB acts as the secretariat for ABMI discussions. While this is a helpful and necessary function, ABMI knowledge support should be enhanced in close cooperation with other ASEAN+3 institutions such as the ASEAN+3 Macroeconomic Research Office. With a long-term perspective and accumulated mutual cooperation experiences, ASEAN+3 might consider establishing an independent secretariat to facilitate ABMI and promote policy coordination among ASEAN+3 members.

Empirical Analysis

Empirical Framework for Bond Market Development

Literature Survey

There is an extensive literature that investigates the determinants of bond markets development, including Burger and Warnock (2006); Claessens, Klingebiel, and Schmucker (2007); Borensztein et al. (2008); Adelegan and Radzweicx-Bak (2008); and Burger, Warnock, and Warnock (2012). However, there are few studies that have attempted to solely identify the determinants of bond market development in Asia.

To find the determinants of bond market development in Asian economies, Eichengreen and Luengnaruemitchai (2006) exploit panel data for 41 economies worldwide for the period 1990–2001. They find that economy size (measured as gross domestic product [GDP]) is associated with bond market development. In addition to economy size, both the size and concentration of the banking system (measured as domestic credit provided by the banking sector and the spread between bank lending and deposit rates, respectively) influence bond market depth. Eichengreen and Luengnaruemitchai (2006) also suggest that institutional quality (adherence to internationally recognized accounting standards, level of corruption, and bureaucratic quality) is important for bond market capitalization.

Bhattacharyay (2011) examines the determinants of Asian bond market development. Based on data for 10 Asian economies during 1998–2008, he separately investigates government and corporate bond markets as well as bond markets as a whole. Combining the results obtained from various multivariate regression models, he suggests that the size of the economy, stage of economic development, exchange rate volatility, and spread between bank lending and deposit rates affect the size of government bond markets. Similarly, he finds that the stage of economic development and economic openness (measured by exports as a share of GDP) enhance the depth of corporate bond markets.

Baek and Kim (2013) explore the determinants of domestic bond market development, primarily focusing on nine Asian economies—the PRC; Hong Kong, China; Indonesia; Japan; the Republic of Korea; Malaysia; the Philippines; Singapore; and Thailand—for the period 1997–2010. It includes implicitly the impacts of the 1997/98 Asian financial crisis and the global financial crisis. Based on empirical results, they find that economy size, level of economic development, and banking sector size are positively correlated with bond market development. Institutional factors such as the strength of legal rights and depth of credit information also play a critical role.

However, there is not much literature that empirically examines the direct impact of ABMI on the development of bond markets in the region.[11]

[11] The Bank for International Settlements (2012) has suggested that ABMI has had a greater impact on sovereign issuance, while the later ABF initiatives encouraged greater investor participation (Chan et al. 2012). Spiegel (2012) noted that it would be reasonable to expect an improvement in market liquidity between the launch of ABMI and the beginning of the global financial crisis.

Mizen and Tsoukas (2014) investigate bond market development by exploring the determinants of firms' decisions to issue public debt in Asian economies by using a panel data of nine economies—the PRC; Hong Kong, China; Indonesia; the Republic of Korea; Malaysia; the Philippines; Singapore; Taipei,China; and Thailand—covering the period 1995–2007. They used Taipei,China as a control to separate the effect of regional development from the effect of regional policy initiatives with difference-in-differences analysis because Taipei,China does not participate in regional initiatives such as ABMI or ABF. They conclude that regional initiatives have been an important step toward greater bond issuance among firms in Asia, mostly by fostering market deepening and improving liquidity.

While they seek to assess the impact of ABMI on bond market development in Asia, the control group includes only one economy, Taipei,China. To assess this impact more accurately, our analysis includes Asia and Latin America for the purpose of comparison as both regions have developed their bond markets, albeit using different approaches, after experiencing financial crises and credit instabilities in recent decades. Asian economies have aimed to collectively develop and integrate their bond markets on a regional platform, pursuing harmonization and standardization of different rules and regulations. In contrast, Latin American economies have attempted to individually develop their own bond market to attract foreign investors, thus competing with neighboring economies.

Data

We explore the determinants of bond market development in ASEAN+3 (the PRC; Hong Kong, China; Indonesia; Japan; the Republic of Korea; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam) and Latin America (Argentina, Bolivia, Brazil, Ecuador, El Salvador, Chile, Colombia, Costa Rica, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela). The sample covers the period 1995–2017, which incorporates the impact on bond market development of the 1997/98 Asian financial crisis, recent Latin American banking crises, and the global financial crisis. The crisis dummy variable is taken mainly from Reinhart (2010).

As for the measure of bond market development, the size of the bond market is expressed as a percentage of GDP in line with other empirical studies. The size of the bond market is defined as the total value of outstanding domestic and international debt securities (government and corporate bonds). As for the measure of currency mismatch, the original sin is measured as shares of LCY-denominated international bond debt as explained in the previous section and in line with the definitions of Eichengreen and Hausmann (1999), and Eichengreen, Hausmann, and Panizza (2002).

For the explanatory variables, first, economy size (measured as GDP) is positively related to bond market development because small economies may lack the minimum efficient scale needed for deep and liquid bond markets. Second, economic development (measured as GDP per capita) is positively correlated with bond market development as Burger and Warnock (2006), and Eichengreen and Luengnaruemitchai (2006) suggest. Third, budget balance (measured as revenue minus expenditure) is assumed to be negatively correlated with bond market development; that is, a fiscal deficit is closely associated with the development of a government bond market.

Fourth, financial development facilitates bond market development. Burger and Warnock (2006) find that a banking system develops in parallel with a bond market. Eichengreen and Luengnaruemitchai (2006) suggest that the banking sector is prone to complementary bond market development. However, they point out that a concentrated banking system has a negative impact on bond market development because of the absence of competition among banks. Banking size is measured as the total value of bank credit divided by GDP. Stock market size is measured as stock market capitalization divided by GDP and used as a proxy variable of financial development.

Fifth, as for proxy variables of volatility that negatively affect bond market development, inflation is measured as the 3-year moving average of the inflation rate, and volatility of the exchange rate is measured as the standard deviation of monthly volatility of the exchange rate. Economies with a lower inflation rate and a stable exchange rate tend to have larger bond markets.

Sixth, an economy's improving score for the investment freedom index represents bond market development through a broadening of the investor base and an increase in the number of potential issuers because there are fewer constraints on the flow of investment capital, allowing individuals and firms to move their resources both internally and across the border without restriction.[12]

Methodology: Difference-in-Difference

A simple way to assess the contribution of ABMI to the development of Asian bond markets is to detect the structural impact of ABMI on bond market development with a dummy variable. Since its launch in 2003, ABMI has represented the regional effort to develop domestic and regional bond markets. A positive and significant coefficient on the ABMI dummy would indicate that, given all the other variables in explaining the growth of domestic bond markets, the post-ABMI period shows a permanent shift in the size of the regional bond market.

However, it is difficult to directly interpret the results of the dummy variable in a simple regression. Therefore, this analysis includes two regions for comparison, Asia and Latin America, which are similar in terms of indicators such as market size, public and private composition, and the currency denomination of bonds, with both regions' markets lagging behind those of advanced economies. To evaluate the impact of ABMI more accurately, we employ a difference-in-difference (DID) method to observe the two regions, Asia (treatment group) and Latin America (control group), for the two time periods (before 2003 and after 2003) to delineate the launch of ABMI.

Since the work by Ashenfelter and Card (1985), and Card and Krueger (1994), DID methodology has become very popular for policy evaluation.[13] It estimates the impact of a treatment (policy variable) on an outcome (response variable) by comparing the average change over time in the outcome variable for the treatment group to the average change over time for the control group. The simple model is set up for two regions for two periods. One region (Asia) is exposed to a treatment (ABMI) in the second period but not in the first period. The other group (Latin America) is not exposed to the treatment during either period.

In this case where the same units within a group are observed in each time period, the average in the second group (Latin America) is subtracted from the average in the first group (Asia). This removes biases in second-period comparison between the treatment and control group that could result from permanent discrepancies between the groups in addition to biases from comparisons over time in the treatment group that could be the result of trends. The equation is written as follows:

$$y_{i,t} = \alpha + \beta_0 REGION_i + \beta_1 ABMI_t + \beta_2 (REGION_i \cdot ABMI_t) + \gamma X_{i,t} + \varepsilon_{i,t}$$

where $y_{i,t}$ stands for the development of a bond market and $REGION_i$ is a dummy variable taking the value 1 if the economy belongs to ASEAN+3 and 0 if it does not. $ABMI_t$ is a dummy variable taking the value 1 in the second period and 0 in the first period. $X_{i,t}$ is a set of control variables that may affect the development of a bond market including economy size, economic development, financial sector development, and other macroeconomic variables. The coefficient of interest β_2 is an interaction term, $REGION_i \cdot ABMI_t$, which is the same as a dummy variable equal to 1 for those observations in ASEAN+3 with ABMI in the second period.

This method removes fixed differences across the regions and common trends or changes over time in factors that affect the two regions equally. The identifying assumption is that in the absence of the introduction of ABMI, there would have been no differences between Asia and Latin America in the development of bond markets. All equations are estimated using panel feasible generalized least squares with corrections for heteroskedasticity and panel-specific autocorrelation within economies in line with Eichengreen and Luengnaruemitchai (2004), and Classens, Klingebiel, and Schmucker (2007).

Empirical Results

Looking at the descriptive statistics in **Table 26**, ASEAN, ASEAN+3, and Latin America show similarities in terms of GDP and GDP per capita, while other macroeconomic

[12] Economies with no investment restrictions have a score of 100 on the investment freedom index. In practice, most economies have a variety of restrictions on investment. Some have different rules for foreign and domestic investment; some restrict access to foreign exchange; some impose restrictions on payments, transfers, and capital transactions; in some, certain industries are closed to foreign investment. Labor regulations, corruption, red tape, weak infrastructure, and political and security conditions can also affect the freedom that investors have in a market.

[13] One famous DID analysis is Card and Krueger (1994). They compared employment in the fast food sector in New Jersey and Pennsylvania in February 1992 and November 1992 after an increase in New Jersey's minimum wage in April 1992.

Table 26: Descriptive Statistics *(%)*

Variable	ASEAN+3	ASEAN	Latin America	Total
Bonds/GDP	82.302 (60.808)	58.383 (36.786)	52.022 (27.851)	71.615 (53.567)
Government Bonds/GDP	40.719 (43.510)	26.968 (11.980)	31.218 (20.774)	37.257 (37.116)
Corporate Bonds/GDP	42.786 (27.830)	31.921 (28.185)	20.803 (18.683)	34.904 (27.047)
Original Index×100	91.114 (8.760)	93.348 (5.116)	92.118 (8.096)	91.485 (8.521)
GDP(log)	6.690 (1.224)	6.184 (0.769)	4.960 (1.462)	5.652 (1.612)
GDP per Capita (log)	9.489 (1.007)	9.216 (1.006)	9.137 (0.526)	9.278 (0.775)
Budget Balance/GDP	−0.603 (4.237)	−0.212 (4.434)	−2.327 (3.806)	−1.631 (4.071)
Bank Credit/GDP	99.471 (47.408)	78.788 (41.246)	37.027 (19.396)	62.447 (45.586)
Stock Market Size/GDP	152.669 (235.412)	94.354 (72.506)	35.947 (30.373)	98.844 (183.344)
Inflation	3.896 (4.271)	4.944 (4.545)	16.379 (84.351)	11.279 (65.180)
Exchange Rate	2.896 (2.664)	2.855 (2.946)	19.225 (267.153)	12.694 (206.977)
Investment Freedom	54.130 (22.172)	48.876 (20.979)	59.869 (19.192)	57.573 (20.610)
No. of Observations	230	138	245	575

ASEAN = Association of Southeast Asian Nations, GDP = gross domestic product.
Notes:
1. Bonds = government bonds + corporate bonds + international bonds (corporate bonds include financial bonds).
2. ( ) signifies standard deviation.
3. ASEAN comprises Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam.
4. ASEAN+3 comprises ASEAN plus the People's Republic of China, Japan, and the Republic of Korea.
5. Latin America comprises Argentina, Bolivia, Brazil, Ecuador, El Salvador, Chile, Colombia, Costa Rica, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela.

Sources: Bank for International Settlements, Bruegel, Heritage Foundation, International Monetary Fund, World Bank.

factors, banking sector size, and bond and stock market size are different. Based on the literature review, we select control variables to influence bond market development and identify major determinants using feasible generalized least squares in line with Eichengreen and Luengnaruemitchai (2004), and Classens, Klingebiel, and Schmucker (2007). Then we focus on whether a regional policy initiative (ABMI) explains the discrepancy in the development of bond markets between Asia, as represented by ASEAN and ASEAN+3, and Latin America after controlling for major determinants (control variables).

In **Table 27**, economy size (GDP) has a coefficient that is positive and statistically significant as expected. Eichengreen and Luengnaruemitchai (2004) insist that liquid securities markets have a certain minimum efficient scale and therefore small economies in Asia face problems in developing bond markets. Economy size is a critical determinant of bond market development. Second, economic development measured as GDP per capita is positively related to bond market development in Asia; however, it has a negative sign for Latin America. Third, the general government balance negatively affects bond markets because economies with a fiscal deficit are likely to issue more bonds. Fourth, domestic credit provided by banks (banking sector size) has a positive sign but is not significant in either Asia or Latin America, while stock market size has a positive sign and is statistically significant in both regions. Fifth, the coefficients of inflation and exchange rate volatility are not statistically significant in Asia. Sixth, the coefficient of the global financial crisis dummy is negative and statistically significant for Asia only.

Table 27: FGLS Estimation for Bond Markets Development

Variable	ASEAN+3	ASEAN	Latin America
ln(GDP)	21.996*** (2.577)	6.953* (4.037)	17.846*** (3.610)
ln(GDP per Capita)	45.161*** (3.151)	43.078*** (4.767)	−24.591*** (10.778)
Budget Balance/GDP	−1.613*** (0.286)	−2.436*** (0.385)	−1.449** (0.673)
Bank Credit/GDP	0.018 (0.025)	0.074 (0.046)	0.130 (0.085)
Stock Market Size/GDP	0.013* (0.007)	0.064* (0.038)	0.330*** (0.070)
Inflation	0.656 (0.430)	0.681 (0.423)	3.779*** (0.824)
FX Volatility	0.341 (0.210)	0.187 (0.225)	−0.288 (0.401)
Investment Freedom	−0.312*** (0.104)	−0.430*** (0.124)	0.638*** (0.204)
Latin America Crisis Dummy			−19.281 (12.385)
AFC	0.280 (4.539)	4.424 (5.196)	
GFC	−8.166*** (2.482)	−8.016** (3.781)	−1.614 (3.772)
Constant	−503.070 (31.132)	−397.062 (48.678)	93.159 (95.349)
AR(1)-test [p-value]	21.352 [0.0017]	7.390* [0.0531]	22.420*** [0.0052]
χ^2(df)-test [p-value]	404.530 (10) [0.000]	278.170 (10) [0.000]	113.150 (10) [0.000]
No. Observations	162	89	78

AFC = Asian financial crisis, AR = autoregressive, ASEAN = Association of Southeast Asian Nations, FGLS = feasible generalized least squares, FX = foreign exchange, GDP = gross domestic product, GFC = global financial crisis.

Notes:
1. All models are estimated using panel FGLS with corrections for heteroskedasticity and AR(1).
2. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively.
3. ( ) signifies standard error, ( ) in χ^2 statistics signifies the degree of freedom.
4. ASEAN comprises Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam.
5. ASEAN+3 comprises ASEAN plus the People's Republic of China, Japan, and the Republic of Korea.
6. Latin America comprises Argentina, Bolivia, Brazil, Ecuador, El Salvador, Chile, Colombia, Costa Rica, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela.

Source: Authors' estimates.

As for the estimation of original sin in **Table 28**, economy size (GDP) is not statistically significant while economic development (GDP per capita) is negatively correlated to the original sin index. The results show that the more developed an economy is, the lower the original sin index becomes. No other variables are statistically significant in any specification except for banking sector size and bond market size.

In order to separate ABMI impacts from general factors that can influence bond market development as identified in the appendix, we introduce another region (Latin America) that does not participate in ABMI for comparison. Therefore, the coefficient of our interest in **Table 29**, an interaction term, $\text{REGION}_i \cdot \text{ABMI}_t$, shows that ABMI as a regional initiative has contributed to corporate bond market development in Asia, while the coefficient of government bond market is not statistically significant in the model that includes all control variables. The empirical results indicate that ABMI will facilitate more issuance of corporate bonds in line with the result of Mizen and Tsoukas (2014). However, in the case of original sin, the coefficient of $\text{REGION}_i \cdot \text{ABMI}_t$ in **Table 30** indicates that ABMI does not contribute to

Table 28: FGLS Estimation for Original Sin

Variable	Original Sin Index×100					
	I	II	III	IV	V	VI
Bonds/GDP	−0.012* (0.007)					
ln(GDP)		0.113 (0.494)				−0.135 (0.712)
ln(GDP per Capita)		−2.019*** (0.564)				−1.887*** (0.626)
Bank Credit/GDP			−0.002 (0.003)			−0.001* (0.002)
Stock Market Size/GDP			−0.002 (0.002)			0.001 (0.002)
Inflation				0.015 (0.009)		0.004 (0.016)
FX Volatility				0.00001 (0.000)		0.002 (0.013)
Investment Freedom					−0.005 (0.009	−0.007 (0.012)
Constant	93.059*** (50.851)	110.584*** (4.841)	93.171*** (0.796)	91.206*** (0.677)	93.274*** (0.896)	111.347*** (5.495)
AR(1)-test [p-value]	18.265 [0.000]	41.186 [0.000]	45.498 [0.000]	46.649 [0.000]	47.257 [0.000]	40.220 [0.000]
χ^2(df)-test [p-value]	2.850 [0.241]	14.690 (6) [0.002]	3.670 (6) [0.299]	6.290 (6) [0.098]	1.270 (5) [0.530]	32.520 (11) [0.00]
No. of Observations	216	314	269	305	314	262

AR = autoregressive, ASEAN = Association of Southeast Asian Nations, df = degrees of freedom, FGLS = feasible generalized least squares, FX = foreign exchange, GDP = gross domestic product.

Notes:
1. All models are estimated using panel FGLS with corrections for heteroskedasticity and AR(1).
2. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively.
3. ( ) signifies standard error, ( ) in χ^2 statistics signifies the degree of freedom.
4. Dummy variables are included for the banking crisis in Latin America, 1997/98 Asian financial crisis, and the global financial crisis.
5. ASEAN comprises Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam.
6. ASEAN+3 comprises ASEAN plus the People's Republic of China, Japan, and the Republic of Korea.
7. Latin America comprises Argentina, Bolivia, Brazil, Ecuador, El Salvador, Chile, Colombia, Costa Rica, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela.

Source: Authors' estimates.

the mitigation of currency mismatch in the model that includes control variables because most Asian economies maintain strict foreign exchange regulations on LCY trading with and between nonresidents. Under this environment, most Asian economies are still exposed to original sin, which is not being able to borrow abroad in their domestic currency even though their domestic bond market has grown in size.

Summary and Implications

This paper attempts to evaluate the impact of ABMI on the development of bond markets in Asia using the DID method. ASEAN+3 economies have taken a collective approach to developing and integrating a regional bond market on a common platform, while Latin American economies have taken an individual approach to developing their respective bond markets to attract foreign investors, thereby competing with neighboring economies.

After controlling for the major determinants of bond market development, the DID results indicate that ABMI as a regional initiative has contributed to corporate bond market development in Asia (the coefficient of the government bond market is not statistically significant) by facilitating more issuance of corporate bonds in line with the result of Mizen and Tsoukas (2014). However, ABMI

Table 29: DID Analysis for ABMI: ASEAN+3

Variable	Bonds/GDP	Government Bonds/GDP	Corporate Bonds/GDP
Model I: Excluding control variables			
ASEAN+3	47.269*** (9.919)	6.086 (4.038)	27.136*** (6.174)
ASEAN+3×ABMI	2.351 (7.929)	−2.350 (2.781)	4.014 (3.287)
ABMI(2003)	7.495 (6.956)	3.250 (2.410)	−0.677 (2.661)
Constant	34.060*** (8.216)	27.020*** (2.685)	16.997*** (4.120)
χ^2(df)−test [p−value]	56.650 (3) [0.000]	3.610 (3) [0.307]	32.290 (3) [0.000]
Model II: Including control variables			
ASEAN+3	0.122 (7.801)	−8.413* (4.439)	6.844* (3.737)
ASEAN+3×ABMI	12.753* (7.495)	0.284 (4.226)	5.886* (3.510)
ABMI(2003)	−1.879 (6.710)	1.091 (3.987)	−1.190 (2.606)
Constant	−429.834*** (27.413)	−124.903*** (20.437)	−250.799*** (17.095)
χ^2(df)−test [p−value]	653.350 (14) [0.000]	228.120 (14) [0.000]	542.320 (14) [0.000]
Observations		389	

ABMI = Asian Bonds Market Initiative, ASEAN = Association of Southeast Asian Nations, df = degrees of freedom, GDP = gross domestic product.
Notes:
1. All models are estimated using panel FGLS with corrections for heteroskedasticity and autoregression of order 1 [AR(1)].
2. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively.
3. ( ) signifies standard error, ( ) in χ^2 statistics signifies the degree of freedom.
4. Viet Nam and Honduras are excluded from this estimation.
5. ASEAN comprises Indonesia, Malaysia, the Philippines, Singapore, and Thailand.
6. ASEAN+3 comprises ASEAN plus the People's Republic of China, Japan, and the Republic of Korea.
7. Latin America comprises Argentina, Bolivia, Brazil, Ecuador, El Salvador, Chile, Colombia, Costa Rica, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela.

Source: Authors' estimates.

has not yet mitigated currency mismatch because of the strict regulations in Asian economies on transactions in domestic currencies with and between nonresidents, and the noninternationalization policies of the region's authorities with regard to domestic currencies. Therefore, most Asian economies are still exposed to original sin, which is not being able to borrow abroad in their domestic currency even though their domestic bond market has grown in size.

To effectively utilize the glut of savings within Asia and to mitigate currency mismatch, ASEAN+3 economies should pursue at least partial currency internationalization and the internationalization of their bond markets so that nonresident issuers and investors can freely access regional bond markets by utilizing AMBIF.

Table 30: DID Analysis for Impact of ABMI: Original Sin

Variable	ASEAN+3		ASEAN	
	Model I	Model II	Model I	Model II
ASEAN+3 (ASEAN)	−0.728 (1.558)	−3.315 (1.007)	1.144 (1.643)	−0.407 (1.147)
ASEAN+3×ABMI (ASEAN×ABMI)	−1.842*** (0.605)	−0.128 (0.746)	−1.956*** (0.579)	−0.816 (0.659)
ABMI(2003)	−0.605 (0.541)	−3.315*** (1.007)	0.749 (0.513)	−0.465 (0.505)
Constant	91.901*** (1.371)	115.778*** (5.877)	91.281*** (1.025)	113.351*** (6.141)
Control Variable		✓		✓
χ^2(df)-test [p-value]	23.520 (3) [0.000]	67.480 (13) [0.000]	21.620 (13) [0.000]	49.630 (3) [0.000]
Observations	358		286	

ABMI = Asian Bonds Market Initiative, ASEAN = Association of Southeast Asian Nations, df = degrees of freedom.
Notes:
1. All models are estimated using panel FGLS with corrections for heteroskedasticity and autoregression of order 1 [AR(1)].
2. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively.
3. ( ) signifies standard error, ( ) in χ2 statistics signifies the degree of freedom.
4. Viet Nam and Honduras are excluded from this estimation.
5. ASEAN comprises Hong Kong, China; Indonesia; Malaysia; the Philippines; Singapore; Thailand.
6. ASEAN+3 comprises ASEAN plus the People's Republic of China, Japan, and the Republic of Korea.
7. Latin America comprises Argentina, Bolivia, Brazil, Ecuador, El Salvador, Chile, Colombia, Costa Rica, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela.

Source: Authors' estimates.

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Appendix: Definition of Variables

Name of Variable	Definition	Source
Dependent Variables		
Bonds/GDP	(Bonds/GDP)×100	Bank for International Settlements
Government Bonds/GDP	(Government Bonds/GDP)×100	
Corporate Bonds/GDP	(Corporate Bonds/GDP)×100	
Original Index×100	max{0, OSINi}×100	
Economic Factors		
GDP (log)	In(GDP at PPP)	International Monetary Fund
GDP per Capita (log)	In(GDP per Capita at PPP)	
Budget Balance/GDP	([Gov revenue – Gov expenditure]/ GDP)×100	
Financial Factors		
Bank Credit/GDP	(Bank Credit/GDP)×100	World Bank
Stock Market Size/GDP	(Stock Market Size/GDP)×100	
Volatility		
Inflation	3-year moving average of inflation	International Monetary Fund
Exchange Rate	Standard deviation of monthly volatility of exchange rate (ΔlnEXRi,m)	Bruegel
Institutional Factors		
Investment Freedom Index	100 = no restrictions, 0 = full restrictions	Heritage Foundation
Dummy Variable		
Dummy Variable for Crisis	Latin America banking crisis, 1997/98 Asian financial crisis, global financial crisis	Reinhart (2010)

GDP = gross domestic product, PPP = purchasing power parity.
Notes:
1. Bonds = government bonds + corporate bonds + international bonds (corporate bonds include financial bonds)
2. OSINi = 1 – (securities issued by country i in currency i/securities issued by country i)
3. Total bonds = international bonds + domestic bonds

Source: Authors' compilation.

Market Summaries

People's Republic of China

Yield Movements

Between 31 August and 15 October, the People's Republic of China's (PRC) yield curve shifted slightly downward by an average of 2.3 basis points (bps) (**Figure 1**). The largest shift was for the 15-year tenor, with the yield falling 8 bps. All other tenors fell between 1 bp and 2 bps.

For much of 2018, the PRC's yields have been trending downward, largely due to the weakening of the domestic economy. In addition, the PRC has been beset by numerous corporate bond defaults and increased economic uncertainty as a result of the ongoing trade war with the United States (US).

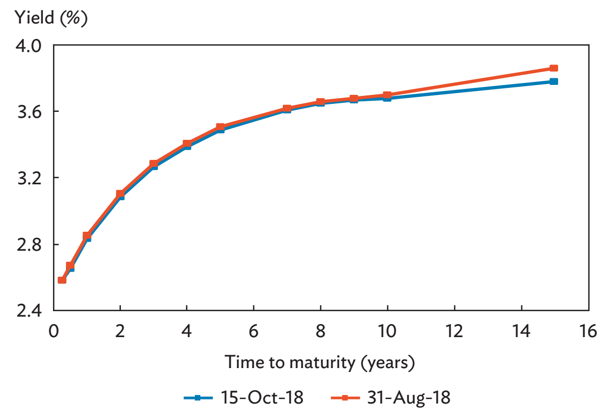
These concerns largely continued in the third quarter (Q3) of 2018, leading to a decline of 5.8% between 31 August and 15 October in the PRC's equity markets. The PRC's currency also depreciated 1.2% versus the US dollar in the same period.

In an effort to help stabilize the economy, the PRC has ceased or slowed its deleveraging activities. On the monetary side, the People's Bank of China (PBOC) released the China Monetary Policy Report Quarter Two, 2018, which reiterated that the PBOC will continue its sound and neutral monetary policy while maintaining total financing at an appropriate level. The report said that the PBOC would "strike a balance between steady growth, structural adjustments, and risk prevention," replacing the term "deleveraging" used in the first quarter report with "structural adjustments."[14]

In order to help promote liquidity, the PBOC also has made a number of reserve requirement ratio cuts, with the latest cut of 100 bps coming on 7 October.

The Government of the PRC has engaged in various stimulus measures in 2018. On 23 July, the State Council announced measures to help boost economic growth, including the increase of a previous CNY1.1 trillion tax cut to CNY1.165 trillion. The cuts for R&D expenses were expanded from applying to technology companies only to all enterprises. The government also announced that it would accelerate issuance of CNY1.35 trillion in "special bonds" by local governments.

Figure 1: The People's Republic of China's Benchmark Yield Curve—Local Currency Government Bonds



Source: Based on data from Bloomberg LP.

While the yield curve of the PRC largely shifted downward during the review period, the overall decrease in the yield curve was small due to volatility over the course of Q3 2018. Yields in the PRC rose in August and September, following an increase in inflation in August when consumer prices rose 2.3% year-on-year (y-o-y) after gaining 2.1% y-o-y in July. Inflation further accelerated to 2.5% y-o-y in September.

There were initial concerns that the PRC's stimulus measures such as the increased issuance of special bonds would affect liquidity in the market. In September, interbank liquidity was strained due to cash withdrawals in preparation for the long holiday in October as well as some corporate tax payments. Nevertheless, the PRC's yields saw an overall decline during the review period.

[14] People's Bank of China. 2018. *China Monetary Policy Report Quarter Two, 2018*. http://www.pbc.gov.cn/english/resource/cms/2018/09/2018091310133940652.docx.

Ongoing trade tensions with the US have affected economic sentiment and the PRC economy continues to slow. Gross domestic product growth fell to 6.5% y-o-y in the third quarter (Q3) of 2018 from 6.7% y-o-y in the second quarter (Q2) of 2018.

Size and Composition

The PRC's local currency (LCY) bonds outstanding rose 5.7% quarter-on-quarter (q-o-q) and 15.5% y-o-y to reach CNY63.2 trillion (USD 9.2 trillion). The PRC's bond market q-o-q growth rate quickened from the previous quarter's 3.8% expansion (**Table 1**).

Government bonds. The PRC's government bond market grew 6.3% q-o-q in Q3 2018 after expanding 4.4% q-o-q in Q2 2018. The faster growth rate was driven by the rapid increase in Treasury bonds and other government bonds, which grew 8.7% q-o-q in Q3 2018, up from 5.1% q-o-q in the previous quarter.

Local government bonds, which grew 12.5% q-o-q in Q3 2018 compared with 6.9% q-o-q in Q2 2018, also contributed to the gains. More of the local government bonds issued during this period were special bonds, which are a type of project bond for local governments. Proceeds from the bonds can be used for various local government projects and earnings from the projects can be used to repay the bond, as opposed to the general revenue measures of the local government.

This type of issuance is part of the Government of the PRC's stimulus measures, which include a 2018 issuance quota of CNY1.35 trillion for local governments. However, local governments were slow to issue special bonds earlier in the year, selling only CNY360.9 billion in the first half of 2018. The government then later issued guidelines stating that local governments needed to meet 80% of their annual special bond quota by the end of September and the remainder in October. In response, local governments issued a total of CNY2.4 trillion in local governments bonds in Q3 2018, of which CNY1.3 trillion were special bonds. The remainder came largely from the local government debt-swap program, which ended in August.

There were no central bank bonds outstanding in Q3 2018 as the PBOC no longer issues such bonds.

Corporate bonds. The PRC's corporate bonds outstanding grew 4.1% q-o-q in Q3 2018, up from Q2 2018's growth of 2.1% q-o-q. While all bond categories except for state-owned enterprise bonds and local corporate bonds showed strong positive growth rates, the growth was driven primarily by capital-raising efforts by banks as well as issuances of medium-term notes, as companies took advantage of lower interest rates (**Table 2**).

Table 1: Size and Composition of the Local Currency Bond Market in the People's Republic of China

	Outstanding Amount (billion)						Growth Rates (%)			
	Q3 2017		Q2 2018		Q3 2018		Q3 2017		Q3 2018	
	CNY	USD	CNY	USD	CNY	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**54,693**	**8,221**	**59,762**	**9,026**	**63,160**	**9,195**	**5.3**	**14.2**	**5.7**	**15.5**
Government	39,438	5,928	43,352	6,548	46,072	6,707	6.1	19.0	6.3	16.8
Treasury Bonds and Local Government Bonds	26,340	3,959	29,347	4,432	31,888	4,642	7.9	26.0	8.7	21.1
Central Bank Bonds	0	0	0	0	0	0	0.0	(100.0)	0.0	0.0
Policy Bank Bonds	13,098	1,969	14,005	2,115	14,184	2,065	2.7	7.2	1.3	8.3
Corporate	15,255	2,293	16,410	2,479	17,088	2,488	3.3	3.5	4.1	12.0
Policy Bank Bonds										
China Development Bank	7,331	1,102	7,743	1,169	7,979	1,162	2.1	4.0	3.0	8.8
Export–Import Bank of China	2,280	343	2,366	357	2,299	335	2.9	12.4	(2.9)	0.8
Agricultural Devt. Bank of China	3,488	524	3,895	588	3,907	569	4.0	11.2	0.3	12.0

( ) = negative, CNY = Chinese yuan, LCY = local currency, q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter, USD = United States dollar, y-o-y = year-on-year.
Notes:
1. Calculated using data from national sources.
2. Treasury bonds include savings bonds and local government bonds.
3. Bloomberg LP end-of-period LCY–USD rates are used.
4. Growth rates are calculated from an LCY base and do not include currency effects.
Sources: *ChinaBond*, *Wind Information*, and Bloomberg LP.

Table 2: Corporate Bonds Outstanding in Key Categories

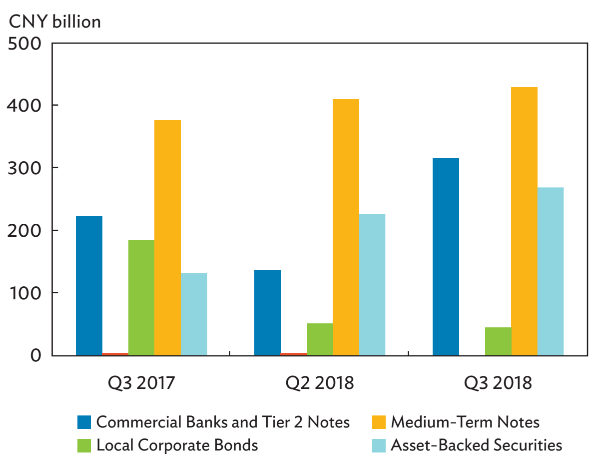
	Amount (CNY billion)			Growth Rate (%)			
				Q3 2017		Q3 2018	
	Q3 2017	Q2 2018	Q3 2018	q-o-q	y-o-y	q-o-q	y-o-y
Commercial Bank Bonds and Tier 2 Notes	2,915	3,226	3,449	1.1	22.9	6.9	18.4
SOE Bonds	508	468	443	1.0	(9.2)	(5.4)	(12.9)
Local Corporate Bonds	3,060	2,771	2,591	1.0	5.1	(6.5)	(15.3)
Commercial Paper	1,549	1,715	1,886	0.9	(34.9)	9.9	21.8
Asset-Backed Securities	672	1,020	1,184	1.1	43.3	16.1	76.1
Medium-Term Notes	4,816	5,222	5,464	1.0	4.6	4.6	13.4

( ) = negative, CNY = Chinese yuan, q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter, SOE = state-owned enterprise, y-o-y = year-on-year.
Sources: *ChinaBond* and *Wind Information*.

While the PRC has eased its deleveraging stance, it continues to remain guarded against risks and is focusing on debt reduction among state-owned enterprises. On 13 September, the State Council announced that by 2020 state-owned enterprises needed to cut their debt ratios by 2 percentage points from end-2017 levels.

Among major corporate bond types, issuance in Q3 2018 grew for medium-term notes and commercial bank bonds, driven by capital-raising efforts designed to strengthen balance sheets amid uncertainty and rising debt defaults (**Figure 2**). While comprising a relatively small portion of the PRC's corporate bonds, asset-backed securities have been making a comeback and their issuance and outstanding amounts have risen rapidly since the asset-backed market was restarted in 2012. While banks have issued asset-backed securities to offload nonperforming assets, the majority of the issuances were consumer-based loans from financing companies seeking ways to free up liquidity and raise additional funds.

Figure 2: Corporate Bond Issuance in Key Sectors



CNY = Chinese yuan, Q2 = second quarter, Q3 = third quarter.
Sources: *ChinaBond* and *Wind Information*.

The PRC's LCY corporate bond market continues to be dominated by a few big issuers (**Table 3**). At the end of Q3 2018, the top 30 corporate bond issuers accounted for CNY7.1 trillion worth of corporate bonds outstanding, or about 41.4% of the total market. Of the top 30, the 10 largest issuers accounted for CNY4.6 trillion. China Railway, the top issuer, had more than five times the outstanding amount of bonds as the Bank of China, the second-largest issuer. The top 30 issuers include 13 banks, which continue to dominate the list as they generate funding to strengthen their capital bases, improve liquidity, and lengthen their maturity profiles.

Table 4 lists the largest corporate bond issuances in Q3 2018. The top issuers consisted largely of banks and state-owned enterprises.

Investor Profile

Treasury bonds and policy bank bonds. Banks were the single-largest holders of Treasury bonds and policy bank bonds at the end of September, though their share declined to 64.9% from 66.8% a year earlier (**Figure 3**). In contrast, the share held by funds institutions was roughly unchanged at 16.4% versus 16.2% a year earlier.

Table 3: Top 30 Issuers of Local Currency Corporate Bonds in the People's Republic of China

	Issuers	Outstanding Amount		State-Owned	Listed Company	Type of Industry
		LCY Bonds (CNY billion)	LCY Bonds (USD billion)			
1.	China Railway	1840.5	267.95	Yes	No	Transportation
2.	Bank of China	358.9	52.25	Yes	Yes	Banking
3.	Agricultural Bank of China	358.0	52.12	Yes	Yes	Banking
4.	Industrial and Commercial Bank of China	356.0	51.83	Yes	Yes	Banking
5.	State Grid Corporation of China	336.7	49.02	Yes	No	Public Utilities
6.	China National Petroleum	320.0	46.59	Yes	No	Energy
7.	China Construction Bank	315.0	45.86	Yes	Yes	Banking
8.	Bank of Communications	255.0	37.12	No	Yes	Banking
9.	Central Huijin Investment	252.0	36.69	Yes	No	Asset Management
10.	Shanghai Pudong Development Bank	238.6	34.74	No	Yes	Banking
11.	China CITIC Bank	222.5	32.39	No	Yes	Banking
12.	China Minsheng Banking	185.1	26.95	No	Yes	Banking
13.	China Everbright Bank	180.9	26.34	Yes	Yes	Banking
14.	Industrial Bank	155.0	22.57	No	Yes	Banking
15.	State Power Investment	154.7	22.53	Yes	No	Energy
16.	Huaxia Bank	148.4	21.60	Yes	No	Banking
17.	Tianjin Infrastructure Construction and Investment Group	137.3	19.99	Yes	No	Industrial
18.	CITIC Securities	123.3	17.95	Yes	Yes	Brokerage
19.	Bank of Beijing	122.9	17.89	Yes	Yes	Banking
20.	PetroChina	105.0	15.29	Yes	Yes	Energy
21.	China Cinda Asset Management	100.0	14.56	Yes	Yes	Asset Management
22.	China Merchants Securities	98.4	14.33	No	Yes	Brokerage
23.	China Merchants Bank	96.0	13.98	Yes	Yes	Banking
24.	Datong Coal Mine Group	93.5	13.61	Yes	No	Coal
25.	Dalian Wanda Commercial Properties	93.0	13.54	No	Yes	Real Estate
26.	China Datang	88.7	12.91	Yes	Yes	Energy
27.	Shaanxi Coal and Chemical Industry Group	88.5	12.88	Yes	No	Energy
28.	China Southern Power Grid	85.5	12.45	Yes	No	Power
29.	Haitong Securities	84.6	12.32	No	Yes	Brokerage
30.	China Three Gorges	83.0	12.08	Yes	No	Public Utilities
Total Top 30 LCY Corporate Issuers		**7,076.98**	**1,030.31**			
Total LCY Corporate Bonds		**17,088.45**	**2,487.84**			
Top 30 as % of Total LCY Corporate Bonds		**41.4%**	**41.4%**			

CNY = Chinese yuan, LCY = local currency, USD = United States dollar.
Notes:
1. Data as of 30 September 2018.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
Source: *AsianBondsOnline* calculations based on Bloomberg LP data.

Table 4: Notable Local Currency Corporate Bond Issuance in the Third Quarter of 2018

Corporate Issuers	Coupon Rate (%)	Issued Amount (CNY billion)
Central Huijin Investment		
1-year bond	3.43	9
1-year bond	3.60	11
1-year bond	4.00	9
3-year bond	3.86	7
3-year bond	4.05	7
3-year bond	4.24	7
5-year bond	4.23	2
5-year bond	4.12	13
China Railway Corporation		
5-year bond	4.09	7
5-year bond	4.15	10
5-year bond	4.18	7
10-year bond	4.53	10
20-year bond	4.65	13
20-year bond	4.65	13
China Construction Bank		
10-year bond	4.86	43
Bank of China		
10-year bond	4.86	40
Shanghai Pudong Development Bank		
10-year bond	4.96	20
10-year bond	4.96	20

CNY = Chinese yuan.
Source: Based on data from Bloomberg LP.

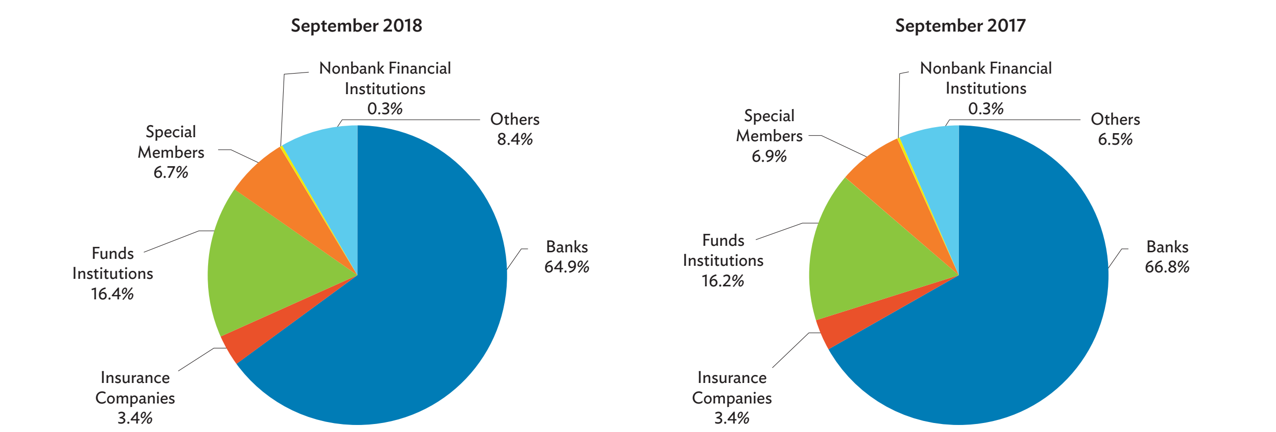
Corporate bonds. Funds institutions were the largest holders of LCY corporate bonds at the end of September with a share of 46.6% of total outstanding corporate bonds, down from 48.2% at the end of September 2017 (**Figure 4**). The share held by banks rose to 17.7% from 15.8% during the review period.

Figure 5 presents investor profiles across different corporate bond categories at the end of September. Funds institutions were the dominant buyers in the PRC of both local corporate bonds and medium-term notes, while banks were the dominant holders of commercial bank bonds.

Liquidity

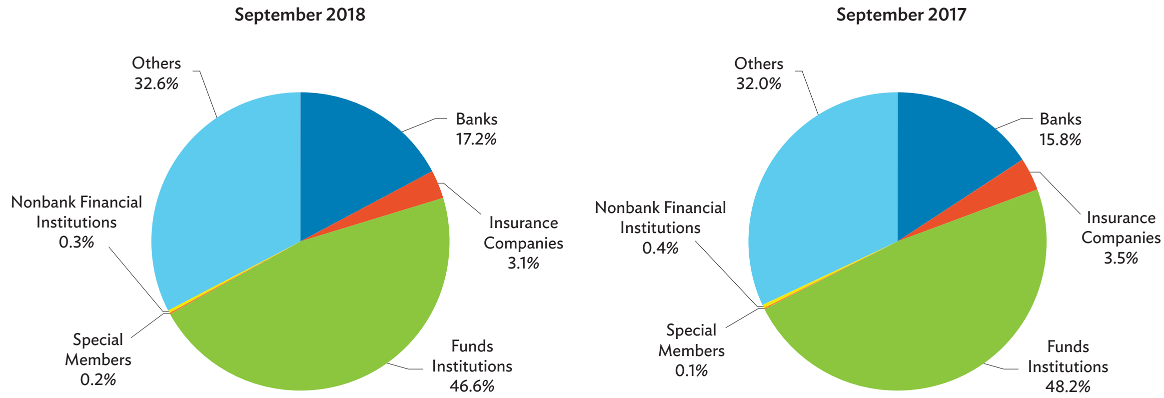
The volume of interest rate swaps fell 15.1% q-o-q in Q3 2018. The 7-day repurchase rate swaps remained the most used interest rate swap, comprising a 75.8% share of the total interest rate swap volume during the quarter (**Table 5**).

Figure 3: Local Currency Treasury Bonds and Policy Bank Bonds Investor Profile



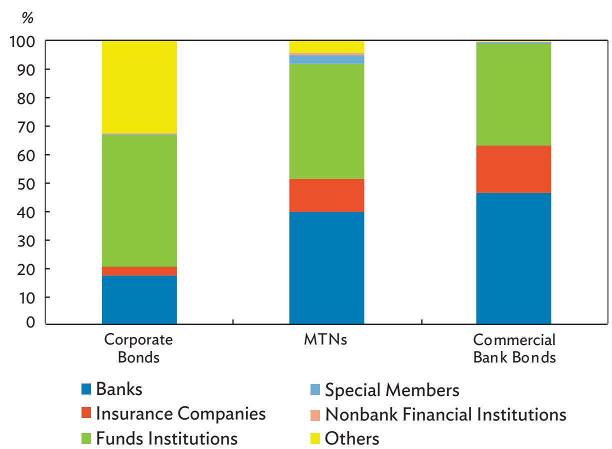
Source: *ChinaBond*.

Figure 4: Local Currency Corporate Bonds Investor Profile



Source: *ChinaBond*.

Figure 5: Investor Profile across Bond Categories



MTNs = medium-term notes.
Note: Data as of end-September 2018.
Source: *ChinaBond*.

Table 5: Notional Values of the People's Republic of China's Interest Rate Swap Market in the Third Quarter of 2018

Interest Rate Swap Benchmarks	Notional Amount (CNY billion)	Share of Total Notional Amount (%)	Growth Rate (%)
	Q3 2018		q-o-q
7-Day Repo Rate	3,786.5	75.77	(22.77)
Overnight SHIBOR	11.3	0.23	(24.67)
3-Month SHIBOR	1,109.0	22.19	30.60
1-Year Lending Rate	3.9	0.08	1,154.84
LPR1Y	5.4	0.11	126.59
3-Year Lending Rate	2.2	0.04	388.89
5-Year Lending Rate	0.1	0.00	–
10-Year Bond Yield	21.2	0.42	(44.21)
10-Year Treasury Yield	54.7	1.09	(27.76)
3-Year AAA Short-Term Notes/ Government Debt	0.6	0.01	(14.29)
Loan Interest Rate—1 Year * 1.10	2.1	0.04	20.59
Loan Interest Rate—1 Year * 1.05	0.4	0.01	(23.00)
Total	**4,997.2**	**100.00**	**(15.12)**

( ) = negative, – = not applicable, CNY = Chinese yuan, LPR1Y = 1-Year Loan Prime Rate, q-o-q = quarter-on-quarter, Q3 = third quarter, Repo = repurchase, SHIBOR = Shanghai Interbank Offered Rate.
Note: Growth rate computed based on notional amounts.
Sources: *AsianBondsOnline* and *ChinaMoney*.

Policy, Institutional, and Regulatory Developments

The Government Seeks to Reduce State-Owned Debt

On 13 September, the State Council announced that state-owned enterprises must cut their debt ratios by 2 percentage points by 2020 from their levels at the end of 2017. The PRC will also help create an environment to allow firms to reduce their debt. Other measures to be taken include promoting mergers and restructuring state-owned corporations, allowing "zombie" firms to go bankrupt, promoting market-based debt–equity swaps, and banning lending by financial firms to state-owned enterprises being monitored for debt risks.

People's Bank of China Reduces Reserve Requirement Ratio

On 7 October, the PBOC reduced the reserve requirement ratio of large commercial banks, joint stock commercial banks, city commercial banks, non-country rural commercial banks, and foreign-funded commercial banks by 100 bps. In addition, the PBOC announced that maturing funds from its Medium-Term Lending Facility for that day would not be renewed, effectively using some funds freed by the reserve requirement ratio cut to repay the lending facility. The PBOC said that the net effect would be a release of CNY750 billion of funds into the banking system.

People's Bank of China to Set Up Facility for Corporate Bond Issuance

On 24 October, the PBOC announced that it would provide guidelines to establish a facility to help promote bond issuance by private companies. Funds for the facility would initially come from a loan from the PBOC. Managers of the facility would use it to provide credit enhancements such as guarantees.

Hong Kong, China

Yield Movements

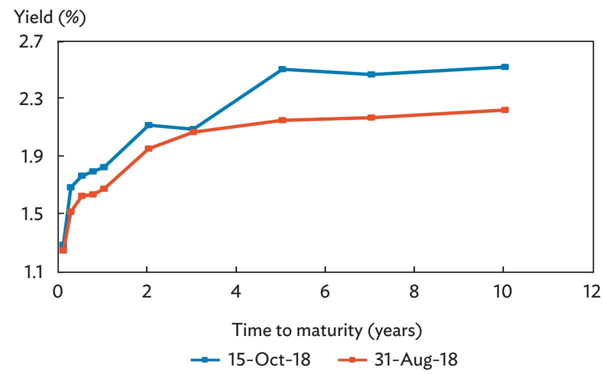
Between 31 August and 15 October, Hong Kong, China's local currency (LCY) government bond yield curve shifted upward as yields rose for all tenors (**Figure 1**). Excluding the 1-month tenor, yields for shorter-dated bonds (2 years or less) rose an average of 16 basis points (bps). Excluding the 3-year tenor, yields for longer-dated bonds (5 years or more) rose an average of 33 bps. The marginal increase of 2 bps in yields for 3-year bonds led the yield curve to gradually rise at the shorter-end, take a dip near the belly (3-year), and climb steeply toward the longer-end. With longer-dated bonds rising faster than shorter-dated bonds, the yield spread between the 2-year and 10-year tenors widened to 40 bps on 15 October from 27 bps on 31 August. The movements in Hong Kong, China's bond yields closely track the movements of United States (US) Treasury yields as the Hong Kong dollar is pegged to the US dollar. During the review period, US yields rose for all tenors, rendering the US Treasury yield curve to, likewise, shift upward.

In September, the Hong Kong Monetary Authority (HKMA) raised its base rate by 25 bps to 2.50% following a 25-bps hike in the target range for the US federal funds rate.

In contrast to the rise of the yield curve, Hong Kong, China's gross domestic product growth moderated in the second quarter (Q2) of 2018 to 3.5% year-on-year (y-o-y) from 4.6% y-o-y in the previous quarter due to a slowdown in goods exports and domestic demand. On a seasonally adjusted quarter-on-quarter (q-o-q) basis, gross domestic product contracted 0.2% in Q2 2018 after an expansion of 2.1% in the first quarter. In September, the growth of exports of goods decelerated to 4.5% y-o-y from 13.1% y-o-y in August as the impacts of the trade conflict between the People's Republic of China (PRC) and the US became more apparent.

Inflation in September rose to 2.7% y-o-y from 2.3% y-o-y in August. The upward adjustment in public housing rentals mainly contributed to the faster rise in inflation during the month. On a seasonally adjusted month-on-month basis, however, the average inflation rate from July to September held steady at 0.2%.

Figure 1: Hong Kong, China's Benchmark Yield Curve—Exchange Fund Bills and Notes



Source: Based on data from Bloomberg LP.

Size and Composition

Hong Kong, China's LCY bond market continued to expand through the third quarter (Q3) of 2018 to reach a size of HKD1,955 billion (USD250 billion) at the end of September (**Table 1**). Growth moderated to 1.4% q-o-q from 2.1% q-o-q in Q2 2018. Growth was driven by the rise in stock of corporate bonds. Year-on-year (y-o-y) growth was 3.6%, maintaining the previous quarter's y-o-y growth and driven by expansion in both the government and corporate bond segments. At the end of September, the LCY bond market comprised 59% government bonds and 41% corporate bonds.

Government bonds. LCY government bonds outstanding amounted to HKD1,154 billion at the end of September, down 0.4% q-o-q, but up 3.4% y-o-y. Contractions in Hong Kong Special Administrative Region (HKSAR) bonds and Exchange Fund Notes (EFNs) led to the q-o-q decline, but the strong issuance of Exchange Fund Bills (EFBs) kept y-o-y growth afloat. The aggregate amount of government bonds outstanding at the end of the review period predominantly comprised EFBs.

Exchange Fund Bills. EFBs outstanding amounted to HKD1,024 billion at the end of September, accounting for 89% of the aggregate government bond market. Q-o-q growth was 0.5%, the same as the previous quarter's growth rate, while annual growth decelerated to 5.2% from

Table 1: Size and Composition of the Local Currency Bond Market in Hong Kong, China

	Outstanding Amount (billion)						Growth Rate (%)			
	Q3 2017		Q2 2018		Q3 2018		Q3 2017		Q3 2018	
	HKD	USD	HKD	USD	HKD	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**1,887**	**242**	**1,929**	**246**	**1,955**	**250**	**1.3**	**3.0**	**1.4**	**3.6**
Government	1,116	143	1,159	148	1,154	147	3.7	4.6	(0.4)	3.4
Exchange Fund Bills	974	125	1,019	130	1,024	131	5.5	6.9	0.5	5.2
Exchange Fund Notes	41	5	35	4	34	4	(5.1)	(20.3)	(2.9)	(16.7)
HKSAR Bonds	101	13	105	13	96	12	(8.5)	(3.8)	(7.9)	(4.9)
Corporate	771	99	771	98	801	102	(2.0)	0.9	3.9	3.9

( ) = negative, HKD = Hong Kong dollar, HKSAR = Hong Kong Special Administrative Region, LCY = local currency, q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter, USD = United States dollar, y-o-y = year-on-year.
Notes:
1. Calculated using data from national sources.
2. Bloomberg LP end-of-period LCY–USD rates are used.
3. Growth rates are calculated from an LCY base and do not include currency effects.
4. Corporate bonds for Q3 2018 are based on *AsianBondsOnline* estimates.
Sources: Hong Kong Monetary Authority.

10.4% in Q2 2018. With more bills maturing, despite the strong level of issuance during the period, issuance of EFBs reached HKD810 billion at the end of September. The HKMA has been strongly issuing EFBs to replace maturing EFNs in order to maintain the overall size of Exchange Fund papers since issuance of EFNs became limited to the 2-year tenor.

Exchange Fund Notes. EFNs outstanding continued to decline in Q3 2018, dropping to HKD34 billion at the end of September, down 2.9% q-o-q and 16.7% y-o-y. Issuance of EFNs has been limited to the 2-year tenor since January 2015 in order to minimize overlap in longer tenors of HKSAR bonds, leading to fewer issuances of notes. Only one EFN valued at HKD1.2 billion was issued between July and September.

HKSAR bonds. HKSAR bonds outstanding amounted to HKD96 billion at the end of September, down 7.9% q-o-q, reversing the 6.6% q-o-q growth in Q2 2018, and down 4.9% y-o-y after falling 5.5% y-o-y in Q2 2018. In Q3 2018, two HKSAR bonds were issued under the Institutional Bond Issuance Programme, one valued at HKD1.2 billion with a 10-year tenor and the other valued at HKD600 million with a 15-year tenor.

Corporate bonds. Corporate bonds outstanding amounted to HKD801 billion at the end of September, up 3.9% on both a q-o-q and y-o-y basis. Hong Kong, China's top 30 nonbank corporate issuers had LCY outstanding bonds amounting to HKD205 billion at the end of September, accounting for 25.9% of the total corporate bond market (**Table 2**). Financial firms took the top three spots. Government-owned Hong Kong Mortgage Corporation, the top issuer since the start of the year, had outstanding bonds of HKD31 billion. A distant second was Sun Hung Kai & Co. with an outstanding amount of HKD14 billion, followed by Haitong International Securities Group with an outstanding amount of HKD12 billion. The top 30 list was dominated by firms coming from real estate and finance industries. Of the top 30, two-thirds are listed on the Hong Kong Stock Exchange and four are state-owned corporations.

In Q3 2018, notable nonbank issuances came from a state-owned entity, a real estate company, and financial firms. Hong Kong Mortgage Corporation remained the top issuer with an aggregate issuance amount of HKD5 billion, but the largest issuance was a 10-year bond worth HKD2 billion from real estate company CK Asset Holdings through CK Property Finance MTN (**Table 3**). Financing firms Sun Hung Kai & Co. and Haitong International Securities Group were the other two top issuers with aggregate issuance amounts of HKD1.9 billion and HKD1.4 billion, respectively.

Table 2: Top 30 Nonbank Corporate Issuers of Local Currency Corporate Bonds in Hong Kong, China

	Issuers	Outstanding Amount		State-Owned	Listed Company	Type of Industry
		LCY Bonds (HKD billion)	LCY Bonds (USD billion)			
1.	Hong Kong Mortgage Corporation	31.30	4.00	Yes	No	Finance
2.	Sun Hung Kai & Co.	13.75	1.76	No	Yes	Finance
3.	Haitong International Securities Group	12.39	1.58	No	Yes	Finance
4.	MTR Corporation	12.24	1.56	Yes	Yes	Transportation
5.	The Hong Kong and China Gas Company	11.61	1.48	No	Yes	Utilities
6.	The Wharf (Holdings)	9.90	1.26	No	Yes	Finance
7.	Hong Kong Land	9.69	1.24	No	No	Real Estate
8.	New World Development	9.41	1.20	No	Yes	Diversified
9.	CLP Power Hong Kong Financing	8.81	1.12	No	No	Finance
10.	Swire Pacific	7.94	1.01	No	Yes	Diversified
11.	Link Holdings	7.44	0.95	No	No	Finance
12.	Henderson Land Development	7.23	0.92	No	No	Real Estate
13.	CK Asset Holdings	6.20	0.79	No	Yes	Real Estate
14.	Swire Properties	5.93	0.76	No	Yes	Real Estate
15.	Hongkong Electric	5.84	0.75	No	No	Utilities
16.	China Merchants Port Holdings	5.70	0.73	No	Yes	Transportation
17.	Hang Lung Properties	4.61	0.59	No	Yes	Real Estate
18.	AIA Group	3.90	0.50	No	Yes	Insurance
19.	IFC Development Corporation	3.50	0.45	No	No	Finance
20.	Kowloon-Canton Railway	3.40	0.43	Yes	No	Transportation
21.	LT Commercial Real Estate	3.02	0.39	No	Yes	Real Estate
22.	Urban Renewal Authority	2.80	0.36	Yes	No	Real Estate
23.	Emperor International Holdings	2.60	0.33	No	Yes	Real Estate
24.	Wharf Real Estate Investment	2.59	0.33	No	Yes	Real Estate
25.	Champion REIT	2.54	0.32	No	Yes	Real Estate
26.	China Dynamics (Holdings)	2.36	0.30	No	Yes	Diversified
27.	ASM Pacific Technology	2.25	0.29	No	Yes	Technology
28.	The 13 Holdings	2.22	0.28	No	Yes	Industrial
29.	Hysan Development Company	2.15	0.27	No	Yes	Real Estate
30.	CK Hutchison Holdings	2.00	0.26	No	Yes	Diversified
30.	Gluon Xima International	2.00	0.26	No	No	Real Estate
Total Top 30 Nonbank LCY Corporate Issuers		**207.30**	**26.48**			
Total LCY Corporate Bonds		**800.98**	**102.32**			
Top 30 as % of Total LCY Corporate Bonds		**25.9%**	**25.9%**			

LCY = local currency.
Notes:
1. Data as of 30 September 2018.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
Source: *AsianBondsOnline* calculations based on Bloomberg LP data.

Table 3: Notable Local Currency Corporate Bond Issuance in the Third Quarter of 2018

Corporate Issuers	Coupon Rate (%)	Issued Amount (HKD billion)
Hong Kong Mortgage Corporation		
3-month bond	0.00	0.93
3-month bond	0.00	0.75
3-month bond	1.50	0.62
3-month bond	1.69	0.48
3-month bond	1.54	0.45
3-month bond	1.49	0.39
3-month bond	0.00	0.35
3-month bond	0.00	0.35
5-month bond	1.80	0.20
3-month bond	0.00	0.20
3-month bond	1.70	0.20
3-month bond	0.00	0.20
3-month bond	1.61	0.13
3-year bond	2.63	0.07
1-year bond	2.05	0.06
CK Asset Holdings		
10-year bond	3.57	2.00
Sun Hung Kai & Co.		
10-year bond	3.51	0.35
10-year bond	3.55	0.33
10-year bond	3.55	0.30
10-year bond	3.55	0.30
5-year bond	3.35	0.30
5-year bond	3.25	0.30
Haitong International Securities Group		
1-year bond	3.00	0.80
1-year bond	3.16	0.23
1-year bond	3.39	0.21
1-year bond	3.00	0.20

HKD = Hong Kong dollar.
Source: Bloomberg LP.

Policy, Institutional, and Regulatory Developments

Delivery-versus-Payment Settlement Fully Implemented in Bond Connect

In August, delivery-versus-payment settlement was fully implemented under the Bond Connect program. This mechanism allows for the payment and delivery of securities in real time, reduces settlement risks, and facilitates settlement efficiency, providing more convenience to international investors through Bond Connect.

HKMA Includes CNY-Denominated Bills in List of Eligible Collateral for Renminbi Liquidity Facility

In September, the HKMA expanded the list of eligible collateral for the Renminbi Liquidity Facility to include CNY-denominated bills issued in Hong Kong, China by the People's Bank of China. In a memorandum signed by the two government bodies, tendering and issuance of People's Bank of China bills will be done through the HKMA Central Moneymarkets Unit's bond tendering platform.

Launch of the Hong Kong Green Finance Association

In September, the Hong Kong Green Finance Association was officially launched at the Green Finance Forum held at the Hong Kong Stock Exchange. The association aims to provide greater access and opportunities for Hong Kong, China's financial institutions to participate in green financing transactions locally, in the PRC, and in markets included in the Belt and Road Initiative. It seeks to position Hong Kong, China as a leading international green finance hub in line with the global trend of implementing the United Nations' Sustainable Development Goals and the Paris Agreement.

The PRC Issues Renminbi Sovereign Bonds through HKMA

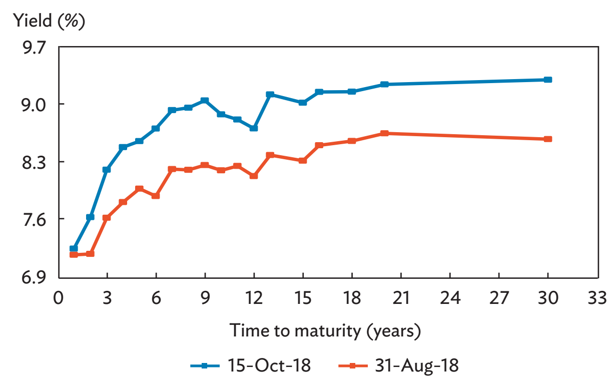
In October, the Ministry of Finance of the PRC issued two renminbi sovereign bonds through the HKMA's Central Moneymarkets Unit; this follows the issuance of two renminbi sovereign bonds in July. The first additional bond worth CNY3.0 billion and with a coupon rate of 3.65% will be consolidated with a CNY3.0 billion bond issued on 9 July and due in 2020. The second additional bond worth CNY1.5 billion and with a coupon rate of 3.8% will be consolidated with a CNY1.7 billion bond issued on 9 July and due in 2030.

Indonesia

Yield Movements

Local currency (LCY) government bond yields in Indonesia climbed for all tenors between 31 August and 15 October, shifting the curve upward (**Figure 1**). Yields gained an average of 65 basis points (bps) across the curve excluding for the 1-year tenor, which rose 7 bps. The spread between the 2-year and 10-year tenors widened from 101 bps on 31 August to 124 bps on 15 October.

Figure 1: Indonesia's Benchmark Yield Curve—Local Currency Government Bonds



Source: Based on data from Bloomberg LP.

The overall rise in bond yields was largely influenced by the policy rate hikes undertaken by Bank Indonesia as a preemptive move to maintain the attractiveness of its financial market. Bank Indonesia has raised the 7-day reverse repurchase (repo) rate five times since mid-May for a cumulative increase of 150 bps. In its meeting on 22–23 October, the central bank took a pause from the hikes and held steady the 7-day reverse repo rate at 5.75%.

The Indonesian LCY bond market is highly sensitive to developments in the global market as foreign investors account for the largest investor group in government bonds. Foreign investor holdings of government bonds have been on a downtrend after accounting for over 40% of the total market at the end of January. The share of nonresident holdings declined to 37.6% at the end of August and further to 37.0% on 15 October, reflecting investors' risk-off sentiment toward emerging markets. Also, the United States (US) Federal Reserve is proceeding with the normalization of its monetary policy as previously announced, leading US Treasury rates to edge higher and the US dollar to appreciate.

As a result, the Indonesian rupiah was heavily battered, hitting the IDR15,000–USD1 mark in early October, a level last seen during the 1997/98 Asian financial crisis. Between 31 August and 15 October, the Indonesian rupiah weakened the most among all emerging East Asian currencies, with its value falling 3.4% versus the dollar. In response, Bank Indonesia has been intervening in the foreign exchange market to support the rupiah and undertaking bond buybacks to stabilize prices in the government bond market.

Despite the market sell-off, foreign investors were still attracted to Indonesian government bonds as real interest rates remained high. The government has effectively managed inflationary pressures, with year-to-date inflation reaching 1.9% as of September, well within range of the central bank's full-year 2018 target of 2.5%–4.5%. Consumer price inflation slowed to 2.9% year-on-year (y-o-y) in September from 3.2% y-o-y in both August and July.

The domestic economy remains resilient, with real gross domestic product (GDP) growth climbing to 5.3% y-o-y in the second quarter (Q2) of 2018, up from 5.1% y-o-y in the first quarter. Bank Indonesia expects economic growth to come in at the lower end of its full-year growth forecast of 5.0%–5.4%.

Size and Composition

Indonesia's LCY bond market was the fastest growing in emerging East Asia on a quarter-on-quarter (q-o-q) basis, with growth rebounding strongly to 5.9% in the third quarter (Q3) of 2018 from only 0.5% in Q2 2018. On a y-o-y basis, growth rose at a faster pace of 13.9% in Q3 2018 versus 12.0% in the previous quarter. Total bonds outstanding climbed to IDR2,764.3 trillion at the end of September (**Table 1**). Much of the growth was driven by government bonds, while corporate bonds contributed to a lesser extent.

Government bonds accounted for a growing share of the market in Q3 2018 at 84.8% of the LCY bond stock at

Table 1: Size and Composition of the Local Currency Bond Market in Indonesia

	Outstanding Amount (billion)						Growth Rate (%)			
	Q3 2017		Q2 2018		Q3 2018		Q3 2017		Q3 2018	
	IDR	USD	IDR	USD	IDR	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**2,426,060**	**180**	**2,611,428**	**182**	**2,764,341**	**185**	**4.1**	**12.7**	**5.9**	**13.9**
Government	2,066,296	153	2,208,882	154	2,345,354	157	3.4	10.7	6.2	13.5
Central Govt. Bonds	2,046,933	152	2,196,915	153	2,306,641	155	4.9	17.0	5.0	12.7
of which: *Sukuk*	329,039	24	354,277	25	378,115	25	10.6	37.2	6.7	14.9
Central Bank Bills	19,363	1	11,967	0.8	38,713	3	(58.3)	(83.4)	223.5	99.9
of which: *Sukuk*	12,626	0.9	11,967	0.8	10,642	0.7	34.0	33.7	(11.1)	(15.7)
Corporate	359,763	27	402,546	28	418,987	28	8.2	25.5	4.1	16.5
of which: *Sukuk*	13,958	1	14,692	1	16,982	1	4.3	29.9	15.6	21.7

( ) = negative, IDR = Indonesian rupiah, LCY = local currency, q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter, USD = United States dollar, y-o-y = year-on-year.
Notes:
1. Calculated using data from national sources.
2. Bloomberg LP end-of-period LCY–USD rates are used.
3. Growth rates are calculated from an LCY base and do not include currency effects.
4. The total stock of nontradable bonds as of end-September stood at IDR230.5 trillion.
Sources: Bank Indonesia; Directorate General of Budget Financing and Risk Management, Ministry of Finance; Indonesia Stock Exchange; and Bloomberg LP.

the end of September, broadly unchanged from 84.6% at the end of June. Conventional bonds also accounted for a bigger share of the market, also little changed at 85.3% from 85.4% of the total in the same period. The share of *sukuk* (Islamic bonds) was steady at about 15% of the total at the end of September.

Government bonds. The outstanding size of LCY government bonds climbed to IDR2,345.4 trillion at the end of September on expansions of 6.2% q-o-q and 13.5% y-o-y. Treasury bills and bonds, which are issued by the Ministry of Finance to fund the budget deficit, drove much of the growth. The stock of central bank bills, which are known as Sertifikat Bank Indonesia (SBI), also contributed to the overall growth. Growth in government bonds outstanding was buoyed by higher issuance volume in both central government bonds and central bank bills during the quarter.

Central government bonds. At the end of September, the outstanding amount of central government bonds reached IDR2,306.6 trillion on growth of 5.0% q-o-q and 12.7% y-o-y. During the quarter, the Ministry of Finance accepted bids more than the targeted amount in nearly all scheduled Treasury auctions, fulfilling its funding needs after a slowdown in issuance in Q2 2018. Issuance volume per week reached over IDR15 trillion in Q3 2018 for conventional bonds and over IDR4 trillion for *sukuk*, compared with regular volume of IDR8 trillion–IDR10 trillion for conventional bonds and about IDR4 trillion for *sukuk*.

Normally, the Ministry of Finance frontloads its issuance by opting to issue in bigger volumes in January–June. However, volatile market conditions led the government to pare most of its issuances in Q2 2018 as investors sought higher yields.

Central bank bills. The outstanding stock of SBI rose more than threefold to IDR38.7 trillion at the end of September from IDR12.0 trillion at the end of June. The faster growth stemmed from Bank Indonesia's resumption of conventional SBI issuance beginning in July to boost foreign portfolio investment in the Indonesian market. Higher foreign portfolio inflows were expected to help stabilize the Indonesian rupiah. Bank Indonesia had ceased issuance of conventional SBI beginning in January 2017. As with the trend for Treasury bonds, conventional SBI issuance tends to be higher in volume than its *sukuk* counterpart.

Corporate bonds. At the end of September, the LCY corporate bond stock reached IDR419.0 trillion on growth of 4.1% q-o-q and 16.5% y-o-y. The increase in corporate bonds outstanding stemmed from modest issuance volume and fewer bond maturities during the review period.

A total of 113 corporate entities comprised the Indonesian corporate bond market at the end of September. **Table 2** presents the 30 largest issuers of corporate bonds during the review period. Collectively, their outstanding bonds totaled IDR312.1 trillion, representing a 74.5% share of the

Table 2: Top 30 Issuers of Local Currency Corporate Bonds in Indonesia

	Issuers	Outstanding Amount		State-Owned	Listed Company	Type of Industry
		LCY Bonds (IDR billion)	LCY Bonds (USD billion)			
1.	Indonesia Eximbank	36,322	2.44	Yes	No	Banking
2.	Bank Rakyat Indonesia	24,445	1.64	Yes	Yes	Banking
3.	PLN	19,385	1.30	Yes	No	Energy
4.	Indosat	17,519	1.18	No	Yes	Telecommunications
5.	Bank Tabungan Negara	17,050	1.14	Yes	Yes	Banking
6.	Bank Pan Indonesia	15,427	1.04	No	Yes	Banking
7.	Sarana Multi Infrastruktur	14,400	0.97	Yes	No	Finance
8.	Waskita Karya	14,211	0.95	Yes	Yes	Building Construction
9.	Bank Mandiri	14,000	0.94	Yes	Yes	Banking
10.	Federal International Finance	12,790	0.86	No	No	Finance
11.	Adira Dinamika Multifinance	11,103	0.75	No	Yes	Finance
12.	Perum Pegadaian	9,599	0.64	Yes	No	Finance
13.	Sarana Multigriya Finansial	9,175	0.62	Yes	No	Finance
14.	Pupuk Indonesia	9,076	0.61	Yes	No	Chemical Manufacturing
15.	Telekomunikasi Indonesia	8,995	0.60	Yes	Yes	Telecommunications
16.	Bank CIMB Niaga	7,237	0.49	No	Yes	Banking
17.	Astra Sedaya Finance	7,000	0.47	No	No	Finance
18.	Hutama Karya	6,825	0.46	Yes	No	Non-Building Construction
19.	Medco-Energi Internasional	6,454	0.43	No	Yes	Petroleum and Natural Gas
20.	Bank Maybank Indonesia	6,247	0.42	No	Yes	Banking
21.	Permodalan Nasional Madani	5,746	0.39	Yes	No	Finance
22.	BFI Finance Indonesia	5,541	0.37	No	Yes	Finance
23.	Bank OCBC NISP	5,356	0.36	No	Yes	Banking
24.	Maybank Indonesia Finance	4,400	0.30	No	No	Finance
25.	Bank Pembangunan Daerah Jawa Barat Dan Banten	4,252	0.29	Yes	Yes	Banking
26.	Bank Permata	4,060	0.27	No	Yes	Banking
27.	Indofood Sukses Makmur	4,000	0.27	No	Yes	Food and Beverages
28.	Indomobil Finance Indonesia	3,899	0.26	No	No	Finance
29.	Bank UOB Buana	3,800	0.25	No	No	Banking
30.	Adhi Karya	3,747	0.25	Yes	Yes	Building Construction
Total Top 30 LCY Corporate Issuers		**312,061**	**20.94**			
Total LCY Corporate Bonds		**418,987**	**28.11**			
Top 30 as % of Total LCY Corporate Bonds		**74.5%**	**74.5%**			

IDR = Indonesian rupiah, LCY = local currency, USD = United States dollar.
Notes:
1. Data as of 30 September 2018.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
Source: *AsianBondsOnline* calculations based on Indonesia Stock Exchange data.

corporate stock at the end of September. Firms from the banking and financial industry continued to account for the bulk of those on the list. Half of the firms on the list were state-owned. This is consistent with the information gathered in the annual *AsianBondsOnline* Liquidity Survey, which indicated that the most liquid bonds were those issued by state-owned entities and finance-related companies. The top 30 list is dominated by such institutions.

Three state-owned firms topped the list of corporate issuers at the end of September. In the lead was Indonesia Eximbank (IDR36.3 trillion), followed by Bank Rakyat Indonesia (IDR24.4 trillion). Both firms maintained their respective rank from Q2 2018. Energy firm PLN moved up to the third spot with total bonds outstanding valued at IDR19.4 trillion.

During the quarter, 25 corporate institutions tapped funding from the bond market, issuing an aggregate of IDR33.4 trillion. A total of 68 new bond series were issued in the market, including two series of green bonds and 10 series of *sukuk*. In July, Sarana Multi Infrastruktur issued 3-year and 5-year green bonds for an aggregate issuance worth IDR500 billion. It also issued 3-year and 5-year *sukuk mudharabah* (Islamic bonds backed by a profit-sharing scheme from a business venture or partnership) worth a total of IDR1 trillion. Sarana Multi Infrastruktur is a state-owned financial institution rated $_{id}$AAA by Pemeringkat Efek Indonesia (Pefindo).

Two other types of *sukuk* were issued in Q3 2018 aside from *mudharabah*. Medco Power Indonesia raised IDR600 billion from a triple-tranche issuance in July of *sukuk wakalah* (Islamic bonds backed by an agreement nominating another entity to act on its behalf). Five series of *sukuk ijarah* (Islamic bonds backed by a lease agreement) were also issued by PLN and valued at a total of IDR750 billion.

The largest corporate bond issuances during the quarter are presented in **Table 3**. Leading the list were three state-owned companies. Bank Mandiri raised IDR3.0 trillion from the sale of 5-year bonds in September. State-owned port services provider Pelabuhan Indonesia IV issued an aggregate of IDR3.0 trillion from a triple-tranche deal in July. Next on the list was Indonesia Eximbank, which issued an aggregate of IDR2.5 trillion from a four-tranche bond deal in September.

Table 3: Notable Local Currency Corporate Bond Issuance in the Third Quarter of 2018

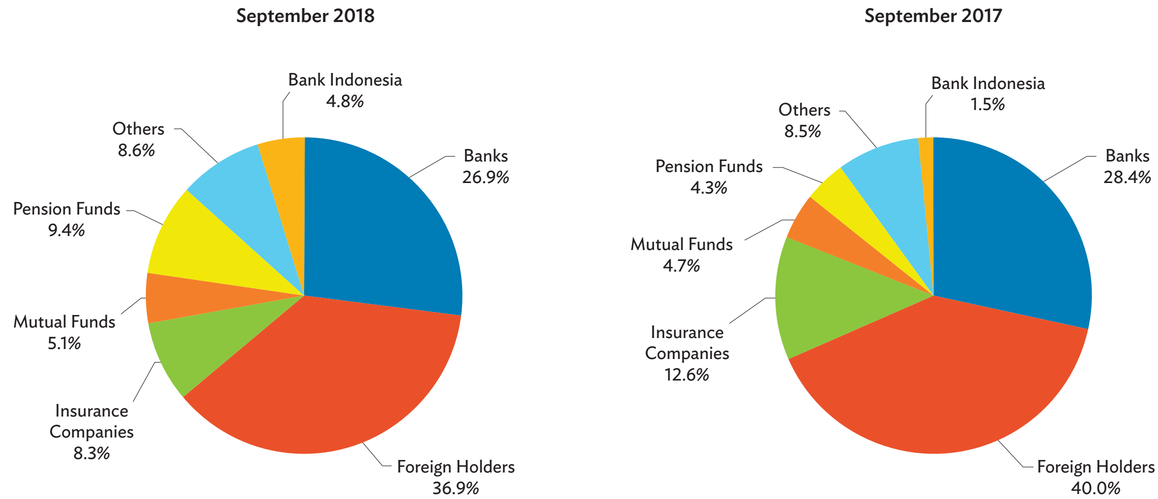
Corporate Issuers	Coupon Rate (%)	Issued Amount (IDR billion)
Bank Mandiri		
5-year bond	8.50	3,000
Pelabuhan Indonesia IV		
5-year bond	8.00	380
7-year bond	9.15	1,820
10-year bond	9.35	800
Indonesia Eximbank		
370-day bond	7.00	724
3-year bond	7.50	190
5-year bond	8.40	276
7-year bond	8.75	1,324
Adira Dinamika Multi Finance		
370-day bond	7.50	696
2-year bond	8.00	119
3-year bond	8.50	716
4-year bond	9.00	269
5-year bond	9.25	461
PLN		
5-year bond	7.80	79
5-year *sukuk ijarah*	7.80	127
7-year bond	8.35	442
7-year *sukuk ijarah*	8.35	150
10-year bond	8.40	138
10-year *sukuk ijarah*	8.40	258
15-year bond	8.90	281
15-year *sukuk ijarah*	8.90	105
20-year bond	9.00	339
20-year *sukuk ijarah*	9.00	110

IDR = Indonesian rupiah.
Note: *Sukuk ijarah* are Islamic bonds backed by lease agreements.
Source: Indonesia Stock Exchange.

Investor Profiles

Central government bonds. Despite the market sell-off in the LCY government bond market, foreign investors remained the largest holder of LCY government bonds in Indonesia. Their holdings, however, had fallen to a 36.9% share of the total at the end of September from 40.0% a year earlier (**Figure 2**). Foreign holdings began exhibiting a downtrend in February as US Treasury yields picked up and the US dollar strengthened against most major currencies. In addition, risk-off sentiment toward emerging markets prevailed amid concerns of contagion from the financial woes of Argentina and Turkey. Nonetheless, foreign investors remained attracted to Indonesian bond yields due to their high real returns,

Figure 2: Local Currency Central Government Bonds Investor Profile



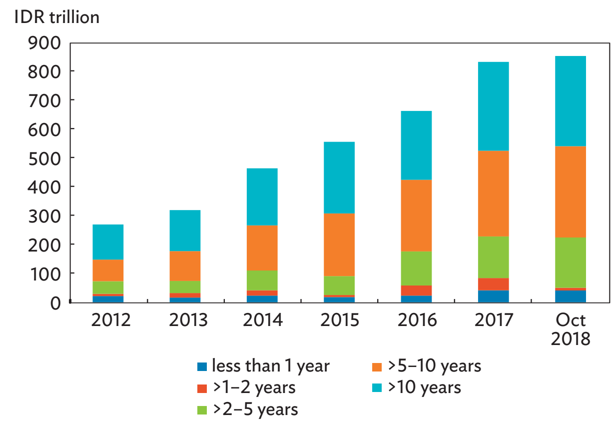
Source: Directorate General of Budget Financing and Risk Management, Ministry of Finance.

given that inflation has been relatively tame so far in 2018.

In nominal terms, foreign bond holdings climbed to IDR850.9 trillion at the end of September from IDR819.4 trillion in the prior year. Holdings of foreign governments and central banks increased to IDR161.0 trillion at the end of September, representing nearly 20% of the aggregate holdings of nonresidents. This is reflective of the view that Indonesia continues to enjoy strong economic fundamentals despite external risks.

Foreign investors continued to place a large share of their holdings in longer-dated maturities. As of 3 October, their aggregate bond holdings in maturities of 10 years or more and from 5 to 10 years each accounted for about 37% of total foreign holdings (**Figure 3**). Bonds with maturities of 1 year or less had a share of about 5%.

Figure 3: Foreign Holdings of Local Currency Central Government Bonds by Maturity



IDR = Indonesian rupiah.
Note: Data for October 2018 is as of 3 October 2018.
Source: Directorate General of Budget Financing and Risk Management, Ministry of Finance.

Leading all domestic investor groups were commercial banks despite their bond holdings declining to 26.9% of the total central government bond market at the end of September from 28.4% in September 2017. Bond holdings of insurance companies fell to an 8.3% share from 12.6% during the same period.

Domestic investors that exhibited increases in their bond holdings during the review period were pension funds, Bank Indonesia, mutual funds, and other investors. Pension fund holdings rose to a 9.4% share at the end of September from 4.3% a year earlier as they sought to comply with investment holding limits on government bonds set out by the government. In the case of Bank Indonesia, its bond holdings increased in line with central bank intervention in the market via bond buybacks.

Ratings Update

On 2 September, Fitch Ratings (Fitch) affirmed Indonesia's long-term foreign currency and LCY issuer default ratings at BBB. The ratings were given a stable outlook. In making its decision, Fitch took note of Indonesia's low government debt burden and favorable GDP growth outlook amid risks in the global environment. Fitch expects Indonesia's annual GDP growth to reach 5.1% in 2018, 5.2% in 2019, and 5.3% in 2020.

Policy, Institutional, and Regulatory Developments

Bank Indonesia Lowers the Minimum Transaction Limit for Foreign Exchange Swaps to USD2 Million

In August, Bank Indonesia lowered the minimum transaction limit for conducting foreign exchange hedging via swaps to USD2 million from USD10 million. With the reduced floor for hedging transactions, Bank Indonesia expects the volume of hedging transactions to increase. The hedging facility is available for transactions involving US dollars, Japanese yen, euros, and Chinese renminbi. In addition, the central bank is planning to relax documentary requirements for tapping the facility.

Indonesia and Japan Agree on an Enhanced Bilateral Swap Arrangement

In October, the Bank of Japan and Bank Indonesia agreed to enhance their existing Bilateral Swap Arrangement. The amendment allowed for the use of the local currencies of both markets through the swap of Indonesian rupiah into Japanese yen. Prior to this enhanced agreement, the swap facility only involved tapping funds in US dollars. The bilateral swap agreement between Indonesia and Japan amounted to an equivalent of up to USD22.8 billion.

Bank Indonesia Commences Nondeliverable Forward Transactions

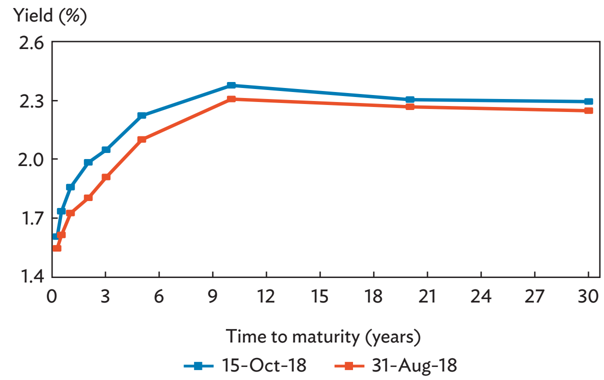
On 1 November, Bank Indonesia commenced the trading of nondeliverable forwards settled in Indonesian rupiah as part of measures to help stabilize the local currency. The Jakarta Interbank Spot Dollar Rate will be used as the reference price for domestic nondeliverable forwards, which may be offered by banks to investors and corporates as an alternative hedging tool against exchange rate volatility. To enter into a domestic nondeliverable forward transaction, underlying transactions—such as trade documents, proof of investments, and bank loans in a foreign currency used for the purpose of trade or investment—will be required.

Republic of Korea

Yield Movements

Between 31 August and 15 October, local currency government (LCY) bond yields in the Republic of Korea rose for all tenors, averaging an increase of 10 basis points (bps) (**Figure 1**). The rise in yields was most pronounced for tenors from 6 months to 5 years, which increased an average of 14 bps, and for the 2-year tenor, which posted the biggest yield gain at 18 bps. For the 3-month tenor and for tenors of 10 years and longer, yields rose an average of 5 bps. The spread between the 2-year and 10-year yields fell to 40 bps from 51 bps during the review period, further flattening the Republic of Korea's yield curve.

Figure 1: The Republic of Korea's Benchmark Yield Curve—Local Currency Government Bonds



Source: Based on data from Bloomberg LP.

The rise in yields toward the end of the review period, on expectations of a policy rate hike by the Bank of Korea, reversed the downward trend in place since May. Yields had fallen since May as the market no longer expected the Bank of Korea to change its monetary policy stance given the possibility of an economic slowdown and subdued inflation. However, a statement by the Prime Minister on 12 September on the possibility of a rate hike reversed this trend. Yields rose further in early October due to the sharp rise in United States (US) Treasury yields following the release of US economic data supporting the likelihood of another Federal Reserve rate hike in December. A statement by the Bank of Korea governor in early October also hinted at a policy rate hike before the year ends. The statement noted the need to address financial imbalances, particularly the continued rise in household debt and housing prices.

At its monetary policy meeting on 18 October, the Bank of Korea decided to leave its base rate unchanged at 1.50%, noting that domestic economic growth would be sustained at its potential level, supported by consumption and exports. However, growth is expected to fall below the July forecasts, albeit remaining within its potential level, due to a slowdown in investments. In line with this, the Bank of Korea lowered its gross domestic product (GDP) growth forecasts for both 2018 and 2019 to 2.7% year-on-year (y-o-y) from July GDP forecasts of 2.9% y-o-y and 2.8% y-o-y, respectively.

The Republic of Korea's economic growth eased to 2.0% y-o-y in the third quarter (Q3) of 2018 from the 2.8% y-o-y growth posted in the second quarter (Q2), based on advance estimates from the Bank of Korea. By type of expenditure, the slower GDP growth was driven by the accelerated decline in gross fixed capital formation of –6.5% y-o-y in Q3 2018 versus –1.3% y-o-y in the previous quarter. Export growth also slowed to 3.1% y-o-y from 4.8% y-o-y in Q2 2018. Private and government consumption expenditures also posted slower annual increases in Q3 2018. On a quarter-on-quarter (q-o-q) basis, the Republic of Korea's economy expanded 0.6% in Q3 2018, unchanged from Q2 2018.

Inflation has been at the mid-1% level, with July and August inflation at 1.5% y-o-y and 1.4% y-o-y, respectively. A slight uptick to 1.9% y-o-y was registered in September. The Bank of Korea expects inflation to remain range-bound and maintained its 2018 forecast at 1.6% y-o-y, while lowering the 2019 forecast to 1.7% y-o-y from 1.9% y-o-y.

Strong net foreign investment inflows into the Republic of Korea's LCY government bond market continued in Q3 2018 with net inflows rising to KRW2.4 trillion in August from KRW1.4 trillion in July. The Republic of Korea remained an attractive investment destination given its relative economic stability and healthy external balance position. However, outflows of KRW1.9 trillion were registered in September due to maturities, the rate hike by the Federal Reserve, and concerns over risks to economic growth brought about by global trade disputes.

The ongoing trade tensions between the PRC and the US continued to weigh on the Korean won. The recent slump in US equities spread to the region as well, further contributing to the depreciation of the domestic currency. The Korean won fell 1.9% between 31 August and 15 October, and was the second-worst performing currency in the region during the review period.

Size and Composition

The Republic of Korea's LCY bond market size was barely changed in Q3 2018, marginally up 0.1% q-o-q to KRW2,224 trillion (USD2.0 trillion) at the end of September from KRW2,221 trillion at the end of June (**Table 1**). The minimal growth was solely driven by the corporate bond segment, which posted an increase of 0.9% q-o-q, while the government bond market declined 0.9% q-o-q.

Government bonds. The outstanding size of the Republic of Korea's LCY government bond market declined 0.9% q-o-q in Q3 2018 to KRW928 trillion due to lower issuance volume and large maturities of Korea Treasury Bonds. The stock of central bank bonds issued by the Bank of Korea was barely changed at KRW175 trillion in Q3 2018. Meanwhile, government bonds issued by government-related entities inched up 0.9% q-o-q.

Issuance of government bonds fell 10.6% q-o-q in Q3 2018 to KRW84 trillion. The government issued a smaller volume of central government bonds in Q3 2018, with issuance declining 15.8% q-o-q in line with the government's frontloading policy. The volume of Monetary Stabilization Bonds issued by the Bank of Korea also fell 15.1% q-o-q in Q3 2018.

Foreign Exchange Stabilization Bonds. The Republic of Korea issued USD1.0 billion worth of Foreign Exchange Stabilization Bonds on 14 September. These bonds are issued to promote foreign exchange market stability; the resulting rates will also serve as a guide for prospective companies planning to issue bonds offshore. The issue comprised USD500 million worth of 10-year bonds priced at 3.572% (a 60-bps spread over the 10-year US Treasury), and USD500 million worth of 30-year bonds priced at 3.875% and with a yield of 3.957% (an 85-bps spread over the 30-year US Treasury).

Corporate bonds. The Republic of Korea's LCY corporate bond market continued to post marginal growth in Q3 2018, inching up 0.9% q-o-q to KRW1.3 trillion at the end of September. **Table 2** lists the top 30 LCY corporate bond issuers, with aggregate bonds outstanding of KRW829 trillion at the end of September, accounting for 64% of the total LCY corporate bond market. Financial institutions—such as banks, securities, and investment firms—continued to dominate the list. Korea Housing Finance Corporation, a government-related institution providing financial assistance for social housing,

Table 1: Size and Composition of the Local Currency Bond Market in the Republic of Korea

	Outstanding Amount (billion)						Growth Rate (%)			
	Q3 2017		Q2 2018		Q3 2018		Q3 2017		Q3 2018	
	KRW	USD	KRW	USD	KRW	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**2,145,667**	**1,873**	**2,221,054**	**1,993**	**2,224,067**	**2,005**	**0.3**	**3.3**	**0.1**	**3.7**
Government	880,399	769	937,267	841	928,477	837	(1.3)	2.9	(0.9)	5.5
Central Government Bonds	549,308	480	589,426	529	579,104	522	(0.5)	6.2	(1.8)	5.4
Central Bank Bonds	166,060	145	174,630	157	174,600	157	(5.0)	(7.6)	(0.02)	5.1
Others	165,030	144	173,211	155	174,773	158	(0.03)	3.9	0.9	5.9
Corporate	1,265,268	1,105	1,283,787	1,152	1,295,590	1,168	1.5	3.6	0.9	2.4

( ) = negative, KRW = Korean won, LCY = local currency, q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter, USD = United States dollar, y-o-y = year-on-year.
Notes:
1. Q3 2018 data for "Others" based on *AsianBondsOnline* estimates. "Others" comprise Korea Development Bank Bonds, National Housing Bonds, and Seoul Metro Bonds.
2. Calculated using data from national sources.
3. Bloomberg LP end-of-period LCY–USD rates are used.
4. Growth rates are calculated from local currency (LCY) base and do not include currency effects.
5. Corporate bonds include equity-linked securities and derivatives-linked securities.
Sources: The Bank of Korea and *EDAILY BondWeb*.

Table 2: Top 30 Issuers of Local Currency Corporate Bonds in the Republic of Korea

	Issuers	Outstanding Amount		State-Owned	Listed on		Type of Industry
		LCY Bonds (KRW billion)	LCY Bonds (USD billion)		KOSPI	KOSDAQ	
1.	Korea Housing Finance Corporation	117,359	105.8	Yes	No	No	Housing Finance
2.	Mirae Asset Daewoo Co.	64,934	58.5	No	Yes	No	Securities
3.	NH Investment & Securities	60,693	54.7	Yes	Yes	No	Securities
4.	Korea Investment and Securities	55,630	50.1	No	No	No	Securities
5.	Industrial Bank of Korea	49,190	44.3	Yes	Yes	No	Banking
6.	KB Securities	43,124	38.9	No	No	No	Securities
7.	Hana Financial Investment	38,240	34.5	No	No	No	Securities
8.	Korea Land & Housing Corporation	34,412	31.0	Yes	No	No	Real Estate
9.	Samsung Securities	26,924	24.3	No	Yes	No	Securities
10.	Shinhan Bank	26,292	23.7	No	No	No	Banking
11.	Korea Electric Power Corporation	25,210	22.7	Yes	Yes	No	Electricity, Energy, and Power
12.	Kookmin Bank	22,916	20.7	No	No	No	Banking
13.	Korea Expressway	22,050	19.9	Yes	No	No	Transport Infrastructure
14.	KEB Hana Bank	21,850	19.7	No	No	No	Banking
15.	Woori Bank	19,810	17.9	Yes	Yes	No	Banking
16.	Korea Rail Network Authority	19,650	17.7	Yes	No	No	Transport Infrastructure
17.	Korea Deposit Insurance Corporation	18,790	16.9	Yes	No	No	Insurance
18.	The Export-Import Bank of Korea	16,185	14.6	Yes	No	No	Banking
19.	NongHyup Bank	13,830	12.5	Yes	No	No	Banking
20.	Shinhan Card	13,610	12.3	No	No	No	Credit Card
21.	Hyundai Capital Services	13,301	12.0	No	No	No	Consumer Finance
22.	Small & Medium Business Corporation	13,163	11.9	Yes	No	No	SME Development
23.	Shinyoung Securities	12,486	11.3	No	Yes	No	Securities
24.	Korea Gas Corporation	12,449	11.2	Yes	Yes	No	Gas Utility
25.	KB Kookmin Bank Card	11,713	10.6	No	No	No	Consumer Finance
26.	Standard Chartered Bank Korea	11,200	10.1	No	No	No	Banking
27.	Daishin Securities	11,017	9.9	No	Yes	No	Securities
28.	Korea Student Aid Foundation	10,950	9.9	Yes	No	No	Student Loan
29.	Samsung Card Co. Ltd.	10,808	9.7	No	Yes	No	Consumer Finance
30.	Nonghyup	10,720	9.7	Yes	No	No	Banking
Total Top 30 LCY Corporate Issuers		**828,508**	**747**				
Total LCY Corporate Bonds		**1,295,590**	**1,168**				
Top 30 as % of Total LCY Corporate Bonds		**63.9%**	**63.9%**				

KOSDAQ = Korean Securities Dealers Automated Quotations, KOSPI = Korea Composite Stock Price Index, KRW = Korean won, LCY = local currency, SME = small and medium-sized enterprise, USD = United States dollar.
Notes:
1. Data as of 30 September 2018.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
3. Corporate bonds include equity-linked securities and derivatives-linked securities.
Sources: *AsianBondsOnline* calculations based on Bloomberg LP and *EDAILY BondWeb* data.

remained the largest issuer with outstanding bonds of KRW117 trillion.

Issuance of corporate bonds slumped 20.0% q-o-q in Q3 2018 to KRW101 trillion as companies remained on the sidelines given uncertainty in the direction of yield movements. **Table 3** lists the notable corporate bond issuances in Q3 2018. Banks such as the Industrial Bank of Korea, Shinhan Bank, and Kookmin Bank continued to be the top issuers during the quarter.

Investor Profile

Insurance companies and pension funds again had the largest share of the Republic of Korea's LCY government bonds at the end of Q2 2018, with the share rising to 34.7% at the end of June from 33.2% in June 2017 (**Figure 2**). The general government was next with a share at the end of June almost at par with a year earlier (19.4% versus 19.1%). Banks held 16.6% of government bonds at the end of June, up from 15.0% and surpassing the share of other financial institutions, which declined to 14.7% from 18.1%. Foreign holdings of the Republic of Korea's LCY government bonds rose to 12.0% of the total at the end of June from 10.9% in June 2017 on strong net foreign inflows.

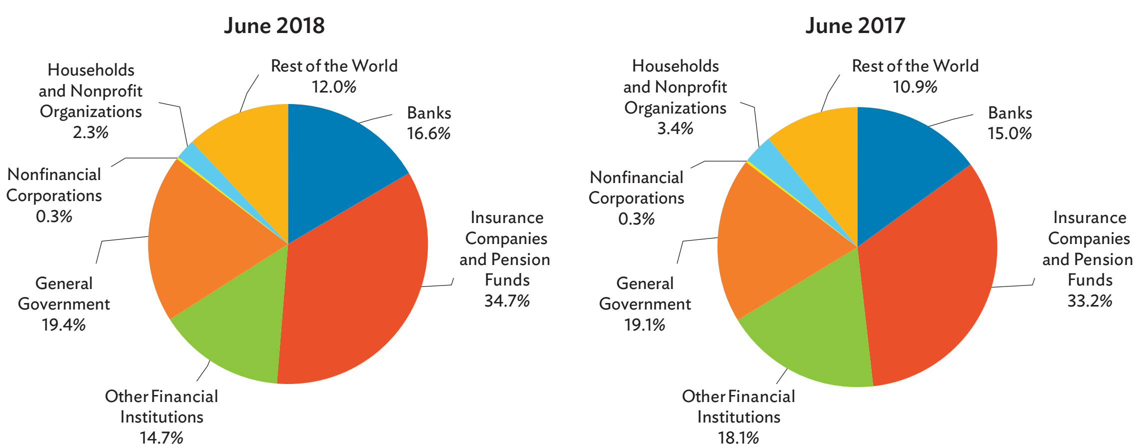
Insurance companies and pension funds, and other financial institutions, remained the two largest holders of the Republic of Korea's LCY corporate bonds, with shares rising to 38.4% and 34.0%, respectively, at the end of June from 36.1% and 31.6% in June 2017 (**Figure 3**). The shares of the general government and banks were almost at par from a year earlier at 12.9% and 7.0%, respectively. The share of foreign investors remained negligible at 0.1%.

Table 3: Notable Local Currency Corporate Bond Issuance in the Third Quarter of 2018

Corporate Issuers	Coupon Rate (%)	Issued Amount (KRW billion)
Industrial Bank of Korea		
3-year bond	2.06	300
3-year bond	2.05	300
3-year bond	2.17	200
10-year bond	2.74	600
Shinhan Bank		
1.5-year bond	2.01	150
2-year bond	2.01	250
2-year bond	2.09	200
2-year bond	2.10	150
3-year bond	2.09	200
3-year bond	2.15	200
Kookmin Bank		
2-year bond	2.19	230
2-year bond	2.17	120
3-year bond	2.23	200
3-year bond	2.28	200

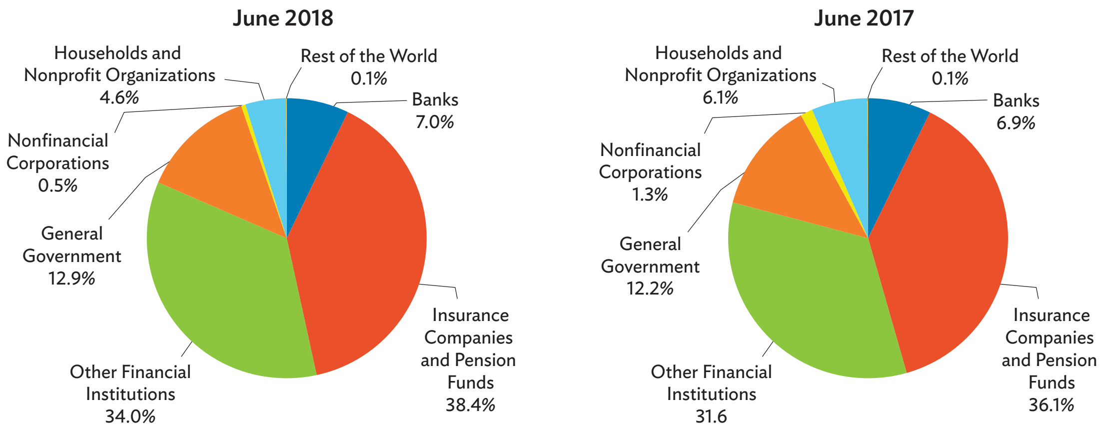
KRW = Korean won.
Source: Based on data from Bloomberg LP.

Figure 2: Local Currency Government Bonds Investor Profile



Sources: *AsianBondsOnline* and the Bank of Korea.

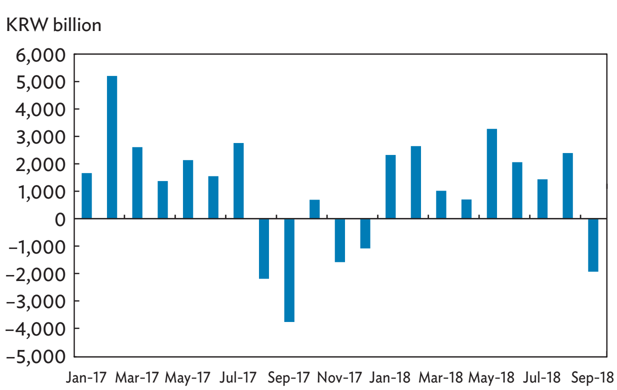
Figure 3: Local Currency Corporate Bonds Investor Profile



Sources: *AsianBondsOnline* and the Bank of Korea.

Net foreign inflows into the Republic of Korea's LCY bond market rose to KRW2.4 trillion in August from KRW1.4 trillion in July. However, September saw monthly outflows amounting to KRW1.9 trillion (**Figure 4**). This was partly due to the large volume of maturating government bonds. Foreign demand eased as the Federal Reserve rate hike in September exacerbated the widening interest rate differential between LCY bond yields and US Treasury yields. The ongoing trade disputes between the PRC and the US also weighed on foreign demand.

Figure 4: Net Foreign Investment in Local Currency Bonds in the Republic of Korea



KRW = Korean won.
Source: Financial Supervisory Service.

Policy and Regulatory Developments

Government Announces Measures to Promote Investment and Boost Employment

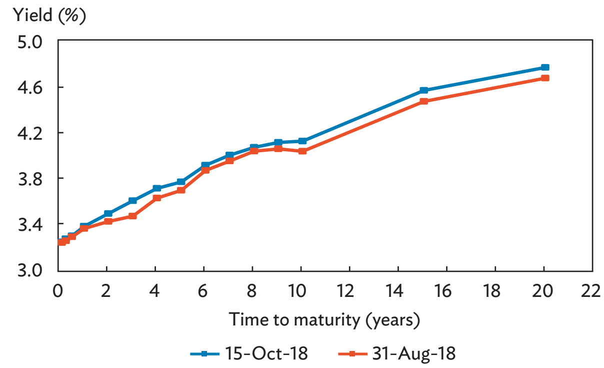
In October, the Government of the Republic of Korea announced measures to promote investment and boost employment, noting the slowdown in growth as investment and employment continued to be weak. To help economic growth regain momentum, the government plans to promote private sector investment, increase public investment, pursue innovation-driven growth, and support the job market. Measures include the allotment of KRW2.3 trillion in the first quarter of 2019 to projects that have been delayed due to financial and regulatory challenges. A total of KRW15.0 trillion worth of facility investment support programs will be launched within the year. The government will also pursue the development of new markets such as remote health-care services and the sharing economy.

Malaysia

Yield Movements

Malaysia's local currency (LCY) government bond yield curve shifted upward across all tenors between 31 August and 15 October (**Figure 1**). Small yield increases were seen in maturities of 1 year and below, ranging from 0.6 basis point (bp) to 2 bps. Yields for the remaining tenors increased 7 bps on average with the exception of the 3-year bond, which increased 13 bps. The yield spread between the 2-year and 10-year government bonds slightly widened from 61 bps to 63 bps during the review period.

Figure 1: Malaysia's Benchmark Yield Curve—Local Currency Government Bonds



Source: Based on data from Bloomberg LP.

The upward movement in yields reflects the diminished buying interest for LCY bonds amid investors' risk aversion. The retreat in risk appetite resulted from external risk factors that include the escalation of trade tensions between the People's Republic of China and the United States (US) and the fear of widespread contagion from emerging markets outside of Asia, although the latter has since subsided. Monetary policy tightening from the US Federal Reserve and the European Central Bank, which can lead to reduced liquidity, also contributed to waning interest in Malaysian LCY government bonds, albeit to a minor extent as the tightening stance of central banks in advanced economies had already been priced in by the market. On the domestic front, the continued weakening of the Malaysian ringgit and concerns over the economy's fiscal position led to some wariness. However, support from local investors remained strong overall.

Bank Negara Malaysia (BNM) maintained its overnight policy rate at 3.25% during its monetary policy meeting on 5 September. The central bank kept its policy rate unchanged on the back of Malaysia's steady economic growth, supported by the private sector and external demand despite downside risks globally and some uncertainty over domestic policies. Inflation is expected to edge upward through 2019 with the impact of the change in consumption tax policy, although it is expected to remain relatively stable.

Malaysia's consumer price inflation picked up to 0.3% y-o-y in September, slightly increasing from August when it hit a 42-month low of 0.2% y-o-y. The muted inflation was the result of most commodity groups continuing to register price declines, while the reinstatement of the sales and services tax on 1 September did not have a significant effect on the Consumer Price Index. From January to September, the Consumer Price Index rose 1.2% y-o-y on average.

Malaysia's gross domestic product (GDP) expanded 4.5% y-o-y in the second quarter (Q2) of 2018, which was slower than the 5.4% y-o-y expansion logged in the previous quarter. It was the slowest pace of GDP growth since the fourth quarter of 2016. The private sector continues to be the key driver of growth, underpinned by favorable labor market conditions, capacity expansion, and the zeroing out of the goods and services tax, which may have boosted consumption. On the production side, subdued performance was seen across the sector with a contraction in agriculture and mining weighing down GDP growth. BNM revised downward its full-year 2018 GDP growth forecast to 5.0% from an earlier projection of 5.5%–6.0%.

The Malaysian ringgit extended its depreciation against the US dollar through the middle of October, losing 2.6% year-to-date and 1.1% between 31 August and 15 October. Despite rising crude oil prices, the ringgit struggled to gain traction as sentiment toward the domestic currency was weighed down by rising US Treasury yields and strong US economic data that translated into increased demand for the US dollar.

Size and Composition

The size of Malaysia's LCY bond market barely changed in the third quarter (Q3) of 2018, expanding a mere 0.7% quarter-on-quarter (q-o-q) to reach MYR1,379 billion at the end of September (**Table 1**). On an annual basis, growth was more substantial at 9.1%. The growth in bonds outstanding was slower compared with the previous quarter. Both the government and corporate segments experienced slower quarterly growth in Q3 2018, with corporate bonds rising faster than government bonds. Malaysia's bonds outstanding at the end of Q3 2018 comprised 53% government bonds and 47% corporate bonds. Total *sukuk* (Islamic bonds), which comprised a 60% share of the LCY bond market, increased 1.0% q-o-q to MYR826 billion.

Government bonds. Total government bonds outstanding in Malaysia at the end of Q3 2018 amounted to MYR725 billion, reflecting a slight increase of 0.4% q-o-q. The expansion mainly came from the central government segment, which grew 0.8% q-o-q. The marginal expansion during the quarter was due to a large amount of maturities of government paper and lower target issuance. Central bank bonds provided some restraint on growth as they contracted 15.3% q-o-q despite a higher issuance volume. *Sukuk* increased to MYR332 billion at the end of September, comprising 46% of the government bond market.

Issuance from the government increased 11.4% q-o-q, lifted by an increase in central bank bonds that was somewhat countered by decreased issuance from the central government. Central bank bills continued to expand, with increased issuance of BNM Interbank Bills, as part of the central bank's ongoing effort to enhance short-selling and liquidity in the bond market. Central bank bills amounted to MYR26.5 billion at the end of September on growth of 39.5% q-o-q. On the other hand, issuance of Malaysian Government Securities and Government Investment Issues declined 9.2% q-o-q and 11.7% q-o-q, respectively, as government issuance targets were smaller relative to Q2 2018.

In Q3 2018, foreign holdings of LCY government bonds continued to trend downward with fund outflows amounting to MYR0.3 billion. However, the attrition was much less than the MYR22.1 billion worth of outflows in Q2 2018 (**Figure 2**). Fund flows turned positive in July, amounting to MYR3.3 billion. However, this was immediately offset by outflows in August and September amounting to MYR3.6 billion in total. Risk aversion remained the key driver of the fund outflows. Reduced buying interest among foreign investors for LCY bonds was underpinned by the protracted trade tensions between the People's Republic of China and the US. Fears of emerging market contagion also contributed, although these concerns moderated as the quarter went on. Uncertainties regarding the Malaysian government's fiscal and economic strategies accentuated this flight to safety.

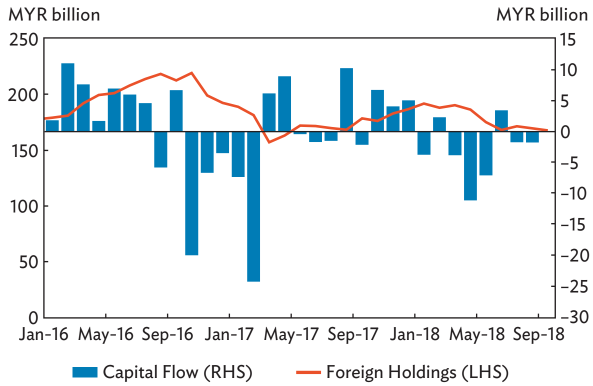
Table 1: Size and Composition of the Local Currency Bond Market in Malaysia

	Outstanding Amount (billion)						Growth Rate (%)			
	Q3 2017		Q2 2018		Q3 2018		Q3 2017		Q3 2018	
	MYR	USD	MYR	USD	MYR	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**1,263**	**299**	**1,369**	**339**	**1,379**	**333**	**1.4**	**8.1**	**0.7**	**9.1**
Government	671	159	722	179	725	175	0.1	6.2	0.4	8.1
Central Government Bonds	637	151	676	167	681	165	0.5	7.5	0.8	7.0
of which: *Sukuk*	266	63	295	73	301	73	1.1	12.7	2.0	13.2
Central Bank Bills	5	1	18	5	16	4	(27.2)	(50.2)	(15.3)	189.7
of which: *Sukuk*	0	0	6	1	3	0.7	–	–	(45.5)	–
Sukuk Perumahan Kerajaan	28	7	28	7	28	7	0.0	0.0	0.0	0.0
Corporate	593	140	646	160	653	158	2.9	10.4	1.1	10.2
of which: *Sukuk*	439	104	489	121	493	119	3.4	11.7	1.0	12.3

( ) = negative, – = not applicable, MYR = Malaysian ringgit, q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter, USD = United States dollar, y-o-y = year-on-year.
Notes:
1. Calculated using data from national sources.
2. Bloomberg LP end-of-period LCY–USD rates are used.
3. Growth rates are calculated from local currency base and do not include currency effects.
4. Sukuk Perumahan Kerajaan are Islamic bonds issued by the Government of Malaysia to refinance funding for housing loans to government employees and to extend new housing loans.

Sources: Bank Negara Malaysia Fully Automated System for Issuing/Tendering (FAST) and Bloomberg LP.

Figure 2: Foreign Holdings and Capital Flows of Local Currency Government Bonds in Malaysia



LHS = left-hand side, MYR = Malaysian ringgit, RHS = right-hand side.
Notes:
1. Figures exclude foreign holdings of Bank Negara Malaysia bills.
2. Month-on-month changes in foreign holdings of local currency government bonds were used as a proxy for bond flows.
Source: Bank Negara Malaysia Monthly Statistical Bulletin.

Corporate bonds. The LCY corporate bond market's growth was also modest in Q3 2018 at 1.1% q-o-q, although it was faster compared with growth of the government segment. On a y-o-y basis, corporate bonds outstanding increased 10.2%. The size of Malaysia's corporate bond market reached MYR653 billion at the end of September, which included MYR493 billion worth of *sukuk*. The relatively unchanged amount of corporate bonds outstanding during the quarter was due to weaker issuance activities.

The aggregate bonds outstanding of the top 30 corporate issuers amounted to MYR369.6 billion at the end of September, or the equivalent of 56.6% of the total corporate bond market (**Table 2**). Danainfra Nasional remained the top issuer with total bonds outstanding of MYR48.8 billion. Of the 30 issuers, 20 companies are state-owned and only 6 are listed companies. Firms from the finance industry dominate the list with 12 issuers and outstanding bonds totaling MYR186 billion, or 50% of the aggregate bonds outstanding of the top 30.

Bond issuance from the corporate segment continued to edge downward in Q3 2018. Debt sales amounted to MYR35.3 billion, reflecting a further decline of 11.4% q-o-q from a decline of 6.3% q-o-q in Q2 2018. The reduced issuance was expected as corporates frontloaded their debt sales before the May election.

After the election, corporates tapered their issuances as they adopted a wait-and-see stance following the change in government. Issuance has been further muted amid some uncertainties as the government continued its cost rationalization of various infrastructure projects.

Tenaga Nasional had the largest bond sales in Q3 2018 with total issuance of MYR3.0 billion in two tranches of Islamic medium-term notes. Issued in August, the 15-year and 20-year bonds carry coupon rates of 4.78% and 4.98%, respectively. Other notable issuances during the quarter include those from GENM Capital and Cagamas (**Table 3**).

Investor Profile

Government bonds. The profile of LCY government bond investors at the end of June 2018 was barely changed from a year earlier except that social security institutions (33.5%) had overtaken financial institutions (31.7%) as the single-largest investor group, compared with 30.8% and 32.0%, respectively, at the end of June 2017. (**Figure 3**). Foreign investors' share remained the third largest, while falling to 24.8% in June 2018 from 27.0% in June 2017. Foreign holdings of LCY government bonds have not recovered following the BNM's strict reinforcement of the prohibition on offshore trading of the Malaysian ringgit in November 2016. The wariness of foreign investors to enter the Malaysian bond market amid domestic and global uncertainties also contributed to the declining share of foreign holdings. The shares of the remaining investor groups were practically unchanged during the review period, with the BNM again having the smallest share of only 0.9%.

Corporate bonds. Domestic commercial and Islamic banks overtook life insurance firms in having the largest share of corporate bond holdings between June 2017 and June 2018 (**Figure 4**). The share of domestic commercial and Islamic banks increased to 41.5% from 38.9% during the review period, while that of life insurance firms decreased to 35.0% from 40.0%. The other investor group that saw an increase in its share of corporate bond holdings was the group comprising foreign commercial and Islamic banks. All other investor groups saw a slight decline in their shares. General insurance firms had the smallest holdings share of corporate paper in both June 2017 and June 2018.

Table 2: Top 30 Issuers of Local Currency Corporate Bonds in Malaysia

	Issuers	Outstanding Amount		State-Owned	Listed Company	Type of Industry
		LCY Bonds (MYR billion)	LCY Bonds (USD billion)			
1.	Danainfra Nasional	48.8	11.8	Yes	No	Finance
2.	Cagamas	36.2	8.7	Yes	No	Finance
3.	Project Lebuhraya Usahasama	30.2	7.3	No	No	Transport, Storage, and Communications
4.	Prasarana	27.5	6.6	Yes	No	Transport, Storage, and Communications
5.	Perbadanan Tabung Pendidikan Tinggi Nasional	19.0	4.6	Yes	No	Finance
6.	Khazanah	16.0	3.9	Yes	No	Finance
7.	Lembaga Pembiayaan Perumahan Sektor Awam	14.8	3.6	Yes	No	Property and Real Estate
8.	Pengurusan Air	14.6	3.5	Yes	No	Energy, Gas, and Water
9.	CIMB Bank	13.6	3.3	Yes	No	Finance
10.	Maybank	11.9	2.9	No	Yes	Banking
11.	Danga Capital	10.0	2.4	Yes	No	Finance
12.	Sarawak Energy	9.8	2.4	Yes	No	Energy, Gas, and Water
13.	CIMB Group Holdings	9.1	2.2	Yes	No	Finance
14.	Jimah East Power	9.0	2.2	Yes	No	Energy, Gas, and Water
15.	GENM Capital	7.6	1.8	No	No	Finance
16.	Bank Pembangunan Malaysia	7.3	1.8	Yes	No	Banking
17.	GOVCO Holdings	7.3	1.8	Yes	No	Finance
18.	Maybank Islamic	7.0	1.7	No	Yes	Banking
19.	Rantau Abang Capital	7.0	1.7	Yes	No	Finance
20.	Tenaga Nasional	7.0	1.7	No	Yes	Energy, Gas, and Water
21.	Public Bank	6.9	1.7	No	No	Banking
22.	Sarawak Hidro	6.5	1.6	Yes	No	Energy, Gas, and Water
23.	YTL Power International	6.1	1.5	No	Yes	Energy, Gas, and Water
24.	ValueCap	6.0	1.4	Yes	No	Finance
25.	Turus Pesawat	5.3	1.3	Yes	No	Transport, Storage, and Communications
26.	Aman Sukuk	5.2	1.2	Yes	No	Construction
27.	EDRA Energy	5.1	1.2	No	Yes	Energy, Gas, and Water
28.	1Malaysia Development	5.0	1.2	Yes	No	Finance
29.	Celcom Networks	5.0	1.2	No	No	Transport, Storage, and Communications
30.	Telekom Malaysia	5.0	1.2	No	Yes	Telecommunications
Total Top 30 LCY Corporate Issuers		**369.6**	**89.3**			
Total LCY Corporate Bonds		**653.4**	**157.9**			
Top 30 as % of Total LCY Corporate Bonds		**56.6%**	**56.6%**			

LCY = local currency, MYR = Malaysian ringgit, USD = United States dollar.
Notes:
1. Data as of 30 September 2018.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
Source: *AsianBondsOnline* calculations based on Bank Negara Malaysia Fully Automated System for Issuing/Tendering (FAST) data.

Table 3: Notable Local Currency Corporate Bond Issuance in the Third Quarter of 2018

Corporate Issuers	Coupon Rate (%)	Issued Amount (MYR million)
Tenaga Nasional		
15-year Islamic MTN	4.78	1,000
20-year Islamic MTN	4.98	2,000
GENM Capital		
5-year MTN	4.98	1,400
10-year MTN	5.30	750
15-year MTN	5.58	450
Cagamas		
1-year Islamic MTN	3.95	25
2-year MTN	3.95	50
3-year MTN	4.05	550

MTN = medium-term note, MYR = Malaysian ringgit.
Source: Bank Negara Malaysia Bond Info Hub.

Ratings Update

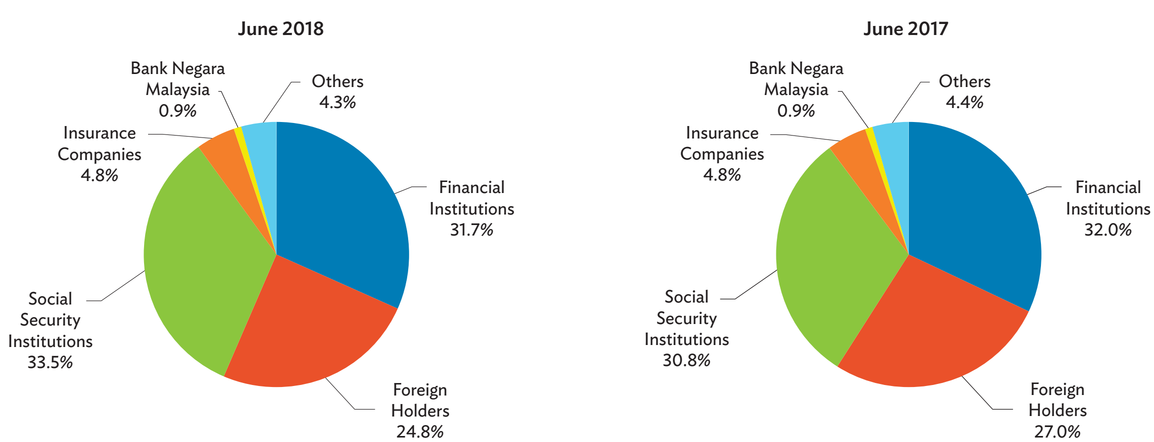
Fitch Ratings (Fitch) affirmed Malaysia's long-term foreign-currency issuer default rating at A– with a stable outlook on 14 August. The affirmation was based on the economy's solid growth, a sound external financial position, the government's commitment to reduce the fiscal deficit, and other efforts to improve governance. Fitch views some of the new administration's election promises, such as the removal of the goods and services tax and the plan to continue to subsidize fuel, as damaging to Malaysia's credit profile. However, the administration has implemented offsetting measures such as the reintroduction of a sales and services tax and the review of a number of infrastructure projects to keep the government on track to meet its 2018 deficit target of 2.8% of GDP. The rating agency expects economic growth to slow on the back of spending cuts and delays in implementing new revenue measures.

Policy, Institutional, and Regulatory Developments

Bank Negara Malaysia Enhances Foreign Exchange Administration Policies

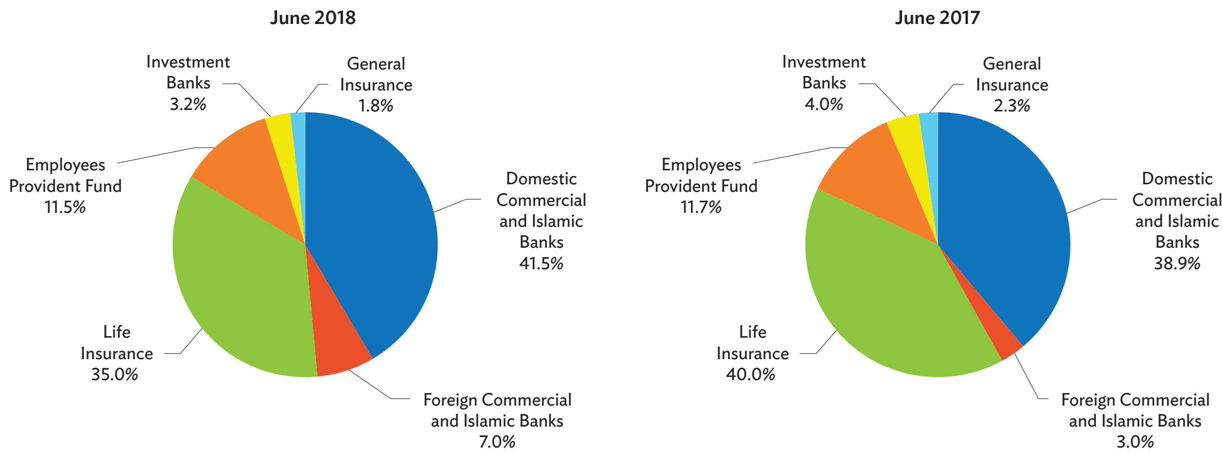
On 17 August, the BNM announced changes to its foreign exchange administration policies, effective immediately. The amendments include (i) greater flexibility in the management of export proceeds, which allows exporters to maintain their foreign currency trading accounts with onshore banks to meet up to 6 months worth of foreign currency obligations without the need to first convert proceeds into ringgit; (ii) flexible hedging of foreign currency obligations; and (iii) wider access for nonresidents to the onshore market financial market, allowing them to trade in MYR-denominated interest rate derivatives via the appointed overseas offices, subject to back-to-back arrangements with onshore banks.

Figure 3: Local Currency Government Bonds Investor Profile



Note: "Others" include statutory bodies, nominees and trustee companies, and cooperatives and unclassified items.
Source: Bank Negara Malaysia.

Figure 4: Local Currency Corporate Bonds Investor Profile



Note: The Employees Provident Fund's bond holdings data are as of 31 December 2017, as data are based on the EPF's annual report.
Sources: Bank Negara Malaysia and the Employees Provident Fund.

Securities Commission Malaysia Liberalizes the Corporate Bond and *Sukuk* Markets for Retail Investors

The Securities Commission Malaysia announced on 19 September the liberalization of its regulatory framework to provide greater access for retail investors to Malaysia's corporate bond and *sukuk* markets. The liberalized framework will allow a more efficient issuance process for corporate bonds and *sukuk* to be offered to retail investors, as well as expand the range of corporate bonds and *sukuk* that can be offered. The Securities Commission Malaysia also introduced a new seasoning framework to enable retail investors to access existing corporate bonds and *sukuk*, which are currently traded by sophisticated investors in the over-the-counter market. The regulation came into effect on 11 October.

Philippines

Yield Movements

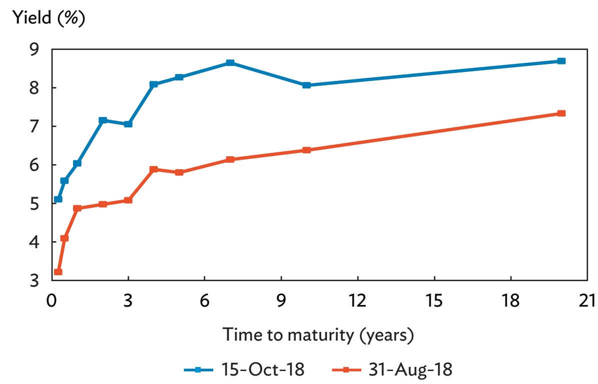
Between 31 August and 15 October, the yields of Philippine local currency (LCY) bonds of all tenors jumped an average of 189 basis points (bps) (**Figure 1**). The 7-year maturity increased the most (250 bps), followed by the 5-year maturity (247 bps). The 1-year tenor registered the smallest increase at 116 bps. The yield spread between 2-year and 10-year government bonds contracted 50 bps.

The jump in interest rates was spurred by concerns over high inflation and expectations of additional policy rate hikes before the end of the year from both the Bangko Sentral ng Pilipinas (BSP) and the United States (US) Federal Reserve at their next respective monetary policy meetings. Given these expectations, investors preferred short-term tenors over long-term tenors. The Bureau of the Treasury (BTr) frequently rejected Treasury bond bids as investors asked higher than expected rates.

Inflation, which has been rising since the start of the year, continued to soar in the third quarter (Q3) of 2018, prompting the BSP to revise its average full-year inflation in September projection to 4.9% from 4.5% previously. Price inflation for basic goods and services surged to 6.7% year-on-year (y-o-y) in September from 6.4% y-o-y in August. The rise in prices was mainly led by food and nonalcoholic beverages. Transportation costs rose 8.0% y-o-y as oil prices continued to increase.

During its policy meeting on 27 September, the Monetary Board of the BSP decided to raise its key interest rates by 50 bps on expectations of a sustained pick-up in inflation. The overnight reverse repurchase rate stood at 4.5% at the end of September, while the overnight lending and deposit rates were 5.0% and 4.0%, respectively. Second-round effects of inflation are also expected to contribute to price pressures. The BSP noted that nonmonetary measures are needed to help prevent further inflation since price pressures are being driven by supply-side forces. The BSP has hiked interest rates at four consecutive policy meetings, increasing interest rates by a total of 150 bps so far this year.

Figure 1: Philippines' Benchmark Yield Curve—Local Currency Government Bonds



Source: Based on data from Bloomberg LP.

The Philippines' gross domestic product expanded an average of 6.3% year-on-year (y-o-y) during the first half of 2018, below the government's target range of 7.0%–8.0% for full-year 2018. This prompted country's economic managers to revise their gross domestic product target to 6.5%–6.9% for full-year 2018.

Together with currencies in the rest of the region, the Philippine peso continued to weaken, breaching the PHP54–USD1 exchange rate in September. The weakness of the peso was attributed to concerns regarding the country's trade deficit, which surged 171.0% y-o-y to USD3.6 billion in July from USD1.3 billion a year earlier. The central bank continued to tap its international reserves to temper the peso's depreciation. From USD76.7 billion in July, international reserves were down to USD75.2 billion in September. However, the peso slowly recovered in October as the US dollar weakened due to disappointing domestic retail data in the US and negative investor sentiments on Wall Street.

Philippine equities have also been battered, with the Philippine Stock Exchange Index reaching its lowest level in 2018 of 6,884.4 on 11 October, down from an all-time high of 9,058.6 in January. At its lowest, the index had registered a loss of 21.1% since the start of 2018. The fall in the index followed the losses experienced by US stocks over concerns about the trade war between the People's Republic of China and the US, and rising US Treasury yields.

Size and Composition

The Philippines' LCY bond market marginally expanded 0.9% q-o-q in Q3 2018, compared with 0.8% q-o-q growth during the same period in the previous year (**Table 1**). Total LCY bonds amounted to PHP5,792 billion (USD107 billion) at the end of September, up from PHP5,741 billion in the second quarter (Q2) of 2018. The increase was supported by growth in the corporate bond market.

Government bonds. The amount of LCY government bonds outstanding stood at PHP4,593 billion at the end of September on marginal growth of 0.04% q-o-q, supported by Treasury bills, which rose 15.3% q-o-q as the BTr fully awarded most Treasury bills in its weekly auctions. However, this growth was partially offset by Treasury bonds, which declined 1.2% q-o-q due to maturing 7-year bonds and very few successful Treasury bond auctions. Despite the surge in outstanding Treasury bills, these bills comprised only PHP439 billion, or about 10% of total outstanding government bonds. Treasury bonds amounting to PHP4,121 billion, or 90% of total government securities, form the bulk of outstanding government bonds.

LCY government bonds worth PHP215.8 billion were issued in Q3 2018, down from PHP376.2 billion recorded in Q2 2018. This corresponds to a decline of 42.6% q-o-q due to a high issuance base from the issuance of Retail Treasury Bonds in June and also due to a number of unsuccessful Treasury auctions during the quarter.

Most weekly Treasury bills auctions were fully awarded in Q3 2018, amid rising yields for 91-day, 182-day, and 364-day Treasury bills. However, at the last auction for the quarter, the BTr rejected all bids as average yields were higher than expected. This happened just a few days before the monetary board of the BSP hiked its key policy rates.

In the fourth quarter of 2018, the BTr plans to continue the weekly auction of 91-day, 182-day, and 364-day Treasury bills totalling of PHP180 billion. Together with Treasury bonds (PHP90 billion), it plans to borrow PHP270 billion during Q4 2018, down from PHP300 billion in Q3 2018. Treasury bond auctions will continue to be held every other week.

Corporate bonds. LCY corporate bonds grew 4.3% q-o-q during Q3 2018 and total bonds outstanding increased to PHP1,198 billion from PHP1,149 billion in the previous quarter.

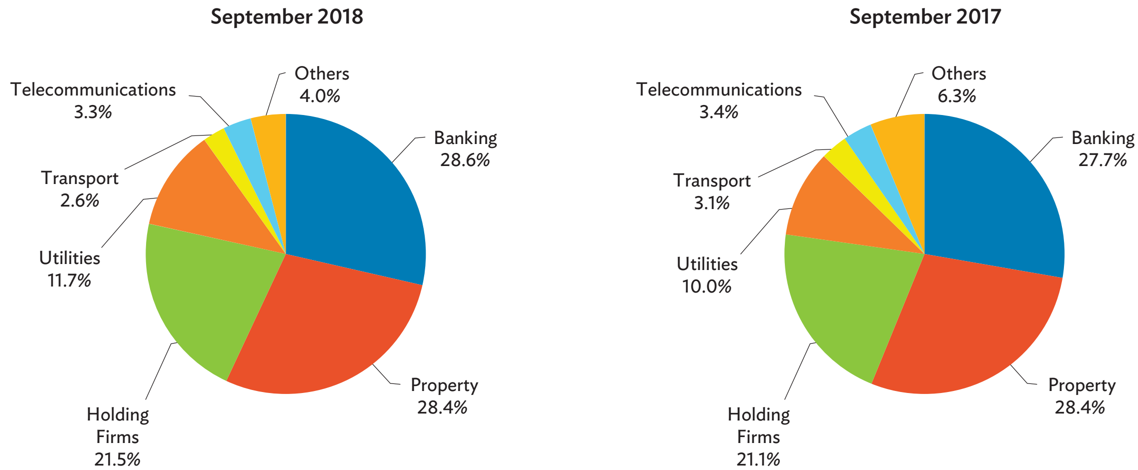
At the end of September 2018, the top three sectors in terms of LCY corporate bonds outstanding were banking (PHP342.5 billion or 28.6% of the total), property (PHP340.1 billion or 28.4%), and holding firms (PHP257.6 billion or 21.5%) (**Figure 2**). These same sectors dominated the amount of LCY corporate bonds outstanding in September 2017 as well, but the banking sector overtook the property sector in September 2018. During the review period, the sectoral shares of utilities, banking, and holding firms increased, while the sectoral shares of transport, telecommunications, and property decreased.

Table 1: Size and Composition of the Local Currency Bond Market in the Philippines

	Outstanding Amount (billion)						Growth Rate (%)			
	Q3 2017		Q2 2018		Q3 2018		Q3 2017		Q3 2018	
	PHP	USD	PHP	USD	PHP	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**5,210**	**102**	**5,741**	**108**	**5,792**	**107**	**0.8**	**8.5**	**0.9**	**11.2**
Government	4,212	83	4,592	86	4,593	85	0.04	6.5	0.04	9.0
Treasury Bills	340	7	381	7	439	8	7.0	16.0	15.3	29.2
Treasury Bonds	3,822	75	4,170	78	4,121	76	(0.5)	6.6	(1.2)	7.8
Others	50	1	40	0.8	34	0.6	(0.6)	(33.5)	(16.2)	(33.0)
Corporate	998	20	1,149	22	1,198	22	4.2	18.1	4.3	20.1

( ) = negative, LCY = local currency, PHP = Philippine peso, q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter, USD = United States dollar, y-o-y = year-on-year.
Notes:
1. Calculated using data from national sources.
2. Bloomberg end-of-period LCY–USD rates are used.
3. Growth rates are calculated from an LCY base and do not include currency effects.
4. "Others" comprise bonds issued by government agencies, entities, and corporations for which repayment is guaranteed by the Government of the Philippines. This includes bonds issued by Power Sector Assets and Liabilities Management (PSALM) and the National Food Authority, among others.
5. Peso Global Bonds (PHP-denominated bonds payable in US dollars) are not included.
Sources: Bloomberg LP and Bureau of the Treasury.

Figure 2: Local Currency Corporate Bonds Outstanding by Sector



Source: Based on data from Bloomberg LP.

Property developers continued to lead the top 30 issuers in terms of outstanding LCY corporate bonds at the end of September. Ayala Land had an outstanding amount of PHP104.7 billion, while SM Prime Holdings had PHP93.8 billion (**Table 2**). Holding firm San Miguel was the third-largest issuer with LCY corporate bonds outstanding worth PHP60.0 billion. Companies in the banking sector continued to dominate the top of the list, comprising 31.5% of the outstanding issues of the largest corporate issuers. This was followed by the property sector with 27.3% and holding firms with 22.7%. Altogether, the top 30 issuers of LCY corporate bonds accounted for PHP1,036.3 billion, or 86.5% of all outstanding corporate issuances at the end of September.

In Q3 2018, PHP47.9 billion worth of LCY corporate bonds were issued, which represented a small decline of 0.3% q-o-q from the PHP48.0 billion issued in Q2 2018. Uncertainties in local and international financial markets continued to affect market sentiment, leading to only a few companies issuing LCY corporate bonds.

One of the notable corporate issuances in Q3 2018 was SMC Global's PHP15 billion 5-year callable bond with a 6.75% coupon (**Table 3**). SMC Global , one of the largest power companies in the Philippines, issued the bond to refinance its debts. Chinabank, on the other hand, issued PHP10.25 billion worth of 6-year long-term negotiable certificates of time deposit with a coupon rate of 4.55%. The proceeds from the issuance, the largest for the banking industry so far in 2018, will be used for Chinabank's expansion programs. Property developer Vista Land issued 7-year and 10-year callable bonds with coupon rates of 7.49% and 7.71%, respectively, the highest rates for issuances during the quarter. Finally, NLEX Corporation, a privately owned toll-road company, issued a 7-year bond with a coupon of 6.64% in order to fund capital expenditure requirements.

Investor Profile

Banks and investment houses dominated the LCY government bond investor base at the end of September, accounting for a 41.9% share of all investors (**Figure 3**). They comprised the largest group of investors in September 2017 as well. Contractual savings and tax-exempt institutions followed with a 27.2% share, down from a 31.6% share in September 2017. Brokers, custodians, and depositories increased their share to 11.3% from 7.2% in September 2017. The share of BTr-managed funds decreased to 9.4% at the end of September from 11.3% a year earlier. Investors from government-owned or -controlled corporations and local government units maintained their respective shares of the total.

Table 2: Top 30 Issuers of Local Currency Corporate Bonds in the Philippines

	Issuers	Outstanding Amount		State-Owned	Listed Company	Type of Industry
		LCY Bonds (PHP billion)	LCY Bonds (USD billion)			
1.	Ayala Land	104.7	1.9	No	Yes	Property
2.	SM Prime Holdings	93.8	1.7	No	Yes	Property
3.	San Miguel	60.0	1.1	No	Yes	Holding Firms
4.	Metropolitan Bank	59.2	1.1	No	Yes	Banking
5.	BDO Unibank	58.6	1.1	No	Yes	Banking
6.	SM Investments	51.4	1.0	No	Yes	Holding Firms
7.	Philippine National Bank	41.5	0.8	No	Yes	Banking
8.	Ayala Corporation	40.0	0.7	No	Yes	Holding Firms
9.	Security Bank	37.4	0.7	No	Yes	Banking
10.	San Miguel Brewery	34.8	0.6	No	No	Brewery
11.	Maynilad	33.6	0.6	No	No	Water
12.	Aboitiz Equity Ventures	32.0	0.6	No	Yes	Holding Firms
13.	JG Summit	30.0	0.6	No	Yes	Holding Firms
14.	SMC Global Power	30.0	0.6	No	No	Electricity, Energy, and Power
15.	Filinvest Land	29.0	0.5	No	Yes	Property
16.	Manila Electric Company	28.8	0.5	No	Yes	Electricity, Energy, and Power
17.	Vista Land	28.1	0.5	No	Yes	Property
18.	East West Banking	27.7	0.5	No	Yes	Banking
19.	Rizal Commercial Banking Corporation	27.2	0.5	No	Yes	Banking
20.	Chinabank	26.2	0.5	No	Yes	Banking
21.	GT Capital	22.0	0.4	No	Yes	Holding Firms
22.	PLDT	20.6	0.4	No	Yes	Telecommunications
23.	Petron	18.6	0.3	No	Yes	Electricity, Energy, and Power
24.	Bank of the Philippine Islands	17.2	0.3	No	Yes	Banking
25.	Union Bank of the Philippines	17.0	0.3	No	Yes	Banking
26.	Doubledragon	15.0	0.3	No	Yes	Property
27.	Philippine Savings Bank	14.5	0.3	No	Yes	Banking
28.	Aboitiz Power	13.0	0.2	No	Yes	Electricity, Energy, and Power
29.	Globe Telecom	12.5	0.2	No	Yes	Telecommunications
30	Megaworld	12.0	0.2	No	Yes	Property
Total Top 30 LCY Corporate Issuers		**1,036.3**	**19.2**			
Total LCY Corporate Bonds		**1,198.2**	**22.2**			
Top 30 as % of Total LCY Corporate Bonds		**86.5%**	**86.5%**			

LCY = local currency, PHP = Philippine peso, USD = United States dollar.
Notes:
1. Data as of 30 September 2018.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
Source: *AsianBondsOnline* calculations based on Bloomberg LP data.

Table 3: Notable Local Currency Corporate Bond Issuance in the Third Quarter of 2018

Corporate Issuers	Coupon Rate (%)	Issued Amount (PHP billion)
SMC Global		
5-year bond	6.75	15.00
Chinabank		
6-year LTNCD	4.55	10.25
Vista Land		
7-year bond	7.49	2.20
10-year bond	7.71	6.00
NLEX		
7-year bond	6.64	4.00

LTNCD = long-term negotiable certificates of deposit, PHP = Philippine peso.
Source: Bloomberg LP.

Policy, Institutional, and Regulatory Developments

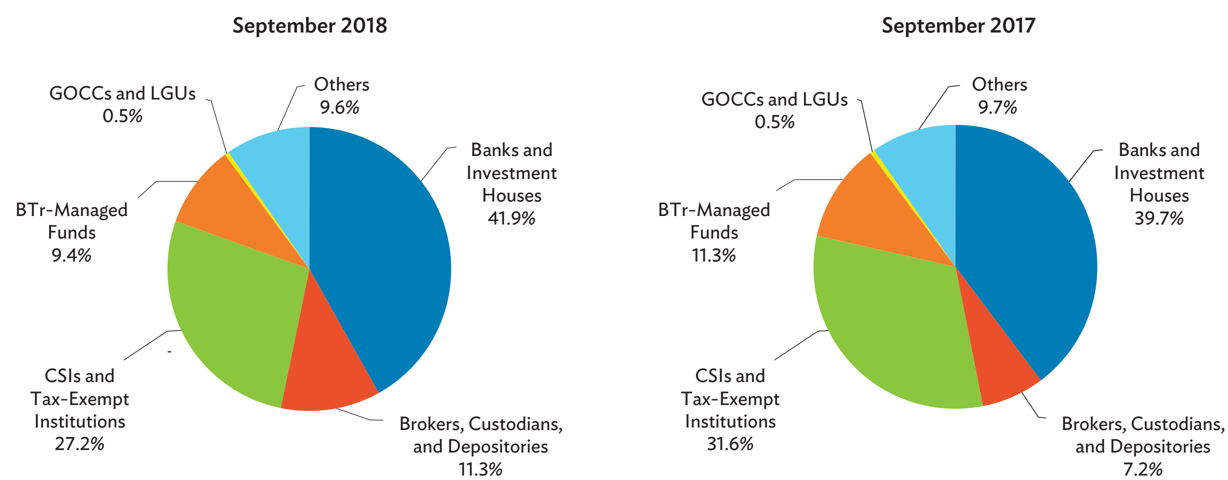
BSP Approves Rules on Bond Issuance

On 10 August, the BSP enhanced rules on bond issuances in order to develop the LCY bond market. Aside from complying with the Securities Regulations Code, universal banks, commercial banks, and quasi-banks need to satisfy additional criteria to be eligible to issue bonds and commercial paper. They must have a CAMELS (Capital Adequacy, Asset Quality, Management Quality, Earnings, Liquidity, Sensitivity) rating of at least 3, with a management rating not lower than 3. They must not have major risk management and compliance concerns, must be compliant with BSP rules, and must not have pending enforcement actions from the BSP. For quasi-banks, they must have at least an acceptable RAS (Rating Assessment Service) rating. In order to promote security, price transparency, and price discovery, the bonds to be issued must be traded in a Securities and Exchange Commission-recognized market. An issuance does not need approval from the central bank. The concerned bank need only submit a certification that they have complied with and met all criteria for issuing bonds. The additional rules aim to help promote an efficient debt market that protects investors.

BTr Implements New National Registry for Government Securities Auctions

On 20 August, the BTr launched the National Registry of Scripless Securities for the submission, confirmation, and settlement of government securities auctions by government securities-eligible dealers. The online platform will promote efficiency in processing bids during auctions for government securities. The previous Automated Debt Auction Processing System will be used only for the purpose of business continuity.

Figure 3: Local Currency Government Bonds Investor Profile



BTr = Bureau of the Treasury, CSIs = contractual savings institutions, GOCCs = government-owned or -controlled corporations, LGUs = local government units.
Source: Bureau of the Treasury.

Singapore

Yield Movements

Between 1 August and 15 October, Singapore's local currency (LCY) bond yields increased for all maturities (**Figure 1**). The 5-year maturity increased the most, gaining 22 basis points (bps). This was followed by the 15-year maturity (19 bps) and the 10-year tenor (18 bps). The 2-year tenor registered the smallest increase of 12 bps. The yield spread between 2-year and 10-year government bonds expanded 6 bps during the review period.

Singapore's yields tracked interest rate movements in the United States (US), where all tenors increased during the review period. The US Federal Reserve raised interest rates most recently in September, with another increase expected before the year ends as the Federal Reserve continues its monetary policy normalization. Strong US economic data, including high economic growth and low unemployment rates, and expectations of another rate hike, contributed to the rise in interest rates.

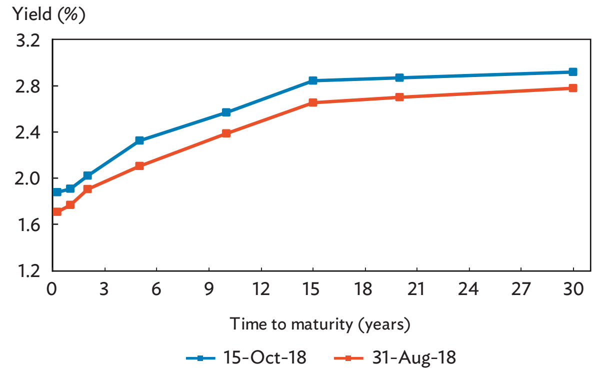
Singapore's inflation rate continued its upward trend during the third quarter (Q3) of 2018, rising to 0.6% year-on-year (y-o-y) in July and 0.7% y-o-y in August, and it remained unchanged in September. The Monetary Authority of Singapore (MAS) expects inflation to gradually increase over the remainder of 2018 due to faster wage growth and rising global oil and food prices.

On the other hand, Singapore's economic growth eased in Q3 2018 to 2.6% y-o-y from the 4.1% y-o-y growth recorded in the second quarter (Q2) of 2018. On a quarter-on-quarter (q-o-q) seasonally adjusted basis, gross domestic product grew 4.7% in Q3 2018, up from the 1.2% growth recorded during the previous quarter.

Rising inflation and expectations of continued economic growth prompted the MAS on 12 October to slightly increase the slope of the Singapore dollar nominal effective exchange rate policy band while leaving its width and center unchanged. The move aimed to ensure price stability in the medium-term.

Regional currencies have been weakening against the US dollar, with the Singapore dollar reaching its lowest point on 8 October, hitting SGD1.3836–USD1. However, the Singapore dollar appreciated somewhat after the latest monetary policy tightening.

Figure 1: Singapore's Benchmark Yield Curve—Local Currency Government Bonds



Source: Based on data from Bloomberg LP.

In October, Singapore's Straits Times Index dropped to 3,034.31, its lowest level of the year and down from a high of 3,615.28 in May, joining global equities sell-off amid expectations of higher US interest rates and the escalating trade war between the People's Republic of China and US.

Size and Composition

The Singapore LCY bond market grew 2.0% quarter-on-quarter (q-o-q) to SGD398 billion (USD291 billion) in Q3 2018, up from SGD390 billion in Q2 2018 (**Table 1**). The expansion was supported by growth in LCY government and corporate bonds.

Government bonds. Total outstanding LCY government bonds increased 1.6% q-o-q in Q3 2018 to reach SGD241 billion at the end of September from SGD237 billion at the end of the previous quarter. The growth was mainly due to the expansion of outstanding MAS bills, which increased 3.9% q-o-q to SGD119 billion from SGD114 billion in Q2 2018. Outstanding Singapore Government Securities (SGS) bills and bonds decreased 0.6% q-o-q, with SGD122 billion outstanding at the end of September, down from SGD123 billion at the end of the previous quarter, due to maturing SGS bonds.

Table 1: Size and Composition of the Local Currency Bond Market in Singapore

	Outstanding Amount (billion)						Growth Rate (%)			
	Q3 2017		Q2 2018		Q3 2018		Q3 2017		Q3 2018	
	SGD	USD	SGD	USD	SGD	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**362**	**267**	**390**	**287**	**398**	**291**	**3.8**	**11.5**	**2.0**	**9.8**
Government	220	162	237	174	241	176	6.7	20.6	1.6	9.3
SGS Bills and Bonds	117	86	123	90	122	89	4.4	9.4	(0.6)	4.4
MAS Bills	103	76	114	84	119	87	9.4	36.3	3.9	14.7
Corporate	142	105	153	113	157	115	(0.4)	(0.1)	2.5	10.7

( ) = negative, LCY = local currency, MAS = Monetary Authority of Singapore, q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter, SGD = Singapore dollar, SGS = Singapore Government Securities, USD = United States dollar, y-o-y = year-on-year.
Notes:
1. Government bonds are calculated using data from national sources. Corporate bonds are based on *AsianBondsOnline* estimates.
2. SGS bills and bonds do not include the special issue of Singapore Government Securities held by the Singapore Central Provident Fund.
3. Bloomberg LP end-of-period LCY–USD rates are used.
4. Growth rates are calculated from an LCY base and do not include currency effects.
Sources: Bloomberg LP, Monetary Authority of Singapore, and Singapore Government Securities.

A total of SGD138.9 billion worth of government bills and bonds were issued during Q3 2018. Of these, SGD130.5 billion, or 94.0%, were MAS bills, and the remaining SGD8.4 billion, or 6.0%, were SGS bills and bonds. MAS bills increased 3.1% q-o-q, while SGS bills and bonds declined 25.7% q-o-q due to fewer issuances of SGS bonds.

Weekly MAS bills auctions were met with robust demand in Q3 2018: the 28-day, 84-day, and 168-day MAS bills were always fully allocated. For most of the quarter, average yields for the 4-week MAS bills were higher than for the 8-week tenor. Towards the end of September, however, investors preferred the shortest-dated tenor, taking a wait-and-see stance as global events unfolded.

Corporate bonds. LCY corporate bonds expanded 2.5% q-o-q in Q3 2018. On a y-o-y basis, corporate bonds grew 10.7% to SGD157 billion from SGD142 billion in Q3 2017.

The top 30 LCY corporate issuers accounted for SGD72.7 billion, or 46.2% of all LCY corporate bonds outstanding, at the end of September (**Table 2**). The state-owned real estate company Housing & Development Board continued to top the list, accounting for 14.0% of the total LCY corporate bond market with SGD22.0 billion of corporate bonds outstanding. Fellow state-owned company Land Transport Authority was a distant second with SGD6.5 billion of bonds outstanding, comprising 4.1% of the total LCY corporate bond market.

Just like the previous quarter, the real estate sector dominated the top 30 corporate issuers with 46.9% of the top 30's total corporate bonds outstanding at the end of September. This was followed by the finance and transportation sectors with market shares of 15.4% and 14.2%, respectively.

In Q3 2018, LCY corporate bond issuances surged 174.4% to SGD6.6 billion from SGD2.4 billion issued during the previous quarter. The jump in issuance of LCY corporate bonds was due to large issuances, led by government-owned institutions.

One of the notable issuances was Land Transport Authority's SGD1,500 million 40-year bond with a coupon rate of 3.45%, which was issued under its SGD12 billion Multicurrency Medium-Term Note Programme (**Table 3**). The rare 40-year issuance is only the second time such a bond was issued in the Singapore LCY corporate bond market; the other being Temasek Holding's SGD1,000 million 40-year bond issuance in 2010. The Development Bank of Singapore Group and Oversea-Chinese Banking Corporation both issued SGD1,000 million of perpetual bonds with coupons of 3.98% and 4.00%, respectively, as part of their individual SGD30 billion Global Medium-Term Note Programme. The Housing & Development Board issued two SGD700 million bonds: a 7-year bond with a coupon of 2.63% and a 5-year bond with a 2.42% coupon. Both issuances are part of its SGD32 billion Multicurrency Medium-Term Note Programme.

Table 2: Top 30 Issuers of Local Currency Corporate Bonds in Singapore

	Issuers	Outstanding Amount		State-Owned	Listed Company	Type of Industry
		LCY Bonds (SGD billion)	LCY Bonds (USD billion)			
1.	Housing & Development Board	22.0	16.1	Yes	No	Real Estate
2.	Land Transport Authority	6.5	4.7	Yes	No	Transportation
3.	Temasek Financial I	3.6	2.6	Yes	No	Finance
4.	Frasers Property	3.4	2.5	No	Yes	Real Estate
5.	Singapore Airlines	3.0	2.2	Yes	Yes	Transportation
6.	Capitaland	2.8	2.0	Yes	Yes	Real Estate
7.	Mapletree Treasury Services	2.6	1.9	No	No	Finance
8.	DBS Group Holdings	2.5	1.9	No	Yes	Banking
9.	United Overseas Bank	2.5	1.8	No	Yes	Banking
10.	SP Powerassets	1.9	1.4	No	No	Utilities
11.	Keppel Corporation	1.7	1.2	No	Yes	Diversified
12.	Capitaland Treasury	1.6	1.2	No	No	Finance
13.	Oversea-Chinese Banking Corporation	1.5	1.1	No	Yes	Banking
14.	Public Utilities Board	1.3	1.0	Yes	No	Utilities
15.	CMT MTN	1.3	0.9	No	No	Finance
16.	GLL IHT	1.3	0.9	No	No	Real Estate
17.	Olam International	1.2	0.9	No	Yes	Consumer Goods
18.	Singtel Group Treasury	1.2	0.8	No	No	Finance
19.	City Developments Limited	1.1	0.8	No	Yes	Real Estate
20.	Hyflux	1.1	0.8	No	Yes	Utilities
21.	National University of Singapore	1.0	0.7	No	No	Education
22.	Ascendas	1.0	0.7	No	Yes	Finance
23.	Suntec REIT	0.9	0.7	No	Yes	Real Estate
24.	Perennial Real Estate Holdings	0.9	0.6	No	Yes	Real Estate
25.	Mapletree Commercial Trust	0.9	0.6	No	Yes	Real Estate
26.	Sembcorp Financial Services	0.9	0.6	No	No	Engineering
27.	DBS Bank	0.8	0.6	No	Yes	Banking
28.	Overseas Union Enterprise	0.8	0.6	No	Yes	Real Estate
29.	Sembcorp Industries	0.8	0.6	No	Yes	Shipbuilding
30.	SMRT Capital	0.8	0.6	No	No	Transportation
Total Top 30 LCY Corporate Issuers		**72.7**	**53.2**			
Total LCY Corporate Bonds		**157.2**	**115.0**			
Top 30 as % of Total LCY Corporate Bonds		**46.2%**	**46.2%**			

LCY = local currency, SGD = Singapore dollar, USD = United States dollar.
Notes:
1. Data as of 30 September 2018.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
Source: *AsianBondsOnline* calculations based on Bloomberg LP data.

Table 3: Notable Local Currency Corporate Bond Issuance in the Third Quarter of 2018

Corporate Issuers	Coupon Rate (%)	Issued Amount (SGD million)
Land Transport Authority		
40-year bond	3.45	1,500
DBS Group		
Perpetual bond	3.98	1,000
OCBC		
Perpetual bond	4.00	1,000
Housing & Development Board		
7-year bond	2.63	700
5-year bond	2.42	700

SGD = Singapore dollar.
Source: Bloomberg LP.

Policy, Institutional, and Regulatory Developments

MAS and Singapore Exchange Collaborate with Other Companies to Improve Settlement Using Blockchain

On 24 August, the MAS and the Singapore Exchange joined Anquan, Deloitte, and Nasdaq as technology partners in developing delivery-versus-payment capabilities for settling securities that use a blockchain platform. The project aims to reduce settlement risk between buyers and sellers, and to increase operational efficiency. It will utilize distributed ledger technology developed under Project Ubin Phase 2, which decentralized interbank payment and settlement while also preserving data privacy.

MAS Introduces New Structure for Investment Funds

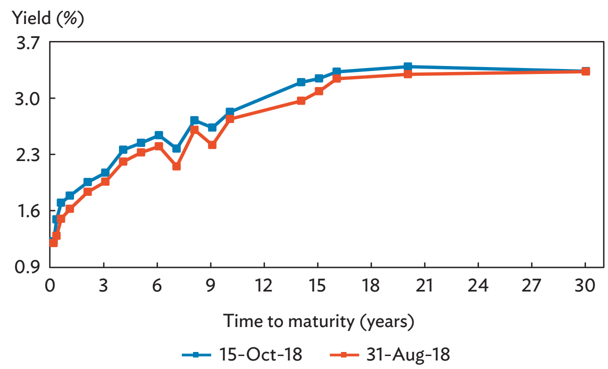
On 10 September, the MAS introduced a new corporate structure for investment funds called Variable Capital Company (VCC), an entity that manages local and international funds. The framework allows VCCs greater flexibility in terms of capital structure so that it can be used by both open-ended and closed-ended funds with varying investment strategies depending on their needs. VCCs, which are deemed to be cost-efficient, can be established as a standalone or an umbrella structure with multiple subfunds having different investment objectives. In order to cater to the needs of investors in global investment funds, VCCs are allowed to use different accounting standards in preparing financial statements. Finally, the framework prevents VCCs from commingling assets and liabilities between funds. These developments will help strengthen Singapore's position as a financial hub by providing full services for both local and international investors and fund managers.

Thailand

Yield Movements

Thailand's local currency (LCY) government bond yields rose across all tenors between 31 August and 15 October (**Figure 1**). Double-digit increases in yields were observed for most tenors, averaging 17 basis points (bps), while for the 1-month and 10-, 16-, 20-, and 30-year bonds, yield increases were in single digits. The yield for 14-year bonds had the largest increase at 23 bps, while the yield on 30-year bonds was barely changed, gaining a mere 0.6 bps. The yield spread between the 2-year and 10-year bonds narrowed to 87 bps from 91 bps during the review period.

Figure 1: Thailand's Benchmark Yield Curve—Local Currency Government Bonds



Sources: Based on data from Bloomberg LP and Thai Bond Market Association.

Yields rose during the period on expectations that the Bank of Thailand (BOT) would soon increase its benchmark policy rate. The decision to hike rates rests more on concerns that a prolonged low-interest-rate environment would pose risks to financial stability rather than on pressures from rising interest rates among regional peers and in advanced economies. However, rising interest rates, especially in the United States (US), may have prompted investors to demand higher returns, thus translating into the upward movement in local government bond yields. Uncertainties brought about by contagion fears from the recent emerging market rout and trade tensions also influenced the climb in yields.

The Monetary Policy Committee of the BOT maintained the 1-day repurchase rate at 1.50% in its policy-setting meeting on 19 September. According to the central bank, the current accommodative monetary policy stance remained conducive to the continuation of economic growth and was appropriate given the inflation target. Two committee members, however, voted to raise the policy rate to curb potential financial risks. While the policy rate was left unchanged, the committee stated that the need for accommodative monetary policy would gradually decline over time.

Thailand's economic performance was better than expected in the second quarter (Q2) of 2018 as gross domestic product expanded 4.6% year-on-year (y-o-y); however, this was lower compared with growth of 4.9% y-o-y in the previous quarter. The Thai economy's growth continues to gain traction, supported by domestic and external demand as well as tourism. For the first half of 2018, Thailand's economy expanded 4.8% y-o-y. According to the National Economic and Social Development Board, the Thai economy is forecast to grow between 4.2% and 4.7% in full-year 2018, supported by improvements in the global economy and a favorable expansion in domestic consumption and investment.

Consumer price inflation in Thailand slowed to 1.3% y-o-y in September after registering a 4-year high of 1.6% y-o-y in August. In January–September, consumer price inflation averaged 1.1%. While inflation slowed in September, the ministry expects inflation to accelerate in the fourth quarter of 2018 as the excess supply of fresh food is viewed as being temporary and oil prices are expected to rise alongside a weakening baht. Inflation is forecast to average 1.3% in full-year 2018, up from an earlier projection of 1.2%.

The Thai baht appreciated 0.3% against the US dollar between 31 August and 15 October. The domestic currency had performed well compared with other regional currencies despite souring investor sentiments on the back of sell-offs triggered by emerging market doldrums elsewhere in the world, higher US interest rates, and protracted trade tensions. The baht's strength is underpinned by Thailand's strong current account surplus and bright economic prospects. The BOT's earlier hawkish hint also added appeal to the domestic currency. While the baht depreciated 0.2% against the greenback year-to-date through 15 October, it still outperformed its regional peers.

Size and Composition

Thailand's LCY bonds outstanding expanded in the third quarter (Q3) of 2018 at rates of 2.1% quarter-on-quarter (q-o-q) and 10.3% y-o-y, slower compared with Q2 2018 on a quarterly basis but faster on an annual basis (**Table 1**). LCY bonds outstanding reached THB12,174 billion (USD377 billion) at the end of September, lifted by both the government and corporate segments, which comprised about 72% and 28% of the total, respectively.

Government bonds. The amount of total government bonds outstanding reached THB8,808 billion at the end September, reflecting growth of 2.0% q-o-q compared with 5.3% q-o-q in Q2 2018. Government bonds and Treasury bills and central bank bonds drove the growth, offsetting the marginal decline in outstanding state-owned enterprise bonds and other bonds.

The expansion in the LCY government bond market was mainly driven by the increased issuance of BOT securities in Q3 2018, which gained 9.7% q-o-q. BOT issuance amounted to THB1,633 billion, comprising about 86% of total government issuance in Q3 2018. The amount was large enough to offset the double-digit issuance declines in central government and state-owned enterprise securities. The BOT has continued to increase its short-term bond supply since 15 May after a year-long tapering in order to restrain the strength of the baht.

Corporate bonds. Total corporate bonds outstanding grew modestly in Q3 2018 at 2.5% q-o-q, broadly unchanged from Q2 2018, while being supported by relatively higher issuance during the quarter. LCY corporate bonds outstanding amounted to THB3,366 billion at the end of September.

The amount of outstanding bonds of the top 30 largest corporate issuers reached THB1.9 trillion at the end of September, or the equivalent of 56.4% of the total corporate bond market (**Table 2**). Siam Cement remained the top issuer with total bonds outstanding amounting to THB181.5 billion. Of the 30 issuers, 23 companies are listed and only 5 companies are state-owned. In terms of industry, firms from the food and beverage sector account for the largest grouping with six issuers, followed by the banking sector with five. Issuers from the food and beverage industry had aggregate outstanding bonds of THB456 billion at the end of September, comprising 24% of the top 30's total.

Corporate bond issuance was fairly vibrant in Q3 2018 with sales rebounding to grow 4.8% q-o-q from a decline of 20.5% q-o-q in Q2 2018. Market participants expect higher issuance from the corporate sector this year, likely breaking the annual record as firms want to lock in lower funding costs ahead of signals of interest rate hikes by the BOT. Firms with debt rollover also see this as the right time to enter the market on the back of sound LCY bond

Table 1: Size and Composition of the Local Currency Bond Market in Thailand

	Outstanding Amount (billion)						Growth Rate (%)			
	Q3 2017		Q2 2018		Q3 2018		Q3 2017		Q3 2018	
	THB	USD	THB	USD	THB	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**11,034**	**331**	**11,918**	**361**	**12,174**	**377**	**0.5**	**4.2**	**2.1**	**10.3**
Government	7,981	240	8,634	261	8,808	272	0.2	2.1	2.0	10.4
Government Bonds and Treasury Bills	4,295	129	4,532	137	4,656	144	4.7	6.4	2.7	8.4
Central Bank Bonds	2,887	87	3,268	99	3,322	103	(6.3)	(2.5)	1.7	15.1
State-Owned Enterprise and Other Bonds	798	24	834	25	829	26	2.3	(2.9)	(0.6)	3.8
Corporate	3,053	92	3,284	99	3,366	104	1.5	10.0	2.5	10.2

( ) = negative, LCY = local currency, q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter, THB = Thai baht, USD = United States dollar, y-o-y = year-on-year.
Notes:
1. Calculated using data from national sources.
2. Bloomberg LP end-of-period LCY–USD rates are used.
3. Growth rates are calculated from an LCY base and do not include currency effects.
4. For Q3 2018 bonds outstanding data are based on *AsianBondsOnline* estimates.
Sources: Bank of Thailand and Bloomberg LP.

Table 2: Top 30 Issuers of Local Currency Corporate Bonds in Thailand

	Issuers	Outstanding Amount		State-Owned	Listed Company	Type of Industry
		LCY Bonds (THB billion)	LCY Bonds (USD billion)			
1.	Siam Cement	181.5	5.6	Yes	Yes	Construction Materials
2.	CP All	179.3	5.5	No	Yes	Commerce
3.	PTT	129.3	4.0	Yes	Yes	Energy and Utilities
4.	Thai Beverage	127.0	3.9	No	No	Food and Beverage
5.	Bank of Ayudhya	125.0	3.9	No	Yes	Banking
6.	Berli Jucker	122.0	3.8	No	Yes	Food and Beverage
7.	Charoen Pokphand Foods	84.5	2.6	No	Yes	Food and Beverage
8.	Indorama Ventures	68.4	2.1	No	Yes	Petrochemicals and Chemicals
9.	Thai Airways International	64.9	2.0	Yes	Yes	Transportation and Logistics
10.	Toyota Leasing Thailand	64.7	2.0	No	No	Finance and Securities
11.	Tisco Bank	58.9	1.8	No	No	Banking
12.	True Move H Universal Communication	56.0	1.7	No	No	Communications
13.	Krungthai Card	45.9	1.4	Yes	Yes	Banking
14.	Mitr Phol Sugar	44.3	1.4	No	No	Food and Beverage
15.	CPF Thailand	44.0	1.4	No	Yes	Food and Beverage
16.	Banpu	41.8	1.3	No	Yes	Energy and Utilities
17.	Advanced Wireless	40.2	1.2	No	Yes	Communications
18.	Land & Houses	39.5	1.2	No	Yes	Property and Construction
19.	Bangkok Expressway and Metro	38.2	1.2	No	Yes	Transportation and Logistics
20.	Minor International	38.0	1.2	No	Yes	Hospitality and Leisure
21.	TPI Polene	36.0	1.1	No	Yes	Property and Construction
22.	Bangkok Commercial Asset Management	34.5	1.1	No	No	Finance and Securities
23.	Thai Union Group	33.8	1.0	No	Yes	Food and Beverage
24.	PTT Exploration and Production Company	29.6	0.9	Yes	Yes	Energy and Utilities
25.	CH. Karnchang	29.6	0.9	No	Yes	Property and Construction
26.	DTAC Trinet	29.5	0.9	No	Yes	Communications
27.	Krungsriayudhya Card	28.7	0.9	No	Yes	Banking
28.	Thanachart Bank	28.5	0.9	No	No	Banking
29.	Kasikorn Bank	28.0	0.9	No	Yes	Banking
30.	True Corp	25.8	0.8	No	Yes	Communications
Total Top 30 LCY Corporate Issuers		**1,897.0**	**58.7**			
Total LCY Corporate Bonds		**3,365.7**	**104.1**			
Top 30 as % of Total LCY Corporate Bonds		**56.4%**	**56.4%**			

LCY = local currency, THB = Thai baht, USD = United States dollar.
Notes:
1. Data as of 30 September 2018.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
Source: *AsianBondsOnline* calculations based on Bloomberg LP data.

market and economic fundamentals. Moreover, several merger and acquisition deals were done in Q3 2018, which led to higher debt sales, including those from Thai Beverage, which issued Thailand's biggest corporate bond yet amounting to THB77 billion. Other notable LCY corporate bond issuances in Q3 2018 are given in **Table 3**.

Investor Profile

Central government bonds. The profile of LCY government bond investors at the end of September was barely changed from a year earlier (**Figure 2**). Financial corporations remained the largest holders of government bonds in Thailand, although their share slightly dipped during the review period to 41.5% from 42.8%. Other large holders at the end of September include other depository corporations with an 18.2% share, nonresidents with 17.3%, and the central government with 12.9%. Nonresidents' share increased from 16.5% in September 2017, which can be attributed to foreign fund flows into the Thai bond market. The attractiveness of Thai bonds derives from the economy's strong fundamentals that make Thailand a safe haven for offshore investors. Public nonfinancial corporations had a negligible holdings share at the end of September.

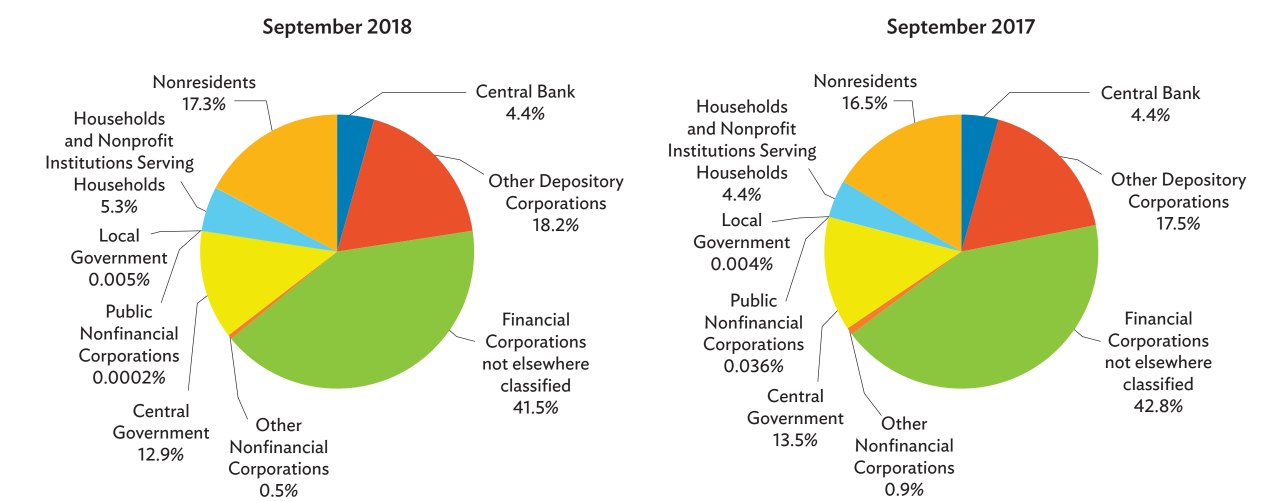
Central bank bonds. Other depository corporations were the largest holders of central bank bonds with a share of 40.1% in September 2018, slightly lower than the 41.6% share in September 2017 (**Figure 3**). The BOT's holdings share also decreased to 9.9% from 11.5% during the review period. The remaining investor groups saw increases in their holding shares, with the central government having the largest gain from 11.9% to 13.2%. Nonresidents' share increased slightly from 4.2% to 4.4%,

Table 3: Notable Local Currency Corporate Bond Issuance in the Third Quarter of 2018

Corporate Issuers	Coupon Rate (%)	Issued Amount (THB million)
Thai Beverage		
2-year bond	2.60	4,692
3-year bond	2.64	2,452
4-year bond	3.20	43,895
5-year bond	3.35	4,387
7-year bond	3.62	941
10-year bond	4.16	13,719
10-year bond	4.16	6,914
True Move H Universal Communication		
4-year bond	3.70	11,998
5-year bond	4.05	8,002
Minor International		
Perpetual bond	5.85	15,000
Bank of Ayudhya		
3-year bond	2.22	14,000

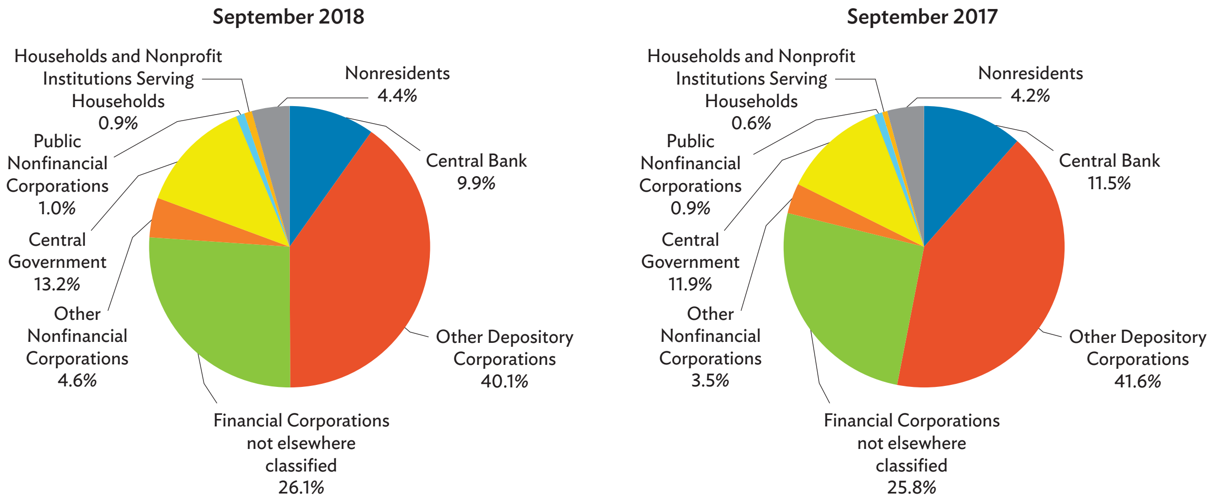
THB = Thai baht.
Source: Bloomberg LP.

Figure 2: Local Currency Government Bonds Investor Profile



Note: Government bonds include Treasury bills and bonds.
Sources: *AsianBondsOnline* and Bank of Thailand.

Figure 3: Local Currency Central Bank Securities Investor Profile

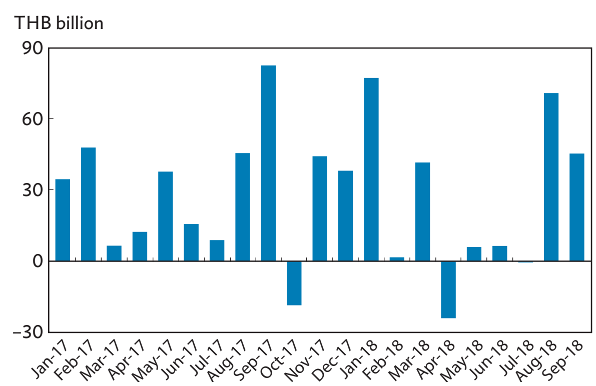


Source: Bank of Thailand.

reflecting the increased attractiveness of Thailand's LCY bonds.

Despite the wilted risk appetite for emerging market assets driven by contagion fears, Thailand was able to draw foreign fund inflows of THB116 billion in Q3 2018, bringing total inflows for the first 9 months of the year to THB226 billion (**Figure 4**). While Thailand registered outflows of THB400 million in July, this was easily offset by inflows during August and September. Excluding the PRC, Thailand outperformed its regional peers in terms of fund flows as all markets in emerging East Asia experienced net outflows in September, demonstrating how Thailand has become a safe haven for foreign investors seeking capital exposure to the region's assets. The attractiveness of THB-denominated bonds is anchored on a stable currency, low inflation, high international reserves, a current account surplus, low external debt, and an economy growing at a sound pace. Rising interest rates in the US may erode some of the appeal of Thai bonds, but market participants expect foreign funds to continue to flow into the local market.

Figure 4: Foreign Investor Net Trading of Local Currency Bonds in Thailand



THB = Thai baht.
Source: Thai Bond Market Association.

However, net inflows may not be as large as last year and could be marked by episodes of volatility over investor wariness and the search for higher yields, resulting in some sell-offs.

Policy, Institutional, and Regulatory Developments

Thailand Plans to Develop "Bond Coin" to Facilitate Settlement of Corporate Bonds

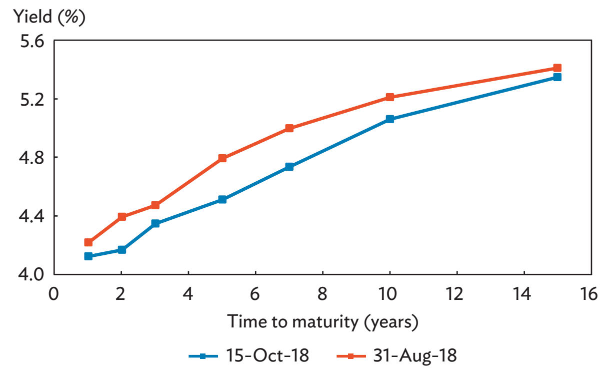
The Thai Bond Market Association is studying the development of a digital token or "bond coin" to facilitate settlement and clearing of corporate bonds. Under the plan, participants will have information regarding payment stages, interest rates, and other time-sensitive information. The aim will be to shorten traditional banking processes from about 7–10 days to 1–3 days and to reduced corporate bond clearing from 2 days to less than 24 hours. The plan will come in three phases: (i) the development of a bond registrar subscription system to record bond transactions between participants; (ii) the inclusion of additional features such as bond deposit servicing and system development; and (iii) structuring of the "bond coin," which will include a clearing and settlement infrastructure using the digital token.

Viet Nam

Yield Movements

Local currency (LCY) government bond yields in Viet Nam declined for all tenors between 31 August and 15 October, resulting in a downward shift of the yield curve (**Figure 1**). Yields fell an average of 21 basis points (bps) for the 2-year through 10-year maturities, while yields at the very short-end (1-year) and the very long-end (15-year) of the curve shed 9 bps and 6 bps, respectively. The spread between the 2-year and 10-year maturities widened to 89 bps on 15 October from 82 bps on 31 August.

Figure 1: Viet Nam's Benchmark Yield Curve—Local Currency Government Bonds



Source: Based on data from Bloomberg LP.

The decline in interbank rates drove yields lower during the review period, and liquidity conditions in the banking system improved in September. The State Bank of Vietnam is expected to keep interest rates steady for the rest of the year to support economic growth, and opts to use other monetary tools to curb inflation. The central bank has been engaging in open market operations to manage liquidity and intervening in the foreign exchange market to stabilize the VND–USD exchange rate. Between 31 August and 15 October, the value of the Vietnamese dong versus the United States (US) dollar was little changed, falling a marginal 0.2%.

Real gross domestic product growth in Viet Nam reached 7.0% year-on-year (y-o-y) in the first 3 quarters of the year, marginally lower than the 7.1% y-o-y growth posted in the first 2 quarters of 2018. The year-to-date gross domestic product growth in the third quarter (Q3) of 2018 exceeded the 6.7% target set by the National Assembly for full-year 2018. Growth moderated in all major sectors except the services sector, which grew at the same pace as in the previous period at 6.9% y-o-y. For Q3 2018, economic growth climbed to 6.9% y-o-y following a revised 6.7% y-o-y hike in the previous quarter.

Consumer price inflation rose to its highest level in 2018 at 4.7% y-o-y in June before easing to 4.5% y-o-y in July. It further decelerated to 4.0% y-o-y in August and held steady at that level in September. Inflation pressures, however, remain over concerns of higher oil prices in the global market and elevated food prices. For the first 9 months of the year, inflation was still within the target set by the National Assembly for full-year 2018, which is capped at 4.0%.

Unlike other bond markets in emerging East Asia, Viet Nam's debt market is not sensitive to the normalization of monetary policy in the United States (US) because bonds are largely held by domestic investors, particularly commercial banks. However, Viet Nam's LCY bond market has been indirectly impacted by the US dollar strengthening vis-à-vis most regional currencies. Market participants in the *AsianBondsOnline* 2018 Liquidity Survey noted that market conditions were more affected by trade tensions between the US and the People's Republic of China, partly because these two markets are among their largest trading partners. Concerns that the US may impose trade sanctions on Viet Nam also surfaced.

Size and Composition

The size of Viet Nam's LCY bond market climbed to VND1,232.4 trillion at the end of September, up 5.0% quarter-on-quarter (q-o-q) and 15.7% y-o-y (**Table 1**). Viet Nam's growth rates were the third-fastest in emerging East Asia on a q-o-q basis and the fastest on a y-o-y basis, albeit coming from a low base.

Government bonds. At the end of September, the aggregate size of the LCY government bond market reached VND1,152.8 trillion on growth of 5.2% q-o-q and 14.7% y-o-y. Growth was largely driven by increases in the stock of Treasury bonds issued by the State Treasury. To a lesser extent, central bank bills

Table 1: Size and Composition of the Local Currency Bond Market in Viet Nam

	Outstanding Amount (billion)						Growth Rate (%)			
	Q3 2017		Q2 2018		Q3 2018		Q3 2017		Q3 2018	
	VND	USD	VND	USD	VND	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	1,065,267	47	1,173,232	51	1,232,354	53	3.2	0.7	5.0	15.7
Government	1,004,843	44	1,095,953	48	1,152,839	49	2.9	0.4	5.2	14.7
Treasury Bonds	797,098	35	857,454	37	896,681	38	1.0	7.8	4.6	12.5
Central Bank Bills	21,000	0.9	58,400	3	75,010	3	–	(70.0)	28.4	257.2
Government-Guaranteed and Municipal Bonds	186,745	8	180,099	8	181,148	8	(0.5)	(2.4)	0.6	(3.0)
Corporate	60,424	3	77,279	3	79,515	3	9.2	6.3	2.9	31.6

– = not applicable, ( ) = negative, LCY = local currency, q-o-q = quarter-on-quarter, Q2 = second quarter, Q3 = third quarter, USD = United States dollar, VND = Vietnamese dong, y-o-y = year-on-year.
Notes:
1. Bloomberg LP end-of-period LCY–USD rates are used.
2. Growth rates are calculated from an LCY base and do not include currency effects.
Sources: Bloomberg LP and Vietnam Bond Market Association.

issued by the State Bank of Vietnam also contributed to the growth. The stock of government-guaranteed and municipal bonds were broadly unchanged during the review period.

Treasury bonds continued to account for the largest share of government bonds in Viet Nam, representing a 77.8% share of the government bond total at the end of September. The total stock of Treasury bonds reached VND896.7 trillion at the end of September, up 4.6% q-o-q and 12.5% y-o-y. During the quarter, issuance of new Treasury instruments climbed on both a q-o-q and y-o-y basis.

At the end of September, the outstanding size of central bank bills rose to VND75.0 trillion on growth of 28.4% q-o-q and 257.2% y-o-y. In Q3 2018, issuances of central bank bills declined as liquidity conditions were mostly tight in July and August, dragging down the quarterly issuance volume. Liquidity conditions slightly improved in September, allowing the State Bank of Vietnam to resume a much larger volume of central bank bill issuance.

The outstanding amount of government-guaranteed and municipal bonds was broadly unchanged at the end of September, reaching VND181.1 trillion, up 0.6% q-o-q but declining 3.0% y-o-y.

Corporate bonds. The outstanding amount of LCY corporate bonds rose to VND79.5 trillion at the end of September, posting a 2.9% q-o-q expansion in Q3 2018. On a y-o-y basis, the corporate bond market grew at a much faster pace of 31.6% y-o-y in Q3 2018. Based on data compiled from Bloomberg, the entire LCY corporate bond market of Viet Nam comprises 41 institutions.[15] About 90% of corporate bonds in Viet Nam are issued via private placement, making it difficult to compile information on these issues.

At the end of September, the 30 largest corporate bond issuers had an aggregate bond size of VND77.5 trillion (**Table 2**). This accounted for 97.5% of the total corporate bond stock during the review period. The composition of the top three issuers was unchanged from the list at the end of June. At the top spot was Masan Consumer Holdings with outstanding bonds valued at VND11.1 trillion. In the second and third spots were real-estate firm Vingroup (VND10.6 trillion) and state-owned bank Vietnam Joint Stock Commercial Bank for Industry and Trade (VND8.2 trillion), respectively.

In Q3 2018, a lone corporate issuer raised funds from the bond market. Pan Group raised VND1.1 trillion of 5-year bonds with a fixed coupon rate of 6.8%.

[15] As most bonds in Viet Nam are issued via private placement, our data on corporate bonds may be understated.

Table 2: Top 30 Issuers of Local Currency Corporate Bonds in Viet Nam

	Issuers	Outstanding Amount		State-Owned	Listed Company	Type of Industry
		LCY Bonds (VND billion)	LCY Bonds (USD billion)			
1.	Masan Consumer Holdings	11,100	0.48	No	No	Diversified Operations
2.	Vingroup	10,600	0.45	No	Yes	Real Estate
3.	Vietnam Joint Stock Commercial Bank for Industry and Trade	8,200	0.35	Yes	Yes	Banking
4.	Asia Commercial Joint Stock Bank	4,600	0.20	No	No	Banking
5.	Hoang Anh Gia Lai	4,000	0.17	No	Yes	Real Estate
6.	No Va Land Investment Group	3,800	0.16	No	Yes	Real Estate
7.	Bank for Investment and Development of Vietnam	3,050	0.13	Yes	Yes	Banking
8.	Masan Group	3,000	0.13	No	Yes	Finance
9.	Vietnam Prosperity Joint Stock Commercial Bank	3,000	0.13	No	Yes	Banking
10.	Vietnam Technological and Commercial Joint Stock Bank	3,000	0.13	No	No	Banking
11.	Sai Dong Urban Investment and Development	2,600	0.11	No	No	Real Estate
12.	Hoang Anh Gia Lai International Agriculture	2,217	0.10	No	Yes	Agriculture
13.	Joint Stock Commercial Bank for Foreign Trade of Vietnam	2,000	0.09	Yes	Yes	Banking
14.	Ho Chi Minh City Infrastructure Investment	1,830	0.08	No	Yes	Infrastructure
15.	Vietnam Electrical Equipment	1,800	0.08	No	Yes	Manufacturing
16.	Saigon Securities	1,450	0.06	No	Yes	Finance
17.	Agro Nutrition International	1,300	0.06	No	No	Agriculture
18.	Saigon-Hanoi Securities	1,150	0.05	No	Yes	Finance
19.	Mobile World Investment	1,135	0.05	No	Yes	Manufacturing
20.	Pan Group	1,135	0.05	No	Yes	Consumer Services
21.	DIC Corporation	1,000	0.04	Yes	No	Chemicals
22	TTC Education Joint Stock Company	951	0.04	No	No	Education Services
23.	Vietnam Bank for Agriculture and Rural Development	760	0.03	Yes	No	Banking
24.	Kinh Bac City Development Holding	700	0.03	No	Yes	Real Estate
25.	Nam Long Investment	660	0.03	No	Yes	Real Estate
26.	Sai Gon Thuong Tin Real Estate Joint Stock	600	0.03	No	Yes	Real Estate
27.	Khang Dien House Trading and Investment	534	0.02	No	Yes	Building and Construction
28.	An Phat Plastic & Green Environment	450	0.02	No	Yes	Industrial
29	Cuu Long Pharmaceutical Company	450	0.02	No	Yes	Manufacturing
30.	Thanh Thanh Cong-Bien Hoa Joint Stock Company	450	0.02	No	Yes	Industrial
Total Top 30 LCY Corporate Issuers		**77,523**	**3.33**			
Total LCY Corporate Bonds		**79,515**	**3.41**			
Top 30 as % of Total LCY Corporate Bonds		**97.5%**	**97.5%**			

LCY = local currency, USD = United States dollar, VND = Vietnamese dong.
Notes:
1. Data as of 30 September 2018.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
Sources: *AsianBondsOnline* calculations based on Bloomberg LP and Vietnam Bond Market Association data.

Policy, Institutional, and Regulatory Developments

State Treasury Lowers Bond Issuance Plan for 2018

In October, the State Treasury lowered its bond issuance plan for 2018 to VND175 trillion from VND200 trillion as originally planned. The breakdown of issuance volume for each maturity is as follows: (i) 5-year bonds at VND31 trillion, (ii) 7-year bonds at VND11 trillion, (iii) 10-year bonds at VND64 trillion, (iv) 15-year bonds at VND51 trillion, (v) 20-year bonds at VND9 trillion, and (vi) 30-year bonds at VND9 trillion.

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This publication reviews recent developments in East Asian local currency bond markets along with the outlook, risks, and policy options. It covers the 10 members of the Association of Southeast Asian Nations and the People's Republic of China; Hong Kong, China; and the Republic of Korea.

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ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 67 members—48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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