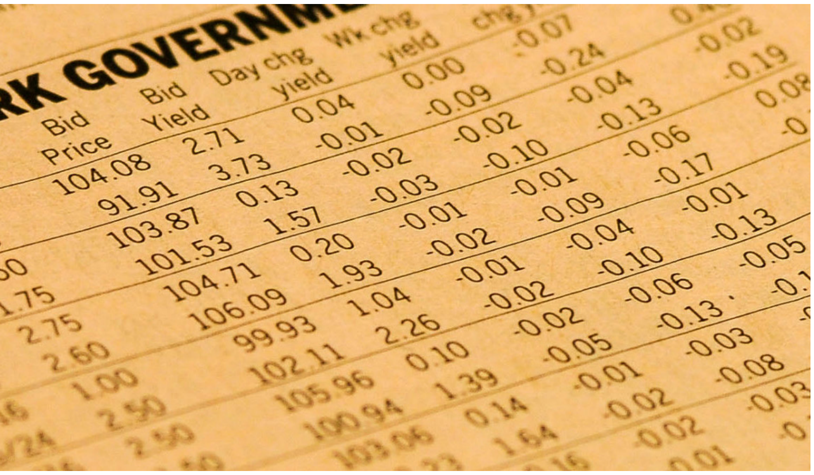

ASIA BOND MONITOR

JUNE 2017

ASIAN DEVELOPMENT BANK

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How to reach us:
Asian Development Bank
Economic Research and Regional Cooperation Department
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
Tel +63 2 632 6688
Fax +63 2 636 2183
E-mail: asianbonds_feedback@adb.org

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ASIAN DEVELOPMENT BANK

6 ADB Avenue, Mandaluyong City, 1550 Metro Manila, Philippines
Tel +63 2 632 4444; Fax +63 2 636 2444
www.adb.org

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Highlights

Bond Market Outlook

The continued improvement in global economic prospects helped drive yields lower in most markets in emerging East Asia amid positive investor sentiment.[1] Between 1 March and 15 May, yields for both 2-year and 10-year government bonds declined in most emerging East Asian markets.

Among all bond markets in emerging East Asia, Indonesia experienced the largest decline in yields during the review period, driven by positive investor sentiment and an expected credit rating upgrade from Standard and Poor's (S&P) Global Ratings.[2]

While there was a slowdown in the United States (US) economic growth in the first quarter (Q1) of 2017, the Federal Reserve expects this to be temporary.

Economic growth is also picking up in other developed economies. The European Central Bank upgraded its 2017 forecasts for growth and inflation. The latest forecasts from the International Monetary Fund and Asian Development Bank both show better global growth prospects.

Financial stability has improved as evidenced by declines in emerging East Asia's credit spreads. Foreign capital flows in emerging East Asia have also recovered.

Despite improved financial stability and receding risks for emerging East Asia's bond markets, a number of risks remain, including tightening global liquidity conditions and the vulnerability of financial markets to cyberattacks.

This issue of the *Asia Bond Monitor* includes two special discussion boxes. Box 1 discusses the risks to emerging Asia's financial stability under tightening global liquidity conditions. Box 2 discusses cybersecurity and financial stability.

Local Currency Bond Market Growth in Emerging East Asia

Emerging East Asia's local currency (LCY) bond market continued to expand in Q1 2017, with outstanding bonds reaching USD10,513 billion at the end of March. A slowdown in the People's Republic of China's (PRC) bond market expansion, however, dragged down the region's overall growth.

In terms of size, the PRC remained the largest LCY bond market in the region, representing a 68.9% share of emerging East Asia's aggregate bond stock. The PRC's bond market growth slowed in Q1 2017 amid rising credit concerns and the government's associated deleveraging efforts.

The LCY bond market in emerging East Asia mainly comprises government bonds, which amounted to USD6,819 billion and represented a 64.9% share of the region's total bond stock at the end of March. The corporate bond segment reached USD3,694 billion and accounted for the remaining 35.1% share.

As a share of gross domestic product (GDP), emerging East Asia's bond market was the equivalent of 68.5% of the region's GDP at the end of March, marginally lower than 68.9% at the end of December. The Republic of Korea remained the market with the largest share of LCY bonds to GDP at 126.5%.

LCY bond issuance in emerging East Asia was lower at USD852 billion in Q1 2017 versus USD946 billion in the prior quarter, due largely to a decline in issuance from the PRC.

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[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.
[2] On 19 May, S&P Global Ratings raised Indonesia's sovereign credit rating to investment grade.

Structural Developments in Local Currency Bond Markets

Offshore holdings of LCY government bonds rose in Q1 2017 for most emerging East Asian markets where data are available. Investor sentiment turned positive amid an improving global economic outlook in most developed markets.

The largest gain was noted in Indonesia where the foreign holdings' share climbed to 38.2% at the end of March amid positive investor sentiment on the back of improved macroeconomic and financial conditions, and an expected upgrade from S&P.

The foreign holdings' share also climbed in Thailand, gaining 0.6 percentage points to reach 14.7% at the end of March. The only exception to this trend was Malaysia as foreign investors shed their holdings of government bonds by 6.6 percentage points during the review period.

In Q1 2017, foreign capital flows were positive in all four markets for which data are available except for Malaysia. In April, however, Malaysia posted an inflow into its bond market after 5 consecutive months of capital outflow.

Local Currency Bond Yields

LCY government bond yields fell between 1 March and 15 May for most tenors in most markets in emerging East Asia on the back of improved investor sentiment. The PRC was notable as it was the only market whose entire yield curve shifted upward due to rising credit concerns and the government's efforts to deleverage to reduce risk. The Philippines had a rise in most yields due to increased concerns about inflation.

The 2-year versus 10-year yield spread fell for all markets except in the Republic of Korea, the Philippines, and Thailand.

Theme Chapter: Do Local Currency Bond Markets Enhance Financial Stability? Some Empirical Evidence

It has long been argued that LCY bond markets enhance financial stability in developing markets. In particular, LCY bond markets that offer bonds of varying maturities can mitigate the double (currency and maturity) mismatch problem that lay at the heart of the 1997/1998 Asian financial crisis.

The theme chapter empirically investigates the role of LCY bond markets in enhancing financial stability in developing markets. This research analyzes and compares the financial vulnerability of developing economies during two episodes of financial stress: the Global Financial Crisis and the so-called "Taper Tantrum."

Empirical evidence shows that economies with a greater expansion in between the two episodes experienced less currency depreciation, which is a measure of financial vulnerability, during the "Taper Tantrum." This evidence indicates the stabilizing role of LCY bond markets. However, there is no evidence of a stabilizing effect for stock market development.

This study provides quantitative evidence to the notion that LCY bond markets protect the financial systems of developing economies by mitigating external shocks.

Introduction: Strengthened Global Growth Prospects Push Down Yields in Emerging East Asia

Positive sentiment over global economic growth fueled gains in most asset markets across emerging East Asia.[3] Between 1 March and 15 May, yields for both 2-year and 10-year bonds declined across emerging East Asia, except in the People's Republic of China (PRC) and the Philippines (**Table A**). The yields for both 2-year and 10-year yields rose in the PRC as the authorities raised interest rates on reverse repurchase agreements and lending facilities, and pushed through measures to foster deleveraging. In the Philippines, yields were driven higher by rising inflation and significant retail Treasury bond issuance. Indonesia experienced the largest drop in its 10-year yield, with a decline of 49 basis points (bps), due to positive investor sentiment and an expected credit rating upgrade from Standard & Poor's (S&P) Global Ratings, the only rating agency that had placed Indonesia below investment grade.[4] In the Republic of Korea, where domestic political uncertainties are receding in the aftermath of a presidential election on 9 May that produced a clear-cut winner, the 10-year yield rose but the 2-year yield fell. In Singapore, the 10-year yield fell but the 2-year yield rose marginally. In Thailand, the 2-year yield fell slightly while the 10-year yield rose marginally.

Between 1 March and 15 May, 2-year government bond yields in developed markets rose on the back of the United States (US) Federal Reserve's first interest rate hike of the year on 15 March. On the other hand, 10-year bond yields in developed markets were mostly lower due to slower-than-expected US economic growth in the first quarter (Q1) of 2017 (**Figures A1, A2**).

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	1	(11)	–	0.3	–
United Kingdom	2	(6)	(4)	(0.3)	4.9
Japan	8	(2)	1	1.5	(0.9)
Germany	15	14	(5)	6.1	4.1
Emerging East Asia					
China, People's Rep. of	65	24	(11)	(4.8)	(0.2)
Hong Kong, China	(36)	(39)	–	6.7	(0.3)
Indonesia	(32)	(49)	3	6.1	0.5
Korea, Rep. of	(2)	15	14	9.5	1.8
Malaysia	(2)	(26)	(3)	4.8	2.8
Philippines	40	65	(6)	1.3	1.3
Singapore	1	(21)	–	4.5	0.8
Thailand	(3)	1	3	(1.9)	1.3
Viet Nam	39	(11)	(7)	2.2	0.5
Select European Markets					
Greece	(148)	(113)	(379)	19.2	4.1
Ireland	(3)	(3)	(23)	5.2	4.1
Italy	(11)	0.6	(21)	12.1	4.1
Portugal	(30)	(80)	(71)	11.4	4.1
Spain	(8)	(5)	(6)	12.4	4.1

( ) = negative, – = not available, bps = basis points, FX = foreign exchange.
Notes:
1. Data reflect changes between 1 March 2017 and 15 May 2017.
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.

[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] On 19 May, S&P Global Ratings raised Indonesia's sovereign credit rating to investment grade.

Figure A1: 10-Year Government Bond Yields

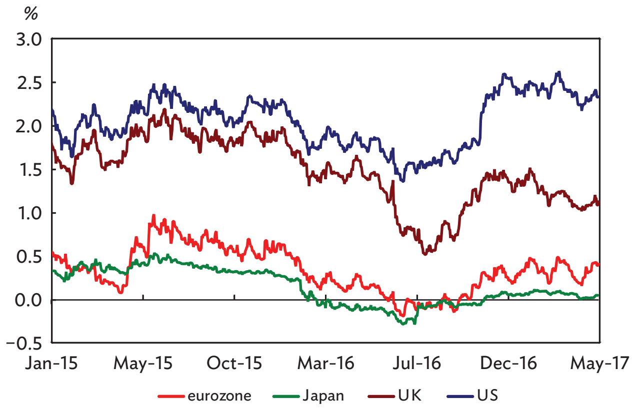
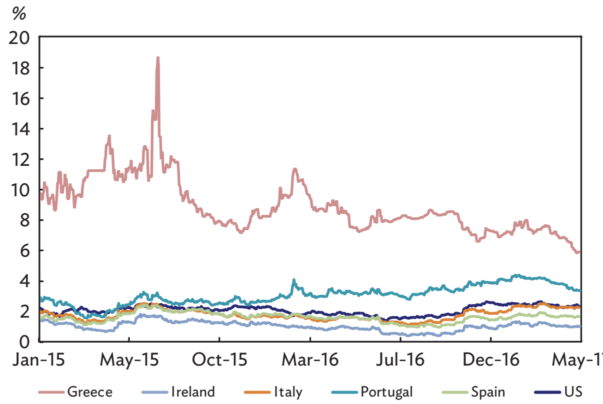


Figure A2: 10-Year Government Bond Yields



UK = United Kingdom, US = United States.
Source: Bloomberg LP.

Data releases showed that growth slowed in the US in Q1 2017, with gross domestic product (GDP) expanding at an annual rate of 1.2%, lower than the corresponding figure of 2.1% in the preceding quarter. Nonfarm payrolls added only 50,000 jobs in March, down from 232,000 in February. Uncertainties relating to tensions in the Democratic People's Republic of Korea and presidential elections in France boosted demand for safe-haven assets. Germany was the exception in Q1 2017 due to a rise in inflation, which stood at 2.2% year-on-year (y-o-y) in February, the highest level in 4 years, before falling to 1.5% y-o-y in May. Nonetheless, overall investor sentiment remains positive and markets expect the global economic upturn to gain momentum.

Global and emerging East Asian financial markets are keeping a close eye on the ongoing process of US monetary policy normalization. In the minutes of its monetary policy meeting on 3 May, the Federal Reserve noted that US economic growth has slowed in Q1 2017. Also, the US inflation rate declined to 2.4% y-o-y in March from 2.7% y-o-y in February, and fell further in April to 2.2% y-o-y. Nonfarm payrolls recovered in April, adding 174,000 jobs from 50,000 jobs in March. In May, nonfarm payrolls slowed again, adding only 138,000 jobs. However, the unemployment rate is declining, hitting a 16-year low of 4.3% in May. The Federal Reserve indicated that it believes the weakness in economic growth is temporary, noting that both consumption and business investment remain strong. Overall, markets continue to expect one or two more interest rate hikes by the Federal Reserve this year and, more broadly, a continuation of monetary policy normalization, which may also involve the Federal Reserve reducing the vast amounts of government securities that it acquired during three rounds of quantitative easing. This type of balance sheet normalization would contribute to tighter global liquidity conditions (**Box 1**).

The monetary policies of other advanced economies may also impinge upon global liquidity. The European Central Bank (ECB) has maintained accommodative monetary policy and asset purchases. The reduction in asset purchases from EUR80 billion to EUR60 billion took effect in April and is expected to continue until the end of December 2017. While the ECB noted that monetary policy will need to remain accommodative to meet its economic and inflation targets, it noted that downside risks have abated. In March, the ECB upgraded its 2017 GDP growth forecast from 1.7% to 1.8%. Headline inflation was revised upward from 1.3% to 1.7% for 2017, and from 1.5% to 1.6% for 2018.

The Bank of Japan (BOJ) announced that its monetary policy will need to remain supportive of growth for the time being. The BOJ noted that inflation is inching up but the underlying trend is still not firm enough. The BOJ expects domestic economic growth to be strong and exceed its long-term growth potential in the short term. Japan's GDP growth in Q1 2017 came in at an annualized pace of 1.0%. The Japanese economy appears to be on

Box 1: Emerging Asia's Financial Stability under Tightening Global Liquidity Conditions

With growth in the major industrialized economies gaining solid traction, the *Asian Development Outlook 2017* has revised its 2017 growth outlook for the eurozone and Japan from 1.4% and 0.8% to 1.6% and 1.0%, respectively. The strongest industrialized economy remains the United States (US), where growth is projected to reach 2.4% in 2017. In the first quarter (Q1) of 2017, the eurozone achieved healthy quarter-on-quarter growth rate of 0.6%.[a] The US economy grew at an annualized rate of 1.2% in Q1 2017, but according to the Federal Reserve, the slowdown is temporary and growth fundamentals remain robust.[b] Employment also point to strong growth momentum in the US. Labor market remained robust with a 16-year low of 4.3% in May.[c] Meanwhile, global political risk has receded significantly with the conclusion of the French presidential election, further improving global investor sentiment.

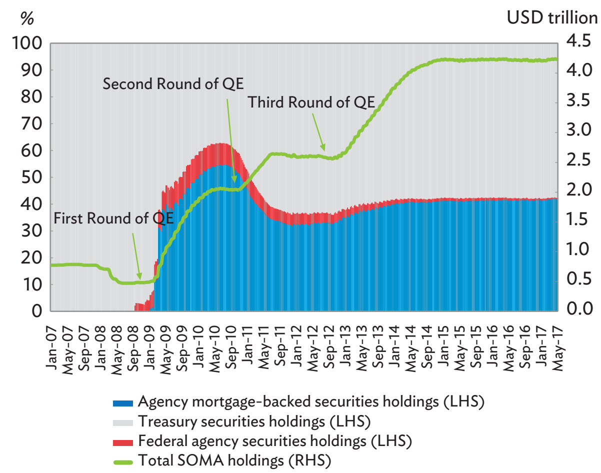
With risks declining and economic fundamentals strengthening, the Federal Reserve is likely to continue the normalization of its monetary policy. In the minutes of the Federal Open Market Committee March meeting, the federal funds rate was projected to continue rising to 1.4% and 2.1% by the end of 2017 and 2018, respectively.[d] While the Federal Reserve kept the System Open Market Account (SOMA) reinvestment policy unchanged, the minutes also implied a possible change in the reinvestment policy of the SOMA holdings of Treasury and agency securities later this year. The normalization of the Federal Reserve's balance sheet may have a more pronounced impact on global liquidity conditions than policy rate hikes.

Possible effects of the Federal Reserve's balance sheet normalization on Emerging Asia's financial markets

To accommodate economic recovery and improve financial conditions, the Federal Reserve conducted three rounds of quantitative easing (QE)—in November 2008, November 2010, and September 2012—by purchasing agency securities, mortgage-backed securities, and Treasuries. Between November 2008 and October 2014, when the Federal Reserve ended its quantitative easing program, the size of the Federal Reserve's securities holdings increased from USD0.48 trillion to USD4.20 trillion (**Figure B1.1**). As the US economy gradually recovered from the Global Financial Crisis, the Federal Reserve started to normalize monetary policy, publishing *Policy Normalization Principles and Plans* in September 2014.[e] The Federal Reserve has raised policy rates three times by a total of 75 basis points since December 2015 and kept the size of the SOMA portfolio stable by reinvesting the principal repayments of maturing securities to keep long-term interest rates low and thus foster accommodative financial conditions.

Policy rate hikes directly affect short-term interest rates and may raise long-term interest rates when economic fundamentals become robust. The increase in financing costs could be offset by higher capital returns under solid economic growth and accommodative financial conditions. However, the normalization of the Federal Reserve's balance sheet will affect accommodative liquidity conditions by

Figure B1.1: Size and Composition of the System Open Market Account Portfolio



LHS = left-hand side, QE = quantitative easing, RHS = right-hand side, USD = United States dollar.
Note: Data as of 3 May 2017.
Source: Federal Reserve Bank of New York. System Open Market Account Holdings.

[a] For the eurozone, the growth figure is taken from Eurostat. http://ec.europa.eu/eurostat/documents/2995521/8057546/2-08062017-AP-EN.pdf/8321df8a-ba1b-433e-9cdc-bfd81e3f4a45

[b] For the US, the growth figure is the second estimate of the Department of Commerce. https://www.bea.gov/newsreleases/national/gdp/2017/gdp1q17_2nd.htm. The Federal Reserve reference is based on the minutes of the Federal Open Market Committee meetings in March. https://www.federalreserve.gov/monetarypolicy/fomcminutes20170315.htm and May https://www.federalreserve.gov/monetarypolicy/fomcminutes20170503.htm

[c] For the unemployment rate, the growth figure is based on https://www.bls.gov/news.release/empsit.nr0.htm

[d] https://www.federalreserve.gov/monetarypolicy/fomcminutes20170315ep.htm

[e] https://www.federalreserve.gov/newsevents/pressreleases/monetary20140917c.htm

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Box 1: Emerging Asia's Financial Stability under Tightening Global Liquidity Conditions

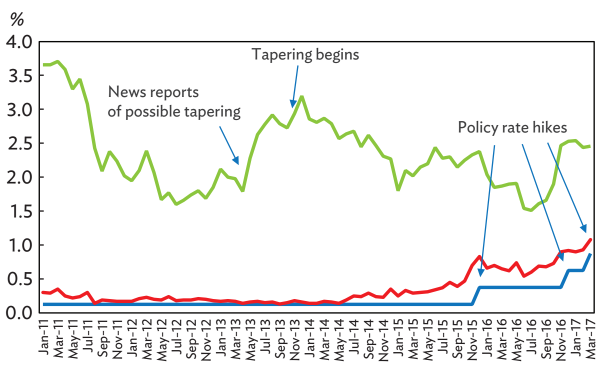
continued

reducing the supply of narrow money. Financial markets, especially bond markets, may react quickly and price in the reduction of market liquidity, pushing up the entire yield curve (**Figure B1.2**).

The "Taper Tantrum" episode in 2013 offers valuable lessons. On 22 May 2013, Chairman Ben Bernanke first hinted at a possible phase out of the Federal Reserve's asset purchase program. In June, the Federal Reserve again indicated a potential cut in its asset purchases by the end of the year. Financial markets immediately priced in this information during the second quarter of 2013, well before the Federal Reserve started to taper its bond purchases in December 2013. By the end of 2013, the spot yield on 10-year Treasury bonds had shot up to 3.2%, and the term spread between 1-year and 10-year Treasury bonds had widened to 3.0%. Bond yields rose and bond trading volume shrank in emerging Asian bond markets in anticipation of tighter financial conditions (**Figures B1.3a, B1.3b**).[f] Figure B1.3a shows that the impact of the Taper Tantrum on emerging Asian sovereign bond yields was generally greater than the Federal Reserve's subsequent policy rate hikes.

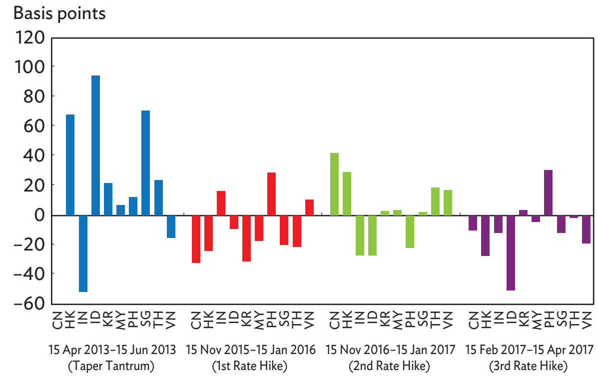
The Federal Reserve signaled in its March 2017 meeting of the Federal Open Market Committee that the normalization

Figure B1.2: Bond Yield Reactions to Policy Rate Hikes and Asset Purchase Tapering



Note: Policy rate and Treasury nominal coupon spot yield are in a percentage and recorded at the end of each month.
Source: Haver Analytics.

Figure B1.3a: Changes in Yields on 10-Year Sovereign Bonds in Emerging Asia

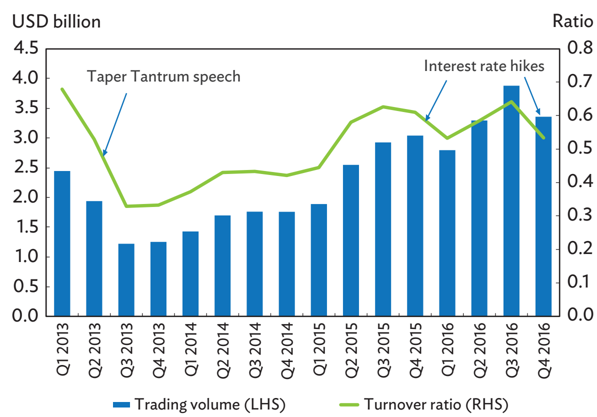


CN = People's Republic of China, HK = Hong Kong, China, ID = Indonesia, IN = India, KR = Republic of Korea, MY = Malaysia, PH = Philippines, SG = Singapore, TH = Thailand, and VN = Viet Nam.

Notes:
1. Emerging Asia comprises the People's Republic of China; Hong Kong, China; India; Indonesia; the Republic of Korea; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam.
2. Intervals reflect 1 month prior and 1 month after the taper announcement and interest rate hikes.
3. For the People's Republic of China, there was no change in 10-year sovereign bond yields for the period between 15 April 2013 and 15 June 2013.

Source: Bloomberg LP.

Figure B1.3b: Quarterly Trading Volumes and Turnover Ratios of Sovereign Bonds in Emerging East Asia



LHS = left-hand side, Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter, RHS = right-hand side.

Notes:
1. Emerging East Asia comprises the People's Republic of China; Hong Kong, China; Indonesia; the Republic of Korea; Malaysia; Singapore; and Thailand.
2. Quarterly trading volume figures are based on 31 December 2016 currency exchange rates and do not include currency effects.

Source: *AsianBondsOnline*.

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

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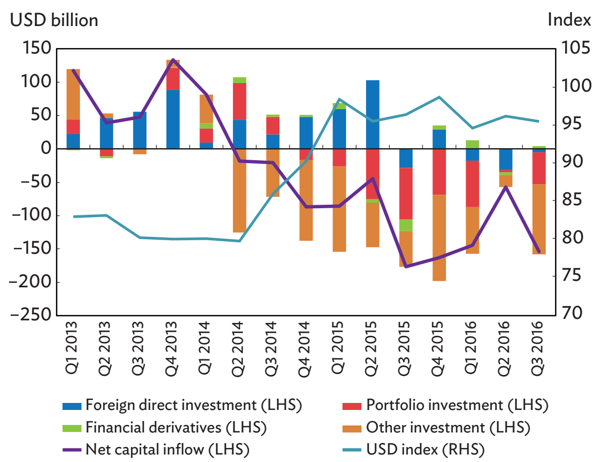
Box 1: Emerging Asia's Financial Stability under Tightening Global Liquidity Conditions *continued*

of its portfolio holdings may start at the end of 2017. The reduction in the Federal Reserve's security holdings and further policy rate hikes would both push up the US dollar and trigger capital outflows from emerging Asia. It is therefore important to understand the possible effects of the normalization of the Federal Reserve's balance sheet on emerging Asia's financial stability.

First, capital outflows can exert depreciation pressures. With the US economy strengthening, subsequent interest rate hikes will push up the US dollar. Shortly before US policy rate hikes in December 2016 and March 2017, emerging Asian currencies depreciated against the US dollar. Historically, capital flows to emerging Asian economies tend to be sensitive to the US dollar index (**Figure B1.4**). This is especially true for economies with flexible exchange rate regimes.

Figure B1.4: Capital Flows in Emerging Asia and the United States Dollar Index



LHS = left-hand side, Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter, RHS = right-hand side, USD = United States dollar.

Notes:

1. Emerging Asia comprises the People's Republic of China; Hong Kong, China; India; Indonesia; the Republic of Korea; Malaysia; the Philippines; Singapore; Taipei,China; Thailand; and Viet Nam.
2. For USD index, a value above (below) 100 indicates the appreciaition (depreciation) of the US dollar against major world currencies.

Sources: Bloomberg LP and Haver Analytics.

Second, long-term financing costs may rise. Given growing global financial integration, higher US bond yields could have a contagion effect on emerging Asian bond markets, raising the region's long-term financing costs. Higher financing costs would pressure valuations and push down financial asset prices, possibly influencing investment and growth.

Third, the higher level of foreign and domestic leverage in emerging Asia challenges regional financial stability. Currency depreciation increases the repayment burden of borrowers with US dollar-denominated debt.

In sum, US monetary tightening could spill over to emerging Asia, raising financing costs and curbing growth. Tighter liquidity would also harm the financing conditions of institutions with a high degree of leverage and significant debt exposure.

Risks could be mitigated in the short term, but a tighter liquidity stance would persist over a longer time horizon.

With the experience of the Taper Tantrum in mind, the Federal Reserve's *Policy Normalization Principles and Plans* indicated that the normalization of its balance sheet would be based on ceasing reinvestment of principal repayments rather than directly selling securities in the market. The gradual and predictable reduction of SOMA holdings is intended to minimize shocks to financial markets.

As of 3 May 2017, SOMA's security holdings stood at USD4.23 trillion. SOMA's securities that mature within the next 10 years are mostly Treasury securities. Around 59% of Treasury holdings, which are valued at USD1.45 trillion, will mature within the next 5 years (**Figures B1.5, B1.6**). Therefore, as the Federal Reserve gradually shrinks its balance sheet by ceasing to reinvest matured principal, its impact on financial markets could be manageable. In May 2016, the Federal Reserve Bank of New York conducted a small-value sale operation, selling less than USD250 million of Treasury securities with maturities of 2–3 years.[h] During the sale operation period, financial markets largely reacted calmly. While the US dollar index and equity markets remained stable, the 10-year Treasury bond yield and the volatility index rose initially, then reversed shortly thereafter (**Figure B1.7**).

[h] https://www.newyorkfed.org/markets/opolicy/operating_policy_160517a

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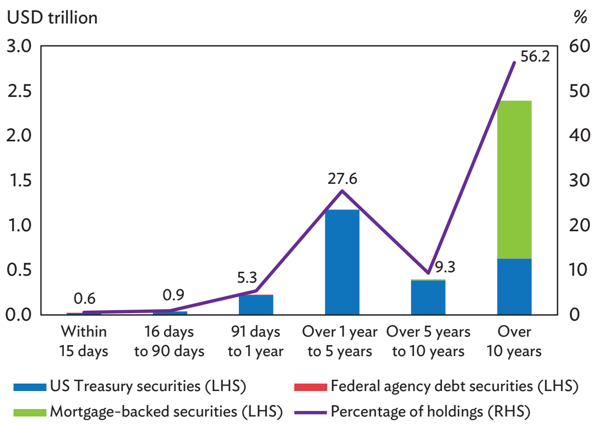
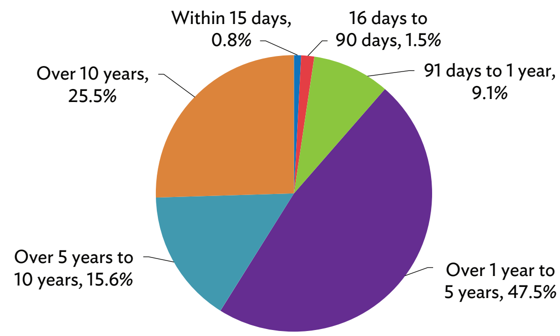
Box 1: Emerging Asia's Financial Stability under Tightening Global Liquidity Conditions
continued

Figure B1.5: Maturity Distribution of Total System Open Market Account Securities Holdings



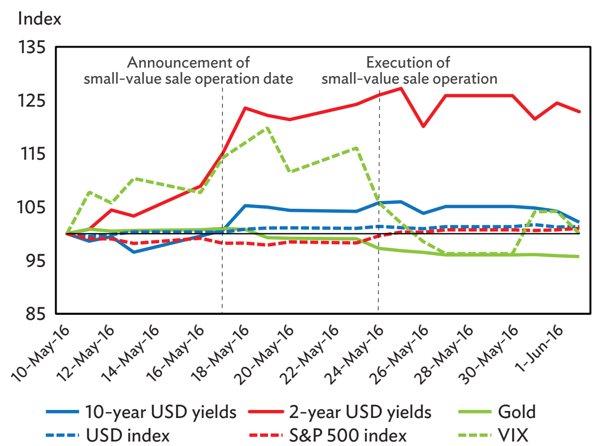
LHS = left-hand side, RHS = right-hand side.
Note: Data are as of 3 May 2017.
Source: The Federal Reserve of the United States.

Figure B1.6: Maturity Distribution of System Open Market Account Treasury Securities Holdings



Note: Data are as of 3 May 2017.
Source: The Federal Reserve of the United States.

Figure B1.7: Market Reaction to the Federal Reserve's Small-Value Sale Operation



S&P = Standard & Poor's, USD = United States dollar, VIX = Chicago Board Options Exchange Volatility Index.
Note: 10 May 2016 = 100.
Source: Bloomberg LP.

Given the gradual nature of the Federal Reserve's balance sheet normalization and strong economic fundamentals in emerging Asian economies, the possible spillover effects of US monetary policy in the region could be manageable in the short term. However, as political risks recede and economic growth gains momentum, the prospect of monetary policy normalization in the eurozone increases, at least over the medium term. Global financial conditions are trending tighter as global growth picks up. Against a backdrop of leverage built up during the past few years of easy money, it is time for emerging Asia to prepare itself for tightening global liquidity by strengthening financial conditions.

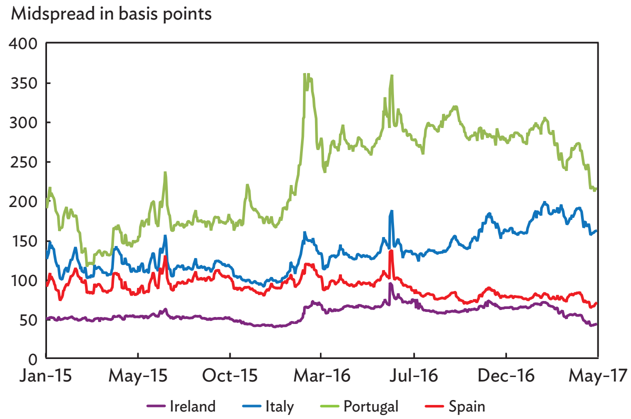
track to regain its momentum following the prolonged slowdown during 2014–2015, which was triggered by a consumption tax hike and emerging market weakness.

At a broader level, global growth prospects are brightening after an extended period of sluggishness. Until recently, the US economy was the sole bright spot in an otherwise gloomy picture, but growth is now picking up in other parts of the world. According to the International Monetary Fund's April forecast, global output is projected to expand 3.5% in 2017 and 3.6% in 2018, up from 3.1% in 2016. In tandem with global output, the volume of global trade is picking up too, with projected growth of 3.8% in 2017 and 3.9% in 2018, up from 2.2% in 2016. The recovery has become more broad-based as robust growth is projected for both advanced and developing economies, including developing Asia.[5] According to the Asian Development Bank's April forecast, developing Asia will grow by 5.7% in both 2017 and 2018. In the PRC, growth will reach 6.5% in 2017 and 6.2% in 2018.

Partly due to strengthening global growth prospects, financial stability has generally improved across the world. Long-term interest rates have risen, which will benefit the earnings of banks and insurance companies, while risk premiums and volatility have declined. Emerging East Asia is enjoying an improvement in its financial stability. Reflecting a more benign financial environment, credit default swap spreads are down across the region (**Figure B**). The improvement in financial stability is also evident in select European markets, where spreads have declined in Ireland, Italy, Portugal, and Spain (**Figure C**). Similar to the pattern observed for credit default swap spreads, US equity volatility index has declined, as has the emerging market bond spread (**Figure D**). Bond market spreads have also fallen in individual emerging East Asian markets (**Figure E**). In short, while there are some risks to global financial stability, the global financial environment has become more benign in line with the improved global economic outlook.

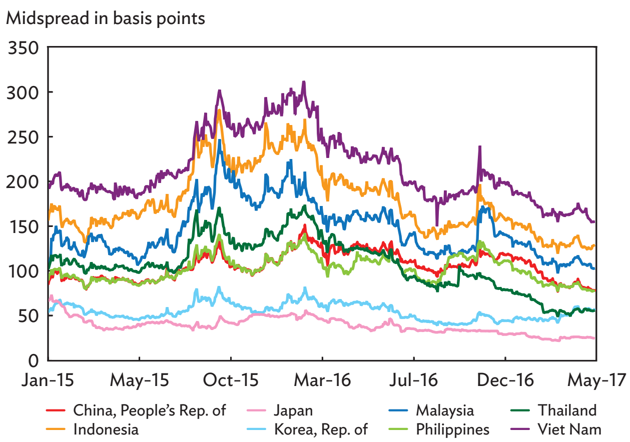
The improved global economic outlook is strengthening global investor sentiment. As a result, investors are rediscovering their risk appetite for emerging market assets. Foreign capital inflows have increased the share of foreign investors in local currency bond markets across emerging East Asia (**Figure F**). The largest gains

Figure C: Credit Default Swap Spreads for Select European Markets (senior 5-year)



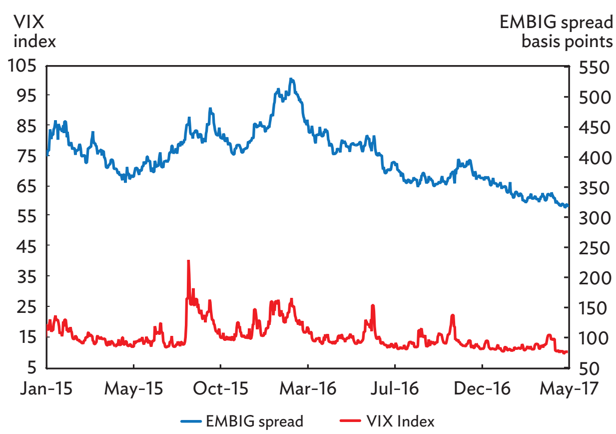
Notes:
1. Based on United States dollar-denominated sovereign bonds.
2. Data as of 15 May 2017.
Source: Bloomberg LP.

Figure B: Credit Default Swap Spreads (senior 5-year)



Notes:
1. Based on United States dollar-denominated sovereign bonds.
2. Data as of 15 May 2017.
Source: Bloomberg LP.

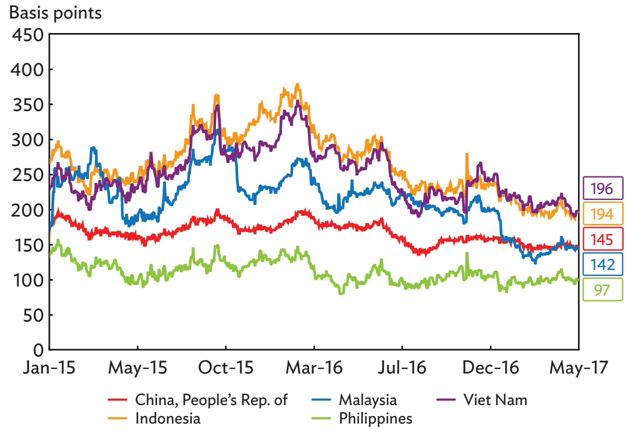
Figure D: United States Equities Volatility and Emerging Market Sovereign Bond Spreads



EMBIG = Emerging Markets Bond Index Global, VIX = Chicago Board Options Exchange Volatility Index.
Note: Data as of 15 May 2017.
Source: Bloomberg LP.

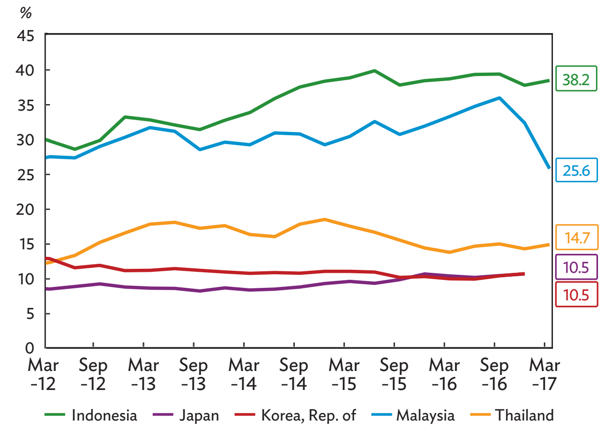
[5] Developing Asia comprises the 45 regional developing member economies of the Asian Development Bank.

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



Notes:
1. Based on United States dollar-denominated sovereign bonds.
2. Data as of 15 May 2017.
Source: Bloomberg LP.

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



Note: Data as of end-March 2017 except for Japan and the Republic of Korea (end-December 2016).
Source: *AsianBondsOnline*.

were seen in Indonesia, where the holdings share of foreign investors climbed 0.7 percentage points between the end of December 2016 and the end of March 2017. Indonesia's robust long-term growth prospects continue to attract foreign capital inflows. Malaysia was the only market that experienced a drop in its share of foreign investors during the review period, as the inability of investors to hedge their investments precipitated capital outflows.

Overall, the brightening global outlook and receding risks to global financial stability make for a benign environment for emerging East Asian local currency bond markets. Nevertheless, a number of downside risk factors remain. Some of these risk factors are specific to individual economies. For instance, on 24 May, Moody's Investor Service downgraded the PRC's sovereign credit rating from Aa3 to A1, citing financial risks due to growing debt. Following the PRC's downgrade, Hong Kong, China's sovereign credit rating was also downgraded by Moody's Investor Service. At the same time, the economies of the region face some common risks.

Above all, tightening global liquidity conditions may pose a threat to emerging East Asia's financial stability. The Federal Reserve raised the federal funds rate in March and the market consensus points to more increases later this year. Continuing US interest rate hikes could challenge the financial vulnerabilities of emerging markets by tightening global liquidity conditions and strengthening the US dollar. The balance sheets of emerging East Asian companies that borrowed heavily during the period of low global interest rates would be adversely affected. Those that borrowed in US dollars would be hit even harder. In addition to interest rate hikes, the Federal Reserve is likely to start reducing the vast amounts of US government securities it acquired during three rounds of quantitative easing. Such balance sheet normalization may further tighten global liquidity conditions and could pose risks to emerging financial markets. During the Taper Tantrum episode of May–June 2013, when then Federal Reserve chairman Ben Bernanke first hinted at tapering the asset purchase program, yields rose and trading volumes fell in emerging East Asian bond markets (**Box 1**). If the improved economic outlook and financial stability induces the central banks of other major advanced economies, especially the ECB, to normalize their monetary policies, then global liquidity will tighten even further.

The massive global cyberattack of May 2017 highlights the serious risks that cybersecurity poses to financial security (Box 2). The WannaCry ransomware attack, which was unprecedented in scale, infected more than 230,000 computers in over 150 countries and highlighted the vulnerability of financial systems to cybercrime. The vulnerability is likely to be even greater in developing economies, which tend to have weaker cybersecurity than advanced economies. The 2016 cyberattack against the central bank of Bangladesh, in which hackers used the SWIFT network to send fraudulent instructions for payment, underlines the severity of the risk. The hackers tried to steal almost USD1 billion from the country's foreign reserves and succeeded in taking USD101 million, of which only a portion has yet been recovered. The loss of almost USD1 billion would have seriously undermined public confidence in the central bank and threatened the stability of the entire financial system. There is a clear need for Asian financial regulators to strengthen cybersecurity.

Box 2: Cybersecurity and Financial Stability

The global cyberattacks of May 2017 highlighted the critical importance of cybersecurity for financial stability. The attackers disabled computers by encrypting data and demanded ransom payments in the Bitcoin cryptocurrency. The WannaCry ransomware cryptoworm attack started on 12 May and is widely viewed as having been unprecedented in scale. The attack infected over 230,000 computers in more than 150 markets around the world. The victims included global corporate heavyweights such as FedEx, Deutsche Bahn AG, and Telefonica, S.A. Shortly after the cyberattack began, a web security researcher found a way to kill the cryptoworm. As a result, the attack had been suppressed as of 19 May. While the researcher's actions averted a cyber disaster, the WannaCry episode underlines the vulnerability of information technology (IT) networks to cybercrime.

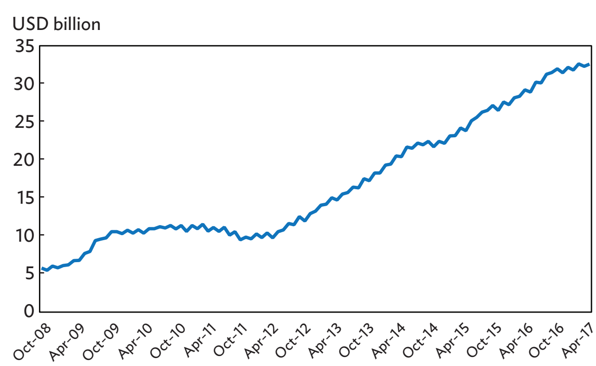
Perhaps nowhere is the potential for cybercrime greater than in the financial industry, which relies on IT networks to process transactions worth trillions of dollars. General cybercrime such as the WannaCry attacks, as well as financial cybercrime, affect both advanced economies and developing economies. However, developing economies tend to be more vulnerable to cybercrime due to their weaker, less-sophisticated cybersecurity infrastructure. Public confidence in developing economy financial systems, which are less developed than those of advanced economies, tends to be more fragile. Therefore, financial cybercrime has the potential to seriously undermine financial stability in developing economies, a potential that came to light during the cybertheft directed at the central bank of Bangladesh in 2016.

In February 2016, criminals accessed the SWIFT network, widely used around the world for banking transactions, to attempt to steal USD951 million of Bangladesh's foreign exchange reserves from Bangladesh's central bank (Bangladesh Bank). The perpetrators succeeded in withdrawing USD101 million from a Bangladesh Bank account at the Federal Reserve Bank of New York, and then diverted USD80 million to the Philippines and another USD21 million to Sri Lanka. Bangladesh Bank managed to recover the USD21 million traced to Sri Lanka. As of the end of 2016, it expected to recover a little more than half of the USD80 million traced to the Philippines.

The perpetrators were able to capitalize on weaknesses in the cybersecurity infrastructure of Bangladesh Bank to steal the funds. Then they used a global banking network, SWIFT, to shift funds across borders without raising any alarm bells. If the perpetrators had succeeded in stealing their target of USD951 million, the loss of such a significant amount of foreign reserves would have undermined public confidence in Bangladesh's central bank and its entire financial system (**Figure B2.1**). The Bangladesh Bank incident shows that in developing economies, even central banks may be subject to cybertheft.

Although the Bangladesh Bank theft is perhaps the most highly publicized incident of financial cybercrime in recent years, it is hardly a unique case. In an earlier

Figure B2.1: Bangladesh's International Reserves



USD = United States dollar.
Note: Data as of end-April 2017.
Sources: Bangladesh Bank and Haver Analytics.

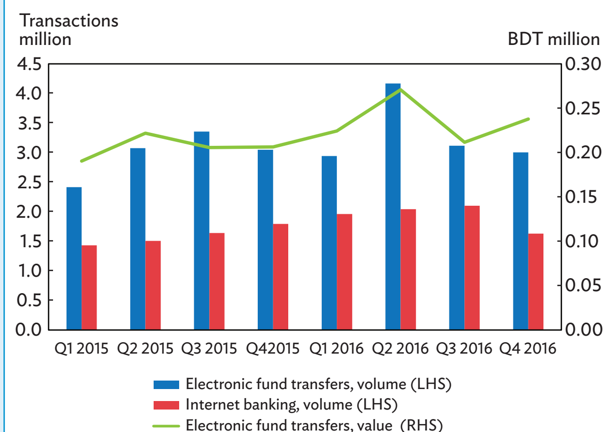
continued on next page

Box 2: Cybersecurity and Financial Stability *continued*

attack in Bangladesh in 2013, hackers stole USD250,000 from the Sonali Bank of Bangladesh. In December 2016, the Central Bank of Russia announced that hackers had taken USD31 million from its correspondent banks during the course of the year. A cyberattack took place against a commercial bank in Viet Nam around the time of the Bangladesh attack. In early 2015, there was a fraudulent transfer of funds from an Ecuadorian commercial bank to bank accounts in Hong Kong, China. As many as 12 banks across Southeast Asia may have suffered comparable attacks, which used a malware similar to the one used in the 2014 attacks against Sony Pictures. One of the common traits of the cyberattacks that occurred in 2015–2016 was the manipulation of the SWIFT banking network. Thus, the growing number of financial cybercrime incidents points to increased risk to financial security.

According to the Office of Financial Research, cybersecurity attacks threaten financial stability in different ways.[a] First, cybersecurity threats entail direct costs for banks and other financial institutions, including the loss of funds and added IT expenditures. Second, since financial companies are linked to each other and nonfinancial companies in complex digital networks that are based on electronic payments, cybersecurity incidents can create a broader risk to financial stability. Third, and related to the second point, a cyberattack that infects a systemically important bank or financial institution can have sizable spillover effects on the stability of the entire financial system. These potential costs and the experience of incidents such as the cybertheft of Bangladesh Bank underline the need for developing economies to strengthen the cybersecurity infrastructure of their banks and financial institutions. Given the growing threat that financial cybercrime poses to financial stability, the financial regulatory authorities of developing economies should consider including cybersecurity as part of their prudential supervision mandate. In addition to protecting financial stability, enhanced cybersecurity can promote the development of electronic banking and, more broadly, the use of IT services in financial services in Bangladesh and elsewhere (**Figure B2.2**).

Figure B2.2: E-Banking in Bangladesh



BDT = Bangladeshi taka, LHS = left-hand side, RHS = right-hand side.
Sources: Bangladesh Bank and Haver Analytics.

[a] Office of Financial Research. 2017. *OFR Viewpoint 17-01 Cybersecurity and Financial Stability: Risks and Resilience*. 15 February.

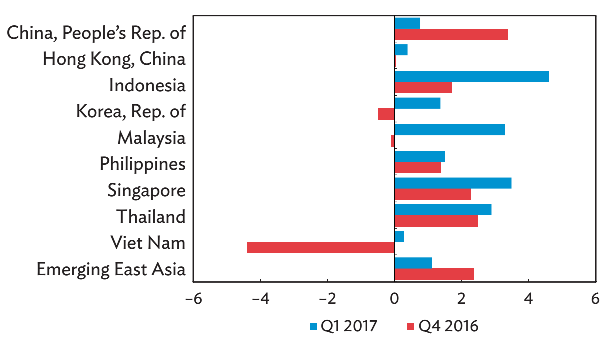
Bond Market Developments in the First Quarter of 2017

Size and Composition

Emerging East Asia's local currency bond market continued to expand in the first quarter of 2017 to reach a size of USD10.5 trillion at the end of March.

The outstanding size of emerging East Asia's local currency (LCY) bond market continued to expand in the first quarter (Q1) of 2017 to reach USD10,513 billion at the end of March.[6] However, growth moderated to 1.1% quarter-on-quarter (q-o-q) from 2.4% q-o-q in the previous quarter. A slowdown in the People's Republic of China's (PRC) bond market dragged down the region's overall growth (**Figure 1a**). All other markets in the region posted faster q-o-q growth rates in Q1 2017.

Figure 1a: Growth of Local Currency Bond Markets in the Fourth Quarter of 2016 and First Quarter of 2017 (q-o-q, %)



q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth 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 31 March 2017 currency exchange rates and do not include currency effects.
4. For Hong Kong, China, Q1 2017 corporate bonds outstanding are based on *AsianBondsOnline* estimates. For Singapore, corporate 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).

In terms of size, the PRC continued to account for the largest market in the region with outstanding bonds of USD7,245 billion at the end of March. However, its share of the region's aggregate LCY bond stock declined to 68.9% from 70.0% at the end of December. The overall growth of the PRC's bond market slowed to 0.8% q-o-q in Q1 2017 due to a decline in government bond issuance (except policy bank bonds) amid rising credit concerns and the associated deleveraging efforts to mitigate such risks. Growth in municipal bonds slowed to 3.6% q-o-q in Q1 2017 after rising 9.3% q-o-q in the fourth quarter (Q4) of 2016. New regulations announced in April capped debt issuance by riskier local governments. However, the People's Bank of China (PBOC) still expects an increase in local government bond issuance, raising its local government bond quota to CNY18.8 trillion (USD2.7 trillion) in 2017. Meanwhile, central bank bonds outstanding dropped to zero in Q1 2017 following the cessation of central bank bond issuance by the PBOC in 2014 and the redemption of remaining central bank bonds. The stock of corporate bonds in the PRC contracted on a q-o-q basis on declines in growth of medium-term notes and commercial papers.

The Republic of Korea's LCY bond market was the second largest in emerging East Asia with outstanding bonds of USD1,873 billion at the end of March on overall growth of 1.4% q-o-q. Growth was driven largely by the government bond segment, particularly Korea Treasury Bonds as the government frontloaded its issuance to fund nearly a third of its annual budget in Q1 2017. This was in line with efforts to pump-prime the economy. Growth in central bank bonds was also faster in Q1 2017 than in the previous quarter. The corporate bond segment continued to post marginal gains during the review period.

The outstanding size of Thailand's LCY bond market climbed to USD325 billion at the end of March on 2.9% q-o-q growth. Growth came mainly from government bonds, led by substantial increases in the stock of government bonds, Treasury bills, and central bank bonds. On the other hand, Thailand's corporate

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

bond segment posted a 0.2% q-o-q decline on a lower issuance volume in Q1 2017.

In Malaysia, the LCY bond market reached a size of USD272 billion on growth of 3.3% q-o-q in Q1 2017, reversing its 0.1% q-o-q contraction in the prior quarter. Growth was largely supported by gains in the government bond segment, particularly central government bonds, as well as the corporate bond segment due to increased issuance during the review period. Central bank bonds also contributed to the overall growth to a lesser extent.

At the end of March, Malaysia still accounted for the largest *sukuk* (Islamic bond) market in emerging East Asia, with about 57% of its LCY bonds in the form of Islamic debt. Nearly three-fourths of its corporate bonds are Islamic in nature, while 43.0% of the government bond segment comprises *sukuk*.

The LCY bond market in Singapore expanded to USD247 billion at the end of March, up 3.5% q-o-q in Q1 2017. Much of the growth was buoyed by increases in the stock of Singapore Government Securities (SGS) bills and bonds despite a slightly lower issuance volume during the quarter, as well as an increase in the stock of Monetary Authority of Singapore (MAS) bills. On the other hand, corporate bonds continued to contract during the review period.

At the end of March, the outstanding stock of LCY bonds in Hong Kong, China rose to USD237 billion on overall growth of 0.4% q-o-q. Growth in its bond market stemmed largely from increases in its stock of Exchange Fund Bills and corporate bonds. During the review period, Exchange Fund Notes continued to fall as issuance was limited to 2-year maturities. Longer-dated Exchange Fund Notes were replaced with issuances of Hong Kong Special Administrative Region bonds.

The outstanding size of Indonesia's LCY bond market climbed to USD172 billion at the end of March on robust growth of 4.6% q-o-q. Growth was largely driven by central government bonds, comprising Treasury bills and bonds issued by the Ministry of Finance. As in past years, the government continued to adopt a frontloading policy for bond issuance, targeting some 60% of its gross issuance target, which includes foreign currency bonds, within the first semester of the year. To a lesser extent, corporate bonds also contributed to growth during the review period. In contrast, the stock of central bank bills issued by Bank Indonesia declined as the central bank ceased issuance of conventional central bank bills and limited its issuance to *shariah*-compliant central bank bills. The decline in issuance of central bank certificates is in line with Bank Indonesia's plan of utilizing short-term government bonds (Treasury bills) as a replacement for central bank bills for its monetary operations.

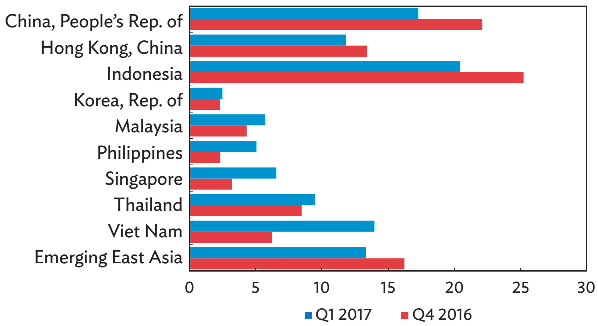
In the Philippines, the LCY bond market expanded to reach a size of USD98 billion at the end of March, posting growth of 1.5% q-o-q. Growth was driven by increases in the stock of Treasury bonds as new issuance exceeded redemptions. Corporate bonds also contributed to the overall growth during the review period. The stock of Treasury bills continued to decline as the Bureau of the Treasury partially awarded most of its auctions in Q1 2017. Other government bonds also fell due to the absence of new issuance and the maturation of some issues.

Viet Nam's bond market was broadly unchanged at USD44 billion at the end March, rising a marginal 0.3% q-o-q. Growth was driven primarily by increases in government bonds outstanding, particularly Treasury bonds, which rose 1.5% q-o-q. Also, all short-term government instruments, including both Treasury bills and central bank bills, had matured as of the end of March. Corporate bonds outstanding were unchanged from Q4 2016. (*AsianBondsOnline* data classifies the issuances of some state-owned entities in Viet Nam as part of the government bond segment.)

On a year-on-year basis (y-o-y), overall growth in emerging East Asia's LCY bond market moderated, with the growth rate easing to 13.3% from 16.2% in Q4 2016 (**Figure 1b**). While six of the nine markets posted faster y-o-y growth rates, the slowdown in the PRC's bond market once again dragged down the region's overall growth. The PRC's y-o-y growth rate slid as the impact of deleveraging efforts reduced bond issuance, particularly corporate bonds. On a y-o-y basis, Indonesia (20.3%) was the fastest-growing bond market, followed by the PRC (17.2%) and Viet Nam (13.9%).

The LCY bond market in emerging East Asia mainly comprises government bonds, which accounted for a 64.9% share of the total at the end of March (**Table 1**). This was slightly higher than the previous quarter's figure of 64.6%. Both q-o-q and y-o-y growth rates in the region's government bond market moderated in Q1 2017, due to the slowdown in the PRC. Growth eased to

Figure 1b: Growth of Local Currency Bond Markets in the Fourth Quarter of 2016 and First Quarter of 2017 (y-o-y, %)



Q1 = first quarter, Q4 = fourth 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 31 March 2017 currency exchange rates and do not include currency effects.
4. For Hong Kong, China, Q1 2017 corporate bonds outstanding are based on *AsianBondsOnline* estimates. For Singapore, corporate 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).

2.0% q-o-q and 20.9% y-o-y in Q1 2017 from 3.2% q-o-q and 23.6% y-o-y in Q4 2016.

In terms of absolute size, the PRC led all government bond markets in the region at USD5,098 billion, representing nearly three-fourths of emerging East Asia's total government bond stock at the end of March. It was followed by the Republic of Korea with government bonds valued at USD780 billion, representing a share of 11.4% of the total. The remaining 13.8% share consisted of all other government bond markets in the region.

Compared to the more financially developed markets of Hong Kong, China; Malaysia; and Singapore; Indonesia had a larger government bond market with outstanding bonds of USD148 billion at the end of March. The Philippines and Viet Nam were the region's smallest government bond markets at USD80 billion and USD42 billion, respectively.

At the end of March, LCY corporate bonds in emerging East Asia stood at USD3,694 billion, lower by 0.4% q-o-q but higher by 1.5% y-o-y. The PRC's corporate bond market, which accounted for 58.1% of the region's total corporate bond stock at the end of March, contracted 1.2% q-o-q during the review period. The decline was driven by decreased issuances as corporate borrowers became reluctant to issue amid the PRC's continued deleveraging efforts designed to reduce financial risk. Declines were also noted in the corporate bond markets of Thailand (–0.2%) and Singapore (–0.1%). All other markets registered slower q-o-q growth in corporate bonds with the exception of Hong Kong, China, where the growth rate was unchanged, and the Republic of Korea and Malaysia, where markets reversed the prior quarter's decline.

Due to the decline in the PRC's corporate bond market, the overall size of emerging East Asia's LCY corporate bond market fell to a share of 35.1% of the region's total bond stock at the end of March from 35.4% at the end of December 2016. The PRC remained the largest corporate bond market, with outstanding bonds of USD2,146 billion, followed by the Republic of Korea at USD1,093 billion.

Emerging East Asia's LCY bond market was the equivalent of 68.5% of gross domestic product (GDP) in Q1 2017, slightly lower from Q4 2016's 68.9% share (**Table 2**). The share of government bonds to GDP fell marginally to 44.4% from 44.5% during the review period. Corporate bonds also declined as a share of GDP to 24.1% in Q1 2017 from 24.4% in Q4 2016. The Republic of Korea, reflecting its status as home to one of the region's most well-developed financial markets, maintained its lead as the market with the largest share of LCY bonds to GDP with a value of 126.5%. Malaysia followed with an LCY bonds-to-GDP share of 95.4%.

Improving investor sentiment led to gains in the foreign holdings' share in most emerging East Asian LCY bond markets.

Investor sentiment has turned positive in recent months as foreign funds returned to emerging East Asia's LCY bond markets. Offshore holdings of LCY government bonds climbed for most markets for which data are available (**Figure 2**).

The largest gain was noted in Indonesia, where the foreign holdings' share in its LCY government bond market rose to 38.2% at the end of March after having slid to 37.6% at the end of December. Positive investor sentiment on the back of improved macroeconomic and financial conditions, and expectations of a sovereign rating upgrade

Table 1: Size and Composition of Local Currency Bond Markets

	Q1 2016		Q4 2016		Q1 2017		Growth Rate (LCY-base %)				Growth Rate (USD-base %)			
							Q1 2016		Q1 2017		Q1 2016		Q1 2017	
	Amount (USD billion)	% share	Amount (USD billion)	% share	Amount (USD billion)	% share	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	6,596	100.0	7,129	100.0	7,245	100.0	4.9	28.2	0.8	17.2	5.6	23.2	1.6	9.8
Government	4,306	65.3	4,974	69.8	5,098	70.4	5.2	33.0	1.6	26.3	5.9	27.8	2.5	18.4
Corporate	2,290	34.7	2,155	30.2	2,146	29.6	4.3	20.1	(1.2)	0.03	5.0	15.3	(0.4)	(6.3)
Hong Kong, China														
Total	212	100.0	236	100.0	237	100.0	1.8	6.5	0.4	11.8	1.8	6.4	0.2	11.6
Government	123	58.2	137	58.1	137	58.1	3.2	11.7	0.3	11.5	3.2	11.6	0.1	11.3
Corporate	89	41.8	99	41.9	99	41.9	(0.04)	0.1	0.5	12.1	(0.1)	(0.01)	0.3	11.9
Indonesia														
Total	144	100.0	163	100.0	172	100.0	8.8	16.8	4.6	20.3	13.3	15.4	5.8	19.6
Government	125	86.7	139	85.8	148	86.0	9.9	17.7	4.9	19.4	14.5	16.2	6.1	18.7
Corporate	19	13.3	23	14.2	24	14.0	1.6	11.6	3.0	26.4	5.8	10.2	4.1	25.6
Korea, Rep. of														
Total	1,788	100.0	1,714	100.0	1,873	100.0	1.2	7.6	1.4	2.5	4.0	4.4	9.3	4.8
Government	734	41.1	703	41.0	780	41.6	2.1	6.3	2.9	3.9	5.0	3.2	11.0	6.2
Corporate	1,054	58.9	1,011	59.0	1,093	58.4	0.5	8.5	0.3	1.5	3.3	5.3	8.1	3.8
Malaysia														
Total	293	100.0	260	100.0	272	100.0	1.9	6.3	3.3	5.7	12.3	0.9	4.7	(6.9)
Government	161	55.1	141	54.3	147	54.0	2.7	2.7	2.7	3.5	13.1	(2.5)	4.1	(8.8)
Corporate	131	44.9	119	45.7	125	46.0	1.0	11.1	4.0	8.3	11.2	5.5	5.4	(4.5)
Philippines														
Total	102	100.0	98	100.0	98	100.0	(1.1)	0.5	1.5	5.0	0.9	(2.2)	0.3	(3.8)
Government	85	82.7	80	81.7	80	81.1	(1.3)	(0.6)	0.8	3.0	0.7	(3.3)	(0.4)	(5.7)
Corporate	18	17.3	18	18.3	19	18.9	(0.1)	6.3	4.6	14.6	1.9	3.4	3.3	5.0
Singapore														
Total	240	100.0	230	100.0	247	100.0	0.2	0.1	3.5	6.5	5.4	1.8	7.2	2.8
Government	136	56.7	133	57.9	147	59.4	0.3	(4.4)	6.1	11.5	5.5	(2.7)	9.9	7.7
Corporate	104	43.3	97	42.1	100	40.6	0.2	6.5	(0.1)	(0.04)	5.4	8.4	3.4	(3.5)
Thailand														
Total	291	100.0	303	100.0	325	100.0	1.9	9.6	2.9	9.5	4.6	1.5	7.3	11.9
Government	217	74.5	222	73.1	240	73.9	1.5	7.5	4.0	8.5	4.1	(0.4)	8.5	11.0
Corporate	74	25.5	81	26.9	85	26.1	3.3	16.3	(0.2)	12.1	5.9	7.8	4.1	14.6
Viet Nam														
Total	39	100.0	44	100.0	44	100.0	(6.5)	(9.7)	0.3	13.9	(5.7)	(12.7)	0.3	11.6
Government	38	95.8	42	95.4	42	95.4	(7.1)	(12.0)	0.3	13.4	(6.3)	(15.0)	0.3	11.1
Corporate	2	4.2	2	4.6	2	4.6	10.5	129.6	0.0	25.0	11.5	122.0	(0.03)	22.5
Emerging East Asia														
Total	9,705	100.0	10,177	100.0	10,513	100.0	3.7	20.2	1.1	13.3	5.3	16.2	3.3	8.3
Government	5,925	61.0	6,572	64.6	6,819	64.9	4.3	23.8	2.0	20.9	5.8	19.6	3.8	15.1
Corporate	3,780	39.0	3,605	35.4	3,694	35.1	2.8	15.0	(0.4)	1.5	4.6	11.2	2.5	(2.3)
Japan														
Total	9,841	100.0	9,637	100.0	10,180	100.0	3.2	2.5	0.6	2.4	10.2	9.3	5.6	3.4
Government	9,148	93.0	8,966	93.0	9,472	93.0	3.5	3.0	0.6	2.5	10.6	9.9	5.6	3.5
Corporate	693	7.0	671	7.0	708	7.0	(1.1)	(3.6)	0.6	1.1	5.7	2.8	5.6	2.2

( ) = negative, LCY = local currency, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth quarter, USD = United States dollar, y-o-y = year-on-year.

Notes:

1. For Hong Kong, China, Q1 2017 corporate bonds outstanding are based on *AsianBondsOnline* estimates. For Singapore, corporate 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 31 March 2017 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).

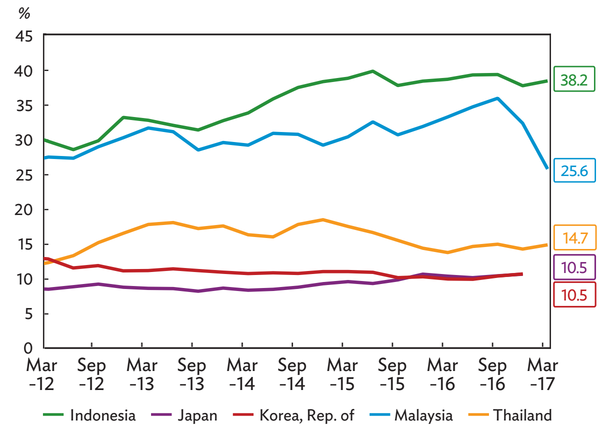
Table 2: Size and Composition of Local Currency Bond Markets (% of GDP)

	Q1 2016	Q4 2016	Q1 2017
China, People's Rep. of			
Total	60.8	66.5	65.4
Government	39.7	46.4	46.0
Corporate	21.1	20.1	19.4
Hong Kong, China			
Total	68.1	73.6	72.7
Government	39.6	42.8	42.2
Corporate	28.5	30.8	30.5
Indonesia			
Total	16.2	17.7	18.0
Government	14.1	15.1	15.5
Corporate	2.2	2.5	2.5
Korea, Rep. of			
Total	129.3	126.2	126.5
Government	53.1	51.8	52.7
Corporate	76.2	74.4	73.8
Malaysia			
Total	97.4	94.9	95.4
Government	53.7	51.5	51.5
Corporate	43.8	43.4	43.9
Philippines			
Total	34.7	33.6	33.4
Government	28.7	27.5	27.1
Corporate	6.0	6.2	6.3
Singapore			
Total	79.4	81.3	83.2
Government	45.0	47.1	49.4
Corporate	34.4	34.2	33.8
Thailand			
Total	73.9	75.6	76.5
Government	55.1	55.3	56.5
Corporate	18.8	20.3	20.0
Viet Nam			
Total	20.7	22.1	21.8
Government	19.8	21.1	20.8
Corporate	0.9	1.0	1.0
Emerging East Asia			
Total	65.1	68.9	68.5
Government	39.8	44.5	44.4
Corporate	25.4	24.4	24.1
Japan			
Total	208.3	210.0	211.0
Government	193.7	195.3	196.3
Corporate	14.7	14.6	14.7

GDP = gross domestic product, Q1 = first quarter, Q4 = fourth quarter.
Notes:
1. Data for GDP is from CEIC.
2. For Hong Kong, China, Q1 2017 corporate bonds outstanding based on *AsianBondsOnline* estimates. For Singapore, corporate bonds outstanding 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)



Note: Data as of end-March 2017 except for Japan and the Republic of Korea (end-December 2016).
Source: *AsianBondsOnline*.

from Standard and Poor's Global Ratings buoyed demand for Indonesia's LCY government bonds.[7] Foreign investors continued to comprise the largest investor group in Indonesia's LCY government bond market at the end of March. Further gains were noted in Indonesia's foreign holdings' share to 39.1% at the end of April.

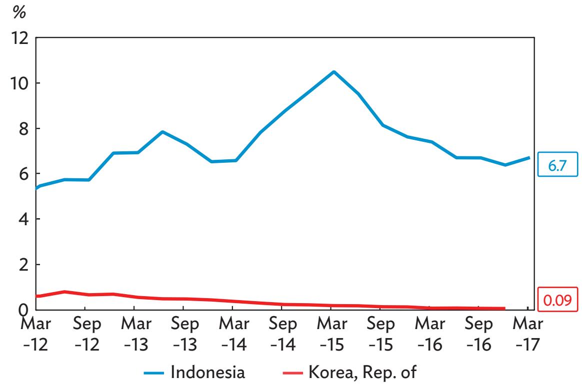
The foreign holdings' share also climbed in Thailand, inching up 0.6 percentage points to 14.7% at the end of March.

The only exception to this trend was Malaysia, where the foreign holdings' share plunged 6.6 percentage points to 25.6% at the end of March. The continued decline in Malaysia's foreign holdings' share came after regulations were issued by Bank Negara Malaysia that deterred foreign banks from engaging in nondeliverable forward contracts. Offshore investors' inability to hedge MYR-denominated investments has led to capital outflows. However, in April, the foreign holdings' share began to recover.

In contrast, the foreign holdings' share in LCY corporate bonds in Indonesia and the Republic of Korea, the two corporate markets for which data are available, remained low (**Figure 3**). While there was a marginal uptick in the holdings of LCY corporate bonds in Indonesia by foreign investors, this share remained low relative to foreign

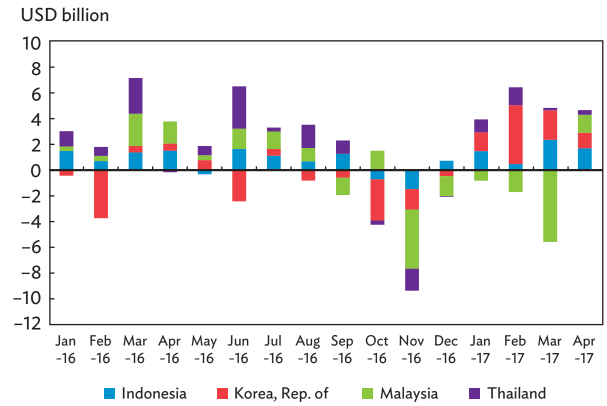
[7] On 19 May, Standard and Poor's Global Ratings raised Indonesia's sovereign credit rating to investment grade.

Figure 3: Foreign Holdings of Local Currency Corporate Bonds in Indonesia and the Republic of Korea
(% of total)



Notes:
1. For Indonesia, data are as of end-March 2017.
2. For the Republic of Korea, data are as of end-December 2016.
Sources: Based on data from Otoritas Jasa Keuangan and the Bank of Korea.

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



Notes:
1. The Republic of Korea and Thailand provided data on bond flows. For Indonesia and Malaysia, month-on-month changes in foreign holdings of LCY government bonds were used as a proxy for bond flows.
2. Data provided as of April 2017.
3. Figures were computed based on 30 April 2017 exchange rates to avoid currency effects.
Sources: Directorate General of Budget Financing and Risk Management, Ministry of Finance; Financial Supervisory Service; Bank Negara Malaysia; and Thai Bond Market Association.

holdings of LCY government bonds. At the end of March, the foreign holdings' share in Indonesia's corporate bond market stood at only 6.7%. In the Republic of Korea, the holdings of foreign investors accounted for less than 0.1% of the total corporate bond stock at the end of December.

Emerging East Asia LCY's bond markets attracted foreign capital in Q1 2017, except in Malaysia.

Foreign funds flowed back to most emerging East Asian LCY bond markets in Q1 2017 following a sell-off in Q4 2016, when capital outflows were recorded in all four markets for which data are available (**Figure 4**). Foreign investors risk appetite rose on an improving outlook in developed economies, which brought renewed interest in emerging market assets.

In Q1 2017, the Republic of Korea, Indonesia, and Thailand experienced a reversal of the foreign capital outflows from their respective bond markets that had occurred in the prior quarter. The Republic of Korea had the largest net foreign capital inflow as offshore investors poured in USD8.3 billion in Q1 2017, a turnaround from an outflow of USD5.3 billion in Q4 2016. Foreign bond flows, while remaining positive, began to slow in the Republic of Korea in March and April. Thailand also posted gains in its bond market as it attracted USD2.6 billion in net foreign capital flow in Q1 2017. In both the Republic of Korea and Thailand, foreign investors were attracted to high levels of foreign exchange reserves and current account surpluses.

In Indonesia, foreign bond inflow into the bond market totaled USD4.3 billion in Q1 2017, also reversing an outflow from its bond market in Q4 2016. Foreign investors remain attracted to Indonesia's bond market due to its relatively high interest rates among peers in emerging East Asia and the positive developments in its domestic economy.

Only Malaysia's bond market saw foreign capital outflow in Q1 2017. In April, however, Malaysia posted positive foreign capital flow after 5 consecutive months of foreign capital outflow.

Emerging East Asia's total LCY bond issuance was down in Q1 2017 as growth in most markets in the region was capped by the decline in issuance in the PRC.

Emerging East Asia's LCY bond issuance fell 11.9% q-o-q to USD852 billion in Q1 2017 from USD946 billion in Q4 2016 as both the region's government and corporate bond markets posted q-o-q contractions (**Table 3**). Total government bond issuance fell 3.7% q-o-q to USD596 billion, while corporate bond issuance declined

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

	Q1 2016		Q4 2016		Q1 2017		Growth Rate (LCY-base %)		Growth Rate (USD-base %)	
	Amount (USD billion)	% share	Amount (USD billion)	% share	Amount (USD billion)	% share	Q1 2017		Q1 2017	
							q-o-q	y-o-y	q-o-q	y-o-y
China, People's Rep. of										
Total	640	100.0	532	100.0	391	100.0	(27.1)	(34.7)	(26.5)	(38.9)
Government	360	56.2	314	59.0	257	65.8	(18.8)	(23.7)	(18.1)	(28.5)
Central Bank	0	0.0	0	0.0	0	0.0	–	–	–	–
Treasury and Other Govt.	360	56.2	314	59.0	257	65.8	(18.8)	(23.7)	(18.1)	(28.5)
Corporate	280	43.8	218	41.0	134	34.2	(39.1)	(49.0)	(38.6)	(52.2)
Hong Kong, China										
Total	92	100.0	104	100.0	103	100.0	(0.9)	12.2	(1.1)	12.0
Government	80	87.8	93	89.4	92	89.3	(1.0)	14.0	(1.2)	13.8
Central Bank	80	87.6	92	88.6	91	89.0	(0.4)	14.1	(0.6)	13.8
Treasury and Other Govt.	0.2	0.2	0.8	0.8	0.2	0.2	(72.3)	12.5	(72.4)	12.3
Corporate	11	12.2	11	10.6	11	10.7	0.0	(1.4)	(0.2)	(1.6)
Indonesia										
Total	16	100.0	9	100.0	15	100.0	63.7	(4.5)	65.5	(5.1)
Government	15	93.5	6	68.6	14	88.9	112.3	(9.2)	114.7	(9.8)
Central Bank	3	18.0	1	15.1	0.3	1.7	(81.4)	(90.9)	(81.1)	(91.0)
Treasury and Other Govt.	12	75.5	5	53.5	13	87.2	166.8	10.3	169.9	9.6
Corporate	1	6.5	3	31.4	2	11.1	(42.4)	62.6	(41.8)	61.6
Korea, Rep. of										
Total	159	100.0	139	100.0	165	100.0	10.1	1.1	18.7	3.4
Government	76	47.5	56	40.6	79	48.1	30.4	2.4	40.6	4.7
Central Bank	39	24.7	27	19.1	39	23.8	36.9	(2.6)	47.6	(0.5)
Treasury and Other Govt.	36	22.8	30	21.5	40	24.3	24.6	7.9	34.3	10.3
Corporate	84	52.5	82	59.4	85	51.9	(3.8)	(0.04)	3.7	2.2
Malaysia										
Total	16	100.0	11	100.0	17	100.0	54.4	24.1	56.6	9.3
Government	7	46.0	4	39.2	9	50.5	99.2	36.3	102.0	20.1
Central Bank	0	0.0	1	6.0	0.2	1.1	(71.7)	–	(71.3)	–
Treasury and Other Govt.	7	46.0	4	33.1	9	49.4	130.3	33.3	133.5	17.5
Corporate	9	54.0	7	60.8	9	49.5	25.6	13.6	27.3	0.1
Philippines										
Total	4	100.0	4	100.0	6	100.0	56.1	68.8	54.2	54.5
Government	4	93.4	3	64.9	5	83.6	101.1	51.1	98.7	38.4
Central Bank	0	0.0	0	0.0	0	0.0	–	–	–	–
Treasury and Other Govt.	4	93.4	3	64.9	5	83.6	101.1	51.1	98.7	38.4
Corporate	0.3	6.6	1	35.1	1	16.4	(27.2)	318.7	(28.1)	283.4
Singapore										
Total	58	100.0	62	100.0	72	100.0	12.1	28.1	16.1	23.6
Government	56	95.9	61	98.4	69	95.9	9.3	28.0	13.1	23.6
Central Bank	53	90.7	56	90.2	64	89.1	10.7	25.9	14.6	21.5
Treasury and Other Govt.	3	5.2	5	8.1	5	6.7	(6.8)	65.9	(3.5)	60.1
Corporate	2	4.1	1	1.6	3	4.1	180.8	28.7	190.8	24.2
Thailand										
Total	70	100.0	70	100.0	76	100.0	4.1	6.0	8.5	8.4
Government	60	85.0	56	80.1	66	86.0	11.7	7.2	16.6	9.6
Central Bank	54	77.0	51	72.2	53	70.0	0.9	(3.5)	5.3	(1.4)
Treasury and Other Govt.	6	8.1	6	7.9	12	16.0	110.6	109.5	119.7	114.2
Corporate	11	15.0	14	19.9	11	14.0	(26.8)	(0.6)	(23.7)	1.6

continued on next page

Table 3 *continued*

	Q1 2016		Q4 2016		Q1 2017		Growth Rate (LCY-base %)		Growth Rate (USD-base %)	
							Q1 2017		Q1 2017	
	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	14	100.0	14	100.0	6	100.0	(57.1)	(55.5)	(57.1)	(56.4)
Government	14	98.9	14	98.6	6	100.0	(56.5)	(55.0)	(56.5)	(55.9)
Central Bank	9	65.5	13	90.1	3	50.1	(76.2)	(66.0)	(76.2)	(66.7)
Treasury and Other Govt.	5	33.3	1	8.4	3	49.9	153.6	(33.4)	153.7	(34.7)
Corporate	0.2	1.1	0.2	1.4	0	0.0	(100.0)	(100.0)	(100.0)	(100.0)
Emerging East Asia										
Total	1,069	100.0	946	100.0	852	100.0	(11.9)	(17.2)	(9.9)	(20.3)
Government	671	62.8	608	64.3	596	70.0	(3.7)	(8.0)	(1.9)	(11.2)
Central Bank	239	22.3	240	25.4	252	29.6	2.3	5.5	4.9	5.5
Treasury and Other Govt.	433	40.5	368	38.9	345	40.5	(7.7)	(15.8)	(6.3)	(20.3)
Corporate	398	37.2	338	35.7	255	30.0	(26.4)	(33.0)	(24.4)	(35.8)
Japan										
Total	435	100.0	413	100.0	436	100.0	0.5	(0.8)	5.5	0.3
Government	412	94.8	389	94.1	406	93.1	(0.6)	(2.5)	4.3	(1.5)
Central Bank	0	0.0	0	0.0	0	0.0	–	–	–	–
Treasury and Other Govt.	412	94.8	389	94.1	406	93.1	(0.6)	(2.5)	4.3	(1.5)
Corporate	23	5.2	24	5.9	30	6.9	18.4	31.8	24.4	33.2

( ) = negative, – = not applicable, LCY = local currency, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth quarter, USD = United States dollar, y-o-y = year-on-year.
Notes:
1. For Hong Kong, China, Q1 2017 corporate bond issuance are carried over from Q4 2016.
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 31 March 2017 currency exchange rates and do not include currency effects.
Sources: People's Republic of China (*ChinaBond*); 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).

at a faster pace of 26.4% q-o-q to USD255 billion. Total LCY bond issuance in the region fell 17.2% y-o-y on lower volumes of new issues in both the government and corporate bond markets.

Lower LCY bond issuance in Q1 2017 was driven by the continued decline in issuance in the PRC as the government stepped up its efforts to manage debt levels. The PRC accounted for almost half of the region's total LCY bond issuance in Q1 2017. Meanwhile, most other markets in the region posted robust q-o-q growth rates, driven by higher issuance in their respective government bond markets. The only exceptions were in Hong Kong, China, where bond issuance for Q1 2017 was almost at par with the previous quarter, and in Viet Nam, where total issuance fell 57.1% q-o-q.

Issuance of central government bonds—Treasury bills, Treasury bonds, and other government securities—amounted to USD345 billion in Q1 2017, comprising 40.5% of total LCY bond issuance in the region. Issuance in Q1 2017 declined 7.7% from the previous quarter. The main driver of the decline was the 18.8% q-o-q drop in issuance in the PRC, which accounts for nearly three-fourths of the region's total issuance of central government bonds. However, this was partially offset by growth in other markets, including Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand. The higher issuance volumes in these markets were a result of either expanded borrowing programs in 2017 or frontloading policies.

Issuance of central bank bonds, which accounted for 29.6% of the region's total bond issuance, was up 2.3% q-o-q to USD252 billion. The growth was led by higher issuances of Monetary Stabilization Bonds by the Bank of Korea and central bank bills by the MAS.

The region's corporate bond market fell 26.4% q-o-q to USD255 billion at the end of March as most corporate markets in the region reduced issuance volumes. Corporate bond issuance accounted for nearly one-third of the region's total LCY bond issuance for the quarter. The PRC led the region's drop with its corporate bond issuance declining 39.1% q-o-q to USD134 billion. Companies in the Republic of Korea, the second largest issuer of corporate bonds in the region, also issued lower volumes of bonds, declining 3.8% q-o-q. The only markets that posted q-o-q increases were Malaysia and Singapore.

The PRC continues to be the largest issuer of LCY bonds in the region with total issuance of USD391 billion, comprising 45.9% of the regional total. Issuance for the quarter dropped 27.1% q-o-q and 34.7% y-o-y as the government continued its financial deleveraging programs. Issuance of local government bonds declined 50.5% q-o-q to CNY475 billion in Q1 2017 from CNY959 billion in the previous quarter. Issuance of Treasury bonds also fell 20.6% q-o-q to CNY466 billion. Meanwhile, the PRC's corporate bond market fell at a faster pace of 39.1% q-o-q, a result of the liquidity tightening measures implemented by the PBOC, which raised interest rates on its open market operation facilities in Q1 2017 (reverse repurchase agreements, standing lending facility, and midterm lending facility). This resulted in rising bond yields, which has made it more costly for companies to issue bonds.

The Republic of Korea was the second largest bond issuer in the region with total issuance amounting to USD165 billion at the end of March, comprising 19.3% of the regional total. Total issuance grew 10.1% q-o-q, driven by higher issuance of government bonds offsetting the 3.8% q-o-q decline in new corporate issuance. Issuance of government bonds surged 30.4% q-o-q to USD79 billion in Q1 2017, led by increased issuance of both Monetary Stabilization Bonds and Korea Treasury Bonds. The higher issuance of Korea Treasury Bonds was in line with government efforts to prop up the economy by frontloading almost a third of its budget in Q1 2017. The jump in the growth rate was also partly due to the relatively low base in Q4 2016, when both the Ministry of Finance and the Bank of Korea reduced their auction programs to help stabilize market volatility in the latter part of the year.

In Hong Kong, China, total bond issuance of USD103 billion in Q1 2017 was almost at par with that of Q4 2016. Issuance of government bonds contracted 1.0% q-o-q as there was less programmed issuance of Hong Kong Special Administrative Region bonds. From a year earlier, however, total bond issuance in Hong Kong, China increased 12.2%.

Total LCY bond issuance increased the most in Indonesia on a q-o-q basis, rising 63.7% to USD15 billion, largely driven by higher issuance of central government bonds. This was in line with the government's frontloading policy in which it targets to issue some 60.0% of its planned borrowing program in the first half of the year. The accelerated growth rate was also partly due to a relatively low issuance volume in Q4 2016, which saw fewer scheduled auctions, as a result of the frontloading policy implemented in 2016. Meanwhile, corporate bond issuance dropped 42.4% q-o-q to USD2 billion. On a y-o-y basis, Indonesia's bond issuance fell 4.5% as growth in new corporate bonds and central government bonds were offset by the decline in issuance of central bank bonds.

Issuance in the Philippines posted robust growth of 56.1% q-o-q in Q1 2017 to reach USD6 billion at the end of March. The rise was a result of both a larger borrowing program for Q1 2017 and relatively more successful auctions compared with Q4 2016. The volume of new corporate issues in Q1 2017 was tepid compared to the previous quarter as issuers awaited a clearer yield direction given uncertainties in the market. The Philippines total bond issuance grew at a faster pace of 68.8% compared to a year earlier, with higher issuance volumes in both sectors.

In Malaysia, total bond issuance reached USD17 billion, a 54.4% increase from the previous quarter. Increased issuance of central government bonds, particularly Malaysian Government Securities, led the q-o-q growth. The market foresees a higher volume of issuance for the year due to a sizable amount of maturing government securities. New corporate issues also rose in Q1 2017 as borrowers took advantage of low interest rates prior to the Federal Reserve rate hike in March and in anticipation of an upward trend in yields. Compared to the same period a year earlier, issuance in Malaysia rose 24.1%.

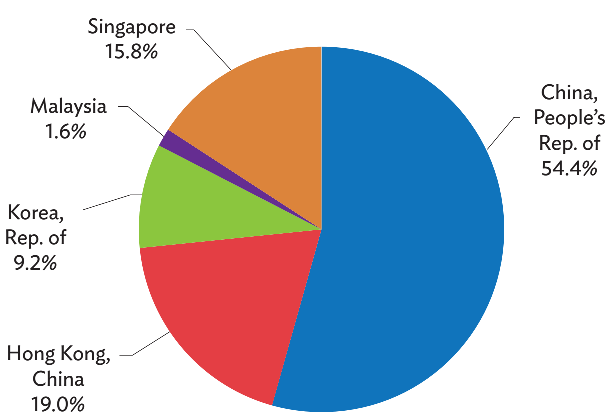
Singapore's LCY bond issuance rose 12.1% q-o-q to USD72 billion, driven by higher issuance of MAS bills, which are used to mop up excess liquidity and manage currency volatility. Singapore's corporate bond market also started the year on a high note with Q1 2017 issuance more than double the volume issued in Q4 2016. On a y-o-y basis, total issuance was up 28.1%, led by growth in new government bond issues.

In Thailand, total bond issuance moderately increased 4.1% q-o-q to USD76 billion as the rise in government bonds was offset by a decline in corporate bond issuance. In Q1 2017, there was a surge in issuance of central government bonds as the government sought to finance its increased 2017 fiscal budget aimed at propping up the economy. Issuance of corporate bonds fell 26.8% q-o-q. From the same period a year earlier, total bond issuance in Thailand rose 6.0%.

Viet Nam was the only market that posted a q-o-q contraction in Q1 2017, falling 57.1% to USD6 billion, led by reduced central bank bond issuance from the State Bank of Viet Nam and a lack of new corporate issues. On a y-o-y basis, total issuance declined 55.5%.

Emerging East Asia's total cross-border bond issuance rose 3.4% q-o-q to USD2.3 billion in Q1 2017, but logged a 11.9% y-o-y contraction compared to Q1 2016. The PRC accounted for the largest share with intra-regional bond issuance totaling USD1.2 billion, representing a 54.4% share of the region's total intra-regional issuance in Q1 2017 (**Figure 5**).

Figure 5: Emerging East Asia Intra-Regional Bond Issuance by Market of Origin in the First Quarter of 2017



Source: Based on data from Bloomberg LP.

A total of HKD9.5 billion (USD1.2 billion) was issued by four firms based in the PRC in Q1 2017, with the largest cross-border issuance coming from state-owned China Development Bank comprising 3-year notes worth HKD7.8 billion and priced at par to yield 1.443%. In Hong Kong, China, a total of CNY3.0 billion worth of debt securities with tenors ranging from 3 months to 5 years were sold by five institutions, with the largest issuance being the CNY1.1 billion 5-year bond sale made by Zhuhai United Laboratories.

Cross-border issuance from the Republic of Korea totaled USD207.8 million in Q1 2017, comprising 3–5-year notes denominated mostly in Chinese yuan, and one each in Hong Kong dollar and Singapore dollar. State-owned Korea Development Bank was the largest issuer with CNY-denominated bonds worth CNY650 million and SGD-denominated bonds worth SGD70 million.

Cagamas, Malaysia's national mortgage corporation, issued a SGD850 million cross-border bond with a 3-year maturity and a coupon rate of 1.85%. Most of the cross-border bonds in Singapore were issued by financial institutions with a combined total issuance of USD356.6 million, denominated in Chinese yuan, Hong Kong dollar, Indonesian rupiah, and Philippine peso. The largest issuance amounted to CNY1 billion (USD149.9 million) with a 5-year tenor and a coupon rate of 5.6% issued by Deutsche Bank in Singapore. This was followed by a dual-tranche offering from the Development Bank of Singapore with a combined amount of HKD900 million.

Of the total cross-border issuance in Q1 2017, 63.3% was denominated in Hong Kong dollar, 31.6% in Chinese yuan, and the rest was denominated in Singapore dollar (3.8%), Indonesian rupiah (0.8%), and Philippine peso (0.4%).

G3 currency bond issuance from emerging East Asia surged in January–April.

G3 currency bond issuance from emerging East Asia in January–April increased 81.6% y-o-y to USD103,478 million **(Table 4)**.[8] The value was already almost half the total G3 currency bond sales in full-year 2016 as borrowers flocked to the debt market to take

[8] G3 currency bonds are bonds denominated in either euro, Japanese yen, or US dollar.

Table 4: G3 Currency Bond Issuance

2016		
Issuer	**Amount (USD million)**	**Issue Date**
China, People's Rep. of	**120,019**	
China Cinda Asset Management 4.45% Perpetual	3,200	30-Sep-16
Proven Honour Capital 4.125% 2026	2,000	6-May-16
China Minsheng Banking 4.95% Perpetual	1,439	14-Dec-16
Huarong Finance 3.625% 2021	1,350	22-Nov-16
Sinopec 2% 2021	1,300	29-Sep-16
Export–Import Bank of China 2% 2021	1,250	26-Apr-16
Export–Import Bank of China 0.25% 2019	1,209	2-Dec-16
Sinopec 1.75% 2019	1,100	29-Sep-16
Others	107,171	
Hong Kong, China	**29,204**	
China Overseas Finance 0% 2023	1,500	5-Jan-16
CK Hutchison 1.25% 2023	1,420	8-Apr-16
Others	26,284	
Indonesia	**17,888**	
Perusahaan Penerbit SBSN *Sukuk* 4.55% 2026	1,750	29-Mar-16
Indonesia (Sovereign) 2.625% 2023	1,578	14-Jun-16
Indonesia (Sovereign) 3.75% 2028	1,578	14-Jun-16
Indonesia (Sovereign) 5.25% 2047	1,500	8-Dec-16
Indonesia (Sovereign) 4.35 2027	1,250	8-Dec-16
Others	10,233	
Korea, Rep. of	**28,593**	
Korea Development Bank 3% 2026	1,000	13-Jan-16
Korea Eximbank 1.75% 2019	1,000	26-May-16
Korea Eximbank 2.625% 2026	1,000	26-May-16
Others	25,593	
Lao People's Democratic Rep.	**312**	
Malaysia	**6,026**	
Malaysia (Sovereign) *Sukuk* 3.179% 2026	1,000	27-Apr-16
Danga Capital 3.035% 2021	750	1-Mar-16
TNB Global Ventures Capital 3.244% 2026	750	19-Oct-16
Others	3,526	
Philippines	**2,675**	
Philippines (Sovereign) 3.7% 2041	2,000	1-Mar-16
Others	675	
Singapore	**9,636**	
BOC Aviation 3.875% 2026	750	27-Apr-16
DBS Group 3.6% Perpetual	750	7-Sep-16
Others	8,136	
Thailand	**1,225**	
Kasikorn Bank 2.375% 2022	400	6-Oct-16
Others	825	
Emerging East Asia Total	**215,579**	
Memo Items:		
India	**8,354**	
Export–Import Bank of India 3.375% 2026	1,000	5-Aug-16
Others	7,354	
Sri Lanka	**2,916**	

January–April 2017		
Issuer	**Amount (USD million)**	**Issue Date**
China, People's Rep. of	**65,189**	
China Zheshang Bank 5.45% 2050	2,175	29-Mar-17
China Development Bank 0.125% 2020	1,634	24-Jan-17
China Huarong Asset Management 4.5% 2050	1,500	24-Jan-17
Industrial and Commercial Bank of China 2.103% 2022	1,450	24-Apr-17
Bank of China 1.806% 2020	1,200	14-Feb-17
Export–Import Bank of China 2.625% 2022	1,150	14-Mar-17
China Development Bank (HK) 1.8% 2022	1,150	06-Mar-17
ICBCIL Finance Co. Limited 3.00% 2020	1,150	05-Apr-17
China Huarong Asset Management 3.375% 2020	1,100	24-Jan-17
Sinopec 3.0% 2022	1,100	12-Apr-17
Others	51,580	
Hong Kong, China	**12,034**	
China Cinda Finance 3.65% 2022	1,300	09-Mar-17
Hong Kong, China (Sovereign) *Sukuk* 3.132% 2027	1,000	28-Feb-17
CK Hutchison International 2.875% 2022	1,000	05-Apr-17
CK Hutchison International 3.5% 2027	800	05-Apr-17
Others	7,934	
Indonesia	**6,885**	
Perusahaan Penerbit SBSN *Sukuk* 4.15% 2027	2,000	29-Mar-17
Perusahaan Penerbit SBSN *Sukuk* 3.4% 2022	1,000	29-Mar-17
Others	3,885	
Korea, Rep. of	**9,952**	
Republic of Korea (Sovereign) 2.75% 2027	1,000	19-Jan-17
Hyundai 3.0% 2022	600	
Others	8,352	
Malaysia	**2,542**	
Genting Overseas Holdings Limited Capital 4.25% 2027	1,000	24-Jan-17
CIMB Bank 1.931% 2020	600	15-Mar-17
CIMB Bank 3.263% 2022	500	15-Mar-17
Others	442	
Philippines	**2,000**	
Republic of the Philippines (Sovereign) 3.7% 2042	2,000	02-Feb-17
Singapore	**4,312**	
DBS Bank 0.375% 2024	817	23-Jan-17
Trafigura Group 6.875% 2050	600	21-Mar-17
Oversea-Chinese Banking Corporation 0.25% 2022	545	21-Mar-17
United Overseas Bank 0.125% 2022	545	02-Mar-17
United Overseas Bank 2.125% 2020	500	02-Mar-17
Others	1,306	
Thailand	**563**	
Siam Commercial Bank 3.2% 2022	400	26-Jan-17
Others	163	
Emerging East Asia Total	**103,478**	
Memo Items:		
India	**6,181**	
Vedanta Resources 6.375% 2022	1,000	30-Jan-17
Others	5,181	
Sri Lanka	**1,431**	

USD = United States dollar.
Notes:
1. Data exclude certificates of deposit.
2. G3 currency bonds are bonds denominated in either euro, Japanese yen, or US dollar.
Source: *AsianBondsOnline* calculations based on Bloomberg LP data.

advantage of relatively low interest rates before the Federal Reserve further hikes policy rates later this year and the consequent strengthening of the US dollar.

Bonds denominated in US dollar accounted for the largest share of G3 issuance during January–April, reaching USD94,818 million, or 91.6% of the total. EUR-denominated bonds amounted to USD7,915 million and JPY-denominated bonds reached USD745 million, comprising 7.6% and 0.7% of the total, respectively.

All markets in emerging East Asia saw an increase in G3 currency bond issuance in the first 4 months of the year from the same period in 2016 except for the Republic of Korea, Malaysia, and Singapore. The PRC posted the fastest y-o-y increase in January–April, while Malaysia had the largest y-o-y decline. Of the markets under review, 84.2% of G3 currency issuance came from the PRC; Hong Kong, China; and the Republic of Korea while the remaining 15.8% was from Association of Southeast Asian Nations (ASEAN) markets.

Issuers from the PRC drove the growth of G3 currency bonds sales in emerging East Asia in January–April, totaling USD65,189 million, or 63.0% of the new issuance. USD-denominated bonds accounted for 91.0% of the total, while 9.0% were denominated in euros.

The increase in G3 currency bonds from PRC-based issuers can be traced to the PBOC's stance of encouraging banks to issue more USD-denominated bonds offshore.[9] The PBOC has not given its reasons but market participants speculate that the central bank's stance is meant to control the depreciation of the Chinese yuan. Furthermore, the issuance of USD-denominated bonds by banks may be intended to support the offshore activities of state-owned enterprises (SOEs). Internationally known Chinese banks can tap the capital market at lower borrowing costs than most SOEs. As such, the proceeds from these debt securities can be lent to SOEs for their funding requirements. Tightening financial conditions in the PRC also contributed to the surge in G3 currency bonds, making it difficult for issuers to raise funds from the onshore debt market and forcing them, including junk-rated firms, to tap offshore financing by issuing USD-denominated bonds. However, regulators have looked at cutting this channel to abate risk.

In January–April, USD-denominated bond issuance from the PRC amounted to USD59,289 million, with 73.4% emanating from the financial sector. In comparison, USD21,148 million in USD-denominated bonds were issued in January–April 2016.

Huarong Asset Management Company, the PRC's largest financial asset management company with a focus on distressed debt management, was the biggest seller of G3 currency bonds among PRC-based issuers. Its total debt issuance during the period reached USD5,570 million from the multitranche sale of USD-denominated bonds. China Development Bank sold USD4,070 million of G3 currency bonds, which included three USD-denominated bonds amounting to USD2,000 million and two EUR-denominated bonds valued at EUR1,900 million.

Issuers in Hong Kong, China sold USD12,034 million of G3 currency bonds in January–April, a 59.2% y-o-y hike from the same period in 2016. Hong Kong, China was the second highest issuer of G3 currency bonds in the region, comprising 11.6% of the regional issuance total during the review period. The bulk of its G3 currency bonds during the period were sold in March, with the monthly total (largely in US dollar) amounting to USD4,902 million. China Cinda Asset Management Company had the highest aggregated issuance in January–April from a multitranche sale of USD-denominated bonds totaling USD3,000 million. This included a 5-year USD1,300 million bond with a coupon rate of 3.65%, the single largest G3 currency issuance in Hong Kong, China during the period.

The Republic of Korea's issuance of G3 currency bonds declined 7.1% y-o-y to USD9,952 million in January–April. A large share of the issuance came from the government with a total of USD7,235 million, followed by the financial sector, which included banks, with USD2,289 million. Government-owned Export–Import Bank of Korea and the Korea Development Bank were the top sellers of G3 currency bonds. Each had a total sale of USD1,800 million from a multitranche sale of USD-denominated bonds.

G3 currency issuance from ASEAN markets totaled USD16,302 million in January–April, 6.4% higher than in

[9] Reuters. *Chinese Banks Told To Issue Dollar-Denominated Debt-Sources*. 22 January 2017. http://www.reuters.com/article/china-outflows-bonds-idUSL4N1FD1NI

the same period in 2016. The bond sales accounted for 43.0% of the full-year 2016 total issuance in the ASEAN region. Five out of the 10 members of ASEAN issued G3 currency bonds in January–April: Indonesia, Malaysia, the Philippines, Singapore, and Thailand. Indonesia continued to lead the group in terms of bond sales.

Indonesia's G3 currency bond issuance reached USD6,885 million in the first 4 months of 2017, supported by the Government of Indonesia's sale of USD-denominated *sukuk* in March comprising a USD2,000 million 10-year bond with a coupon rate of 4.15% and a USD1,000 million 5-year bond with a coupon rate of 3.4%. Issuance of G3 bonds grew 49.7% y-o-y in January–April, largely driven by issuance from the government.

Singapore's G3 issuance was down 7.5% y-o-y at USD4,312 million. Most of the issuances in the first 4 months of the year were sold in March and were dominated by banks. United Overseas Bank had the highest aggregate issuance in January–April of USD1,095 million, comprising two tranches of USD-denominated bonds totaling USD550 million and EUR-denominated bonds of EUR500 million. The largest single issuance during the period was DBS Bank's 7-year EUR750 million carrying a coupon rate of 0.375%.

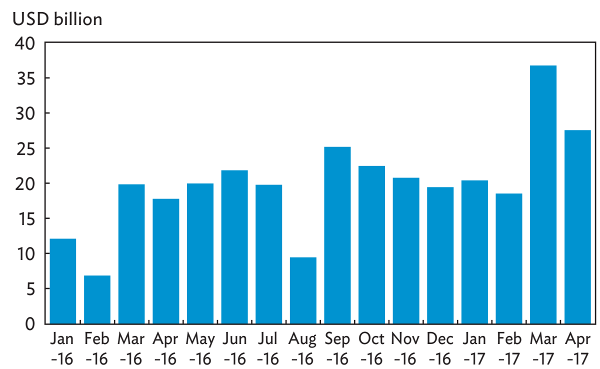
Among the three markets with an annual decline in G3 currency bond issuance in January–April, Malaysia had the largest drop of 31.0% y-o-y to USD2,542 million. Its pale issuance of G3 currency bonds can be attributed to the relative weakness of the Malaysian ringgit, which made it more expensive to borrow in G3 currency. CIMB Bank was the largest G3 bond issuer, totaling USD1,117 million from a multitranche sale.

The Philippines' sole G3 currency issuance was the government's USD2,000 million global bond issued in February with a 25-year tenor and priced at a 3.7% coupon rate. The USD500 million component was new money and USD1,500 million was a switch tender with shorter-dated and more expensive debt. In March 2016, the Government of the Philippines also issued USD-denominated 25-year global bonds worth USD2,000 million.

Thailand's issuance was the smallest amount of G3 currency bonds among emerging East Asian issuers in January–April at USD562.6 million, though this was up 50.0% y-o-y. Siam Commercial Bank sold USD400 million of 5-year bonds, topping Thailand's other two issuers during the period.

On a monthly basis, a surge in total G3 currency bond issuance was seen in March and April, with March issuance pulling up the January–April tally (**Figure 6**). It advanced by 84.9% y-o-y to USD36,374 million and comprised 35.6% of the total G3 currency bonds issued during the period. The high level of issuance in March coincided with the Federal Reserve's monetary policy meeting in which it raised the federal funds rate by 0.25 percentage points. This move may have prompted entities to increase their borrowing before market rates eventually adjusted and the US dollar further appreciated. While still remaining high, a 25.0% month-on-month drop in G3 bond issuance was seen in April, with the monthly total falling to USD27,610 million. The decline may be attributed to the wait-and-see stance of market participants who are seeking policy leads, particularly on when the Federal Reserve will further hike its key rate. Nonetheless, G3 bond issuance in emerging East Asia in April was up 54.7% y-o-y. Monthly G3 currency bond issuance levels in January–April were higher than the average monthly issuance in January–April 2016 of USD14,213 million and the 2016 monthly average of USD18,016 million.

Figure 6: G3 Currency Bond Issuance in Emerging East Asia



USD = United States dollar.
Notes:
1. Emerging East Asia comprises 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 euro, Japanese yen, or US dollar.
3. Figures were computed based on 30 April 2017 currency exchange rates and do not include currency effects.

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

Government bond yields in most emerging East Asian markets fell for most tenors following a decline in US interest rates at the long-end of the curve and on positive investor sentiment.

Bond markets in emerging East Asia continued to benefit in Q1 2017 from optimism that global economic growth is improving. Some bond markets also tracked a decline in US interest rates that occurred following the Federal Reserve's rate hike in March.

On 14 March, the Federal Reserve raised its federal funds target range by 25 basis points (bps) to 0.75%–1.0%. The Federal Reserve noted that the US labor market continued to strengthen and that inflation was expected to meet its 2.0% target over the medium term.

However, Q1 2017 data also showed a slowdown in economic growth in the US. GDP expanded at an annual rate of 1.2% in Q1 2017 versus 2.1% in Q4 2016. In March, nonfarm payrolls only added 50,000 jobs versus 232,000 in February.

However, the Federal Reserve noted in its 3 May meeting that the economic weakness is temporary and the economy would resume gaining strength. More recent data seemed to confirm this. The unemployment rate fell to 4.3% in May from 4.4% in April, while nonfarm payroll additions reached 138,000 in May. Industrial production also grew 1.0% month-on-month in April, the largest increase since February 2014.

In the eurozone, the European Central Bank said that, while downside risks have abated, monetary policy needs to remain accommodative in order to support the economic recovery. In March, the central bank raised some of its forecasts for GDP and inflation.

The Bank of Japan maintained that the domestic economy will continue to run above its growth potential for 2018 and 2019. Q1 2017 annualized GDP growth in Japan reached 1.0%.

A number of economies in emerging East Asia also showed accelerating gains. The PRC's GDP growth rate of 6.9% y-o-y in Q1 2017 was up from 6.8% y-o-y growth in the previous quarter. Hong Kong, China's GDP expanded 4.3% y-o-y in Q1 2017 after growing 3.2% y-o-y in Q4 2016. Indonesia's economy also showed gains with GDP growth inching up to 5.0% y-o-y from 4.9% y-o-y in the same period. The Republic of Korea's GDP growth rate rose to 2.9% y-o-y in Q1 2017 from 2.4% y-o-y in Q4 2016. In Malaysia, the economy expanded faster than expected at 5.6% y-o-y in Q1 2017, up from 4.5% y-o-y in Q4 2016. Lastly, Thailand's GDP growth accelerated to 3.3% y-o-y in Q1 2017 from 3.0% y-o-y in the prior quarter.

Improved investor sentiment led to declines in the yield for 2-year tenors in the Republic of Korea, Indonesia, Malaysia, and Thailand (**Figures 7a, 7b**). The 2-year yield also declined in Hong Kong, China due to strengthened liquidity, while Singapore's 2-year yield closely tracked that of the US.

For the 10-year yield, Singapore closely tracked US yields (**Figure 8a**), while positive sentiment drove rates lower in Indonesia and Malaysia (**Figure 8b**). In Hong Kong, China, the 10-year yield fell on high levels of domestic liquidity.

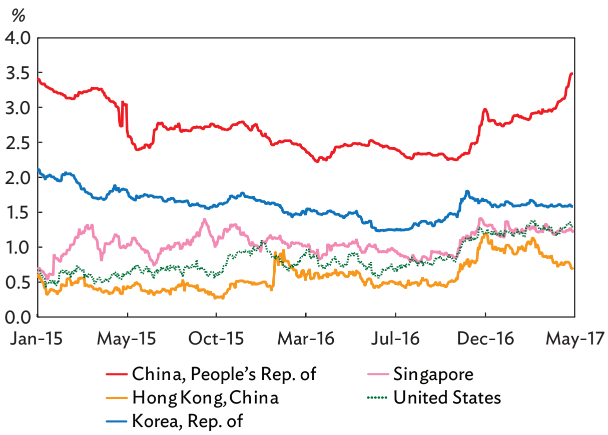
It was only in the PRC and the Philippines where both the 2-year and 10-year yields saw increases. In the case of the PRC, the rise in yields was consistent with the government's deleveraging efforts, causing borrowing costs to rise. In the Philippines, the higher yields were driven by rising inflation. The Bangko Sentral ng Pilipinas, in its monetary policy statement on 11 May, said that while inflation is still within the target range, inflation risk was biased to the upside.

The improved investor sentiment in emerging East Asia was also seen in positive bond inflows and gains in the share of foreign investor holdings. Optimism and gains in economic growth led to better asset prices in the region's foreign exchange and equity markets.

Other than movements in the 2-year and 10-year yields, downward shifts were noted for most tenors in most emerging East Asian government bond yield curves between 1 March and 15 May (**Figure 9**). The yield curve shifted downward for all tenors in Hong Kong, China and Indonesia.

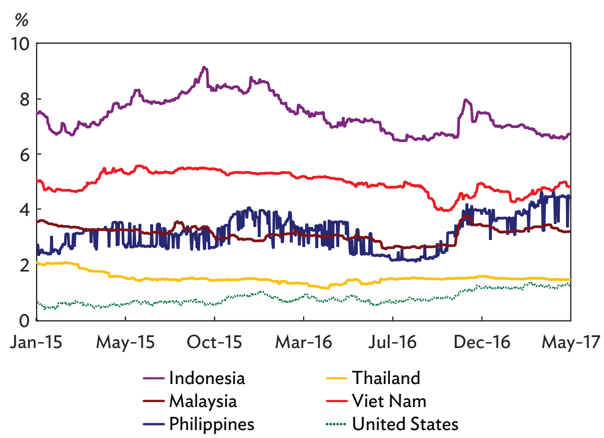
Indonesia had the greatest decline in its yields, with yields falling an average of 41 bps. Investors are bullish over Indonesia's improving macroeconomic and

Figure 7a: 2-Year Local Currency Government Bond Yields



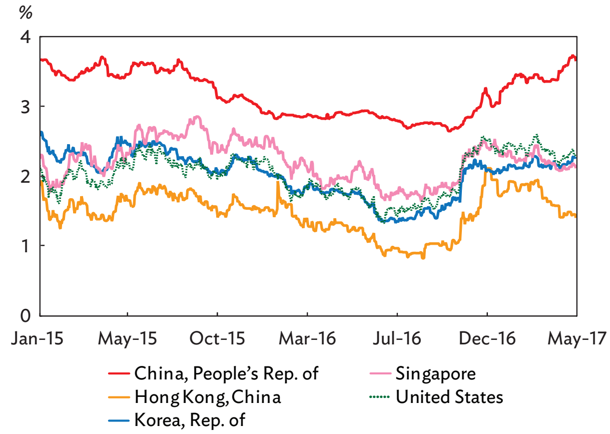
Note: Data as of 15 May 2017.
Source: Based on data from Bloomberg LP.

Figure 7b: 2-Year Local Currency Government Bond Yields



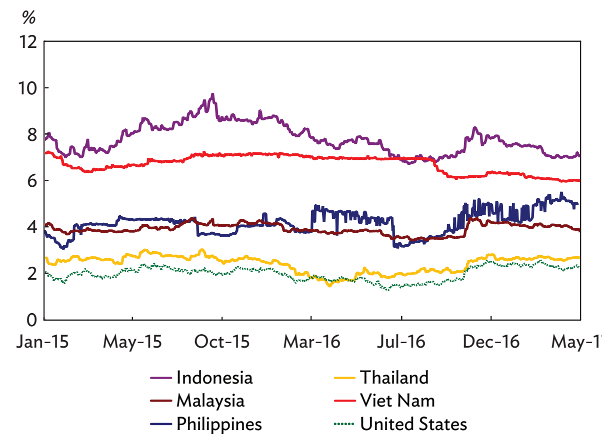
Note: Data as of 15 May 2017.
Source: Based on data from Bloomberg LP.

Figure 8a: 10-Year Local Currency Government Bond Yields



Note: Data as of 15 May 2017.
Source: Based on data from Bloomberg LP.

Figure 8b: 10-Year Local Currency Government Bond Yields



Note: Data as of 15 May 2017.
Source: Based on data from Bloomberg LP.

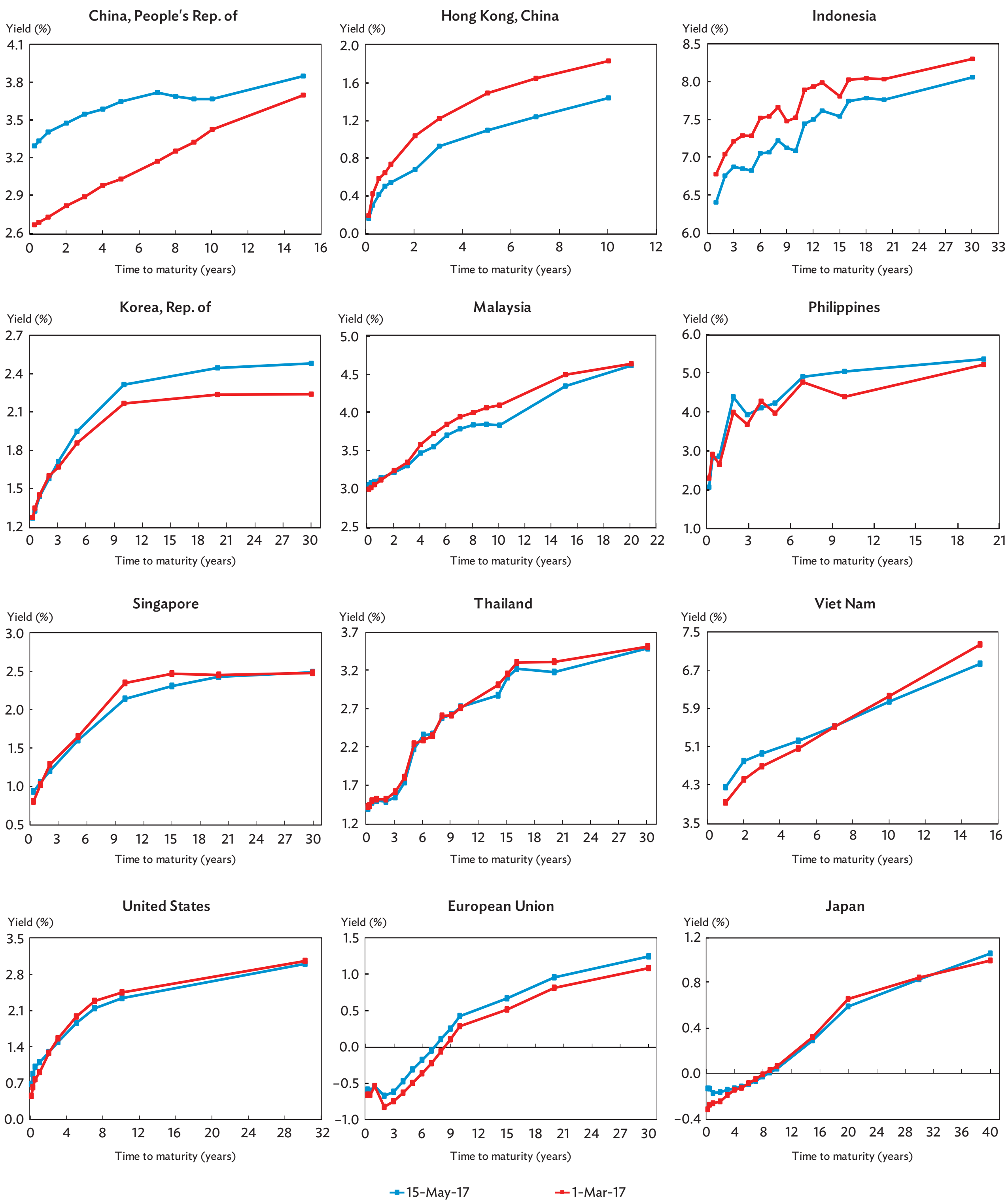
financial conditions, as well as positive revisions from a number of credit ratings agencies to Indonesia's outlook.

The yield curve fell for most tenors in Malaysia, Singapore, and Thailand. However, the yield curve for the Republic of Korea mostly shifted upward. While the Republic of Korea's yields tracked US yields for the most part, uncertainties in the direction of domestic policy and geopolitical risk placed upward pressure on its yields.

In the Philippines and Viet Nam, the yield curve shifted upward for most tenors on rising inflation, while the yield curve rose for all tenors in the PRC due to continued deleveraging.

Consistent with improving economic growth, a majority of emerging East Asian economies saw inflation rates peak in January–February before easing somewhat in March–April. The decline in inflation from these peaks follows the significant decline in oil prices in March. Oil prices hit a temporary peak of USD54.48 per barrel on 23 February but had fallen to USD47.02 by 27 March, driven by rising oil inventories in the US.

Figure 9: Benchmark Yield Curves—Local Currency Government Bonds

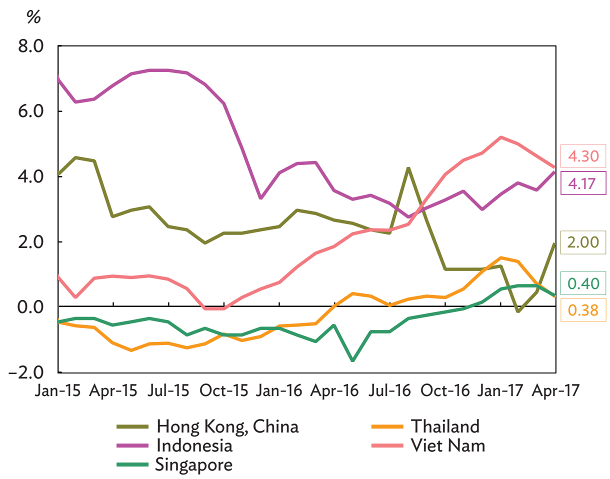


Source: Based on data from Bloomberg LP.

The exceptions to this inflation trend include Indonesia and the Philippines where inflation rates continued to rise due to higher energy prices (**Figure 10a, 10b**). Inflation also remained elevated in Viet Nam despite slowing in April. In Hong Kong, China, inflation fell in February and rebounded in March. However, inflation was distorted by the timing of the Lunar New Year, with inflation actually falling if the March inflation figure is compared to the average of January–February.

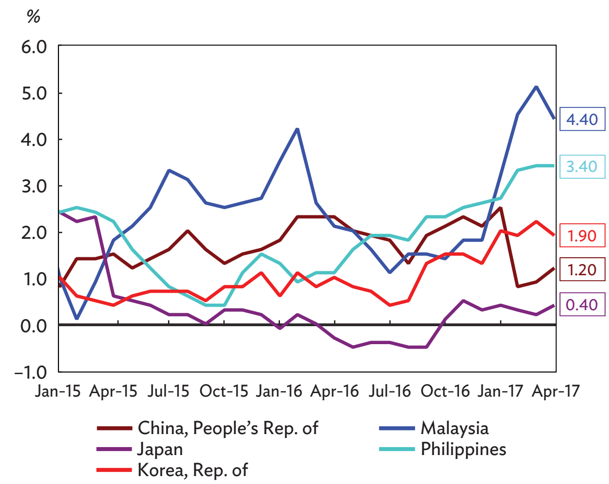
Nearly all central banks kept their policy rates steady from 1 January to 15 May with the exception of Hong Kong, China (**Figures 11a, 11b**). Its lack of an independent monetary policy dictates that its policy rate follows movements in the US policy rate. Most central banks have kept policy rates steady as economic growth picks up and inflation is rising since they are still not at the levels at which central banks would feel the need to act. Some central banks are also monitoring global developments and awaiting further clarity.

Figure 10a: Headline Inflation Rates



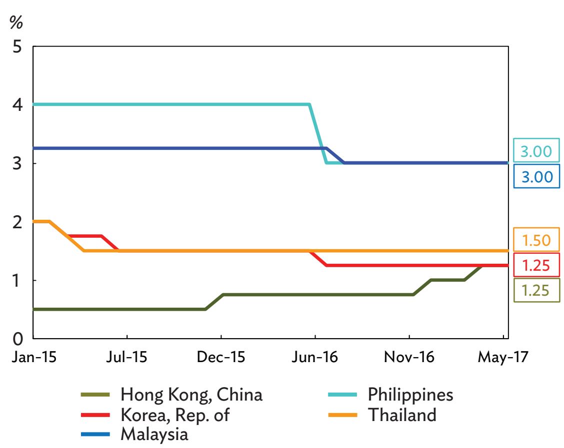
Note: Data as of April 2017.
Source: Based on data from Bloomberg LP.

Figure 10b: Headline Inflation Rates



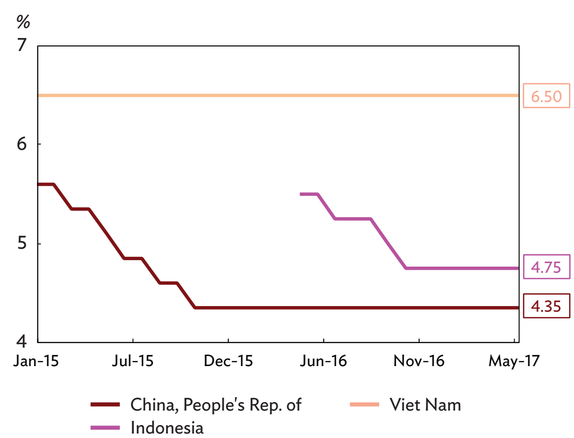
Note: Data as of April 2017.
Source: Based on data from Bloomberg LP.

Figure 11a: Policy Rates



Notes:
1. Data as of 15 May 2017.
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 11b: Policy Rates



Notes:
1. Data as of 15 May 2017.
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.

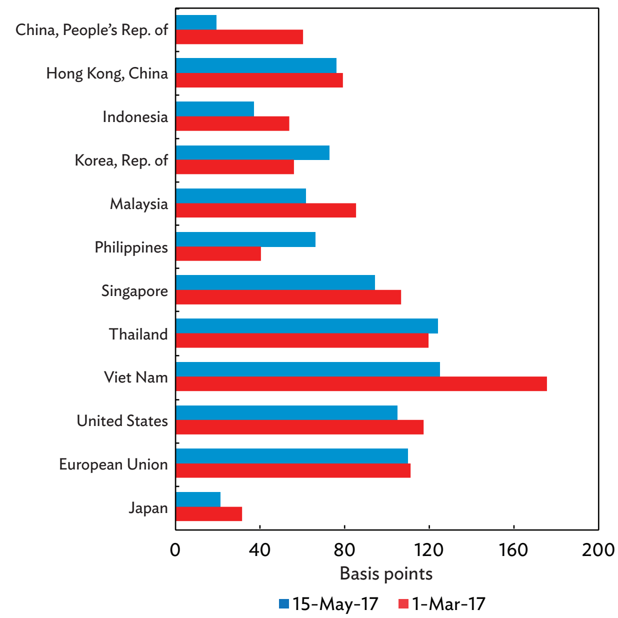
During the review period from 1 March to 15 May, the 2-year versus 10-year yield spread fell in nearly all markets except for the Republic of Korea, the Philippines, and Thailand (**Figure 12**).

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

The difference between AAA-rated corporate yields and government yields rose from 1 March to 15 May in all three markets (**Figure 13a**). In the PRC, the rise was due to heightened risk aversion amid continued deleveraging.

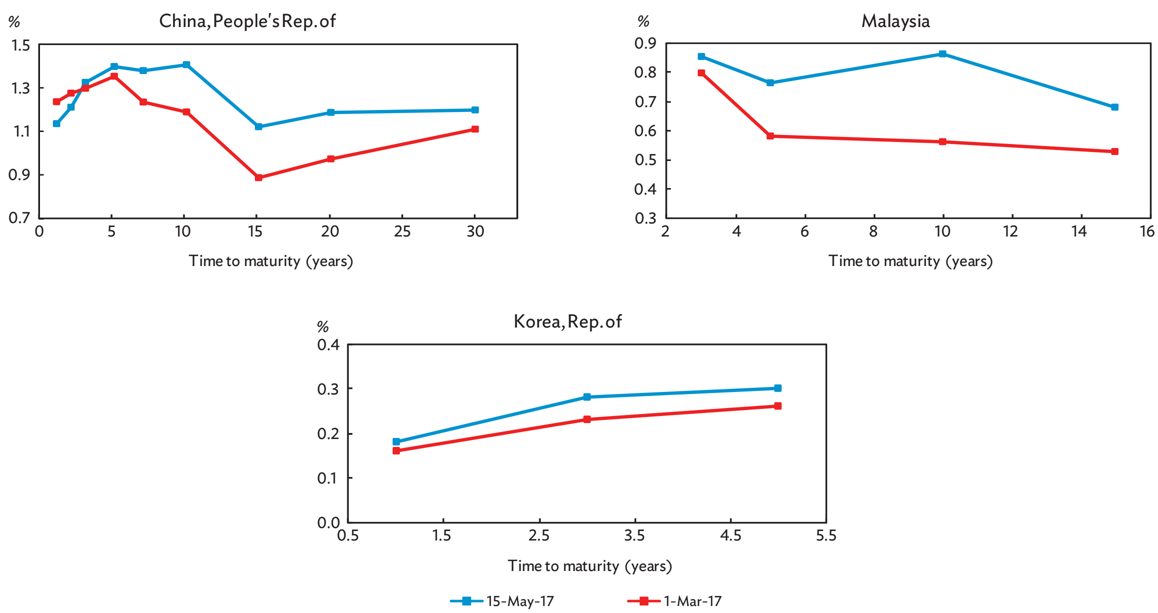
In the PRC and the Republic of Korea, the yield spreads between AAA-rated corporates and lower-rated corporates were mostly unchanged between 1 March and 15 May (**Figure 13b**).

Figure 12: Yield Spreads Between 2-Year and 10-Year Government Bonds



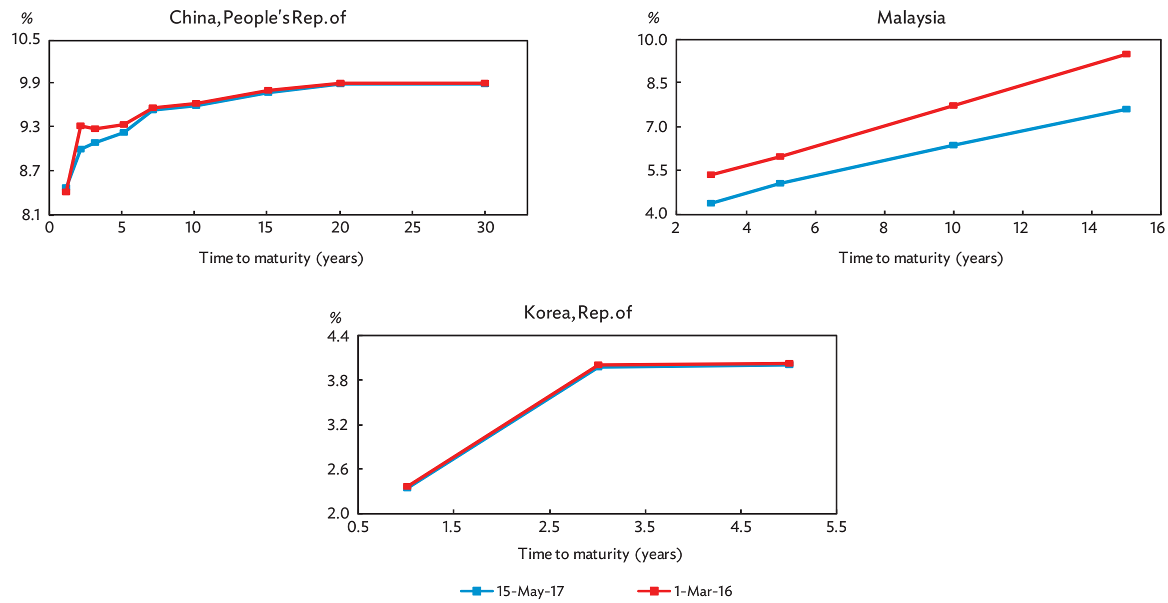
Source: Based on data from Bloomberg LP.

Figure 13a: 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 28 February 2017 and 12 May 2017.
Sources: People's Republic of China (*Wind Information*), Republic of Korea (*EDAILY BondWeb*), and Malaysia (Bank Negara Malaysia).

Figure 13b: 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.
3. For Malaysia, data on corporate bond yields are as of 28 February 2017 and 12 May 2017.

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

New Regulations for the Issuance of Local Government Bonds

In February and March, the People's Republic of China (PRC) announced new rules governing the issuance of local government bonds in the first quarter of 2017 to limit the credit risk of local governments. The regulations will limit the total amount that a local government can issue, subject to a formula. In addition, local governments cannot issue more than 30% of the quota in a single quarter. Funds sourced from bonds issued from the debt swap program can only be used for the repayment of debt. The PRC also raised the quota of local government bond issuance from CNY17.2 trillion to CNY18.8 trillion.

Limits on Use of Low-Rated Bonds as Borrowing Collateral

On 7 April, the PRC issued rules prohibiting the use of corporate bonds with credit ratings lower than AAA or corporate bonds issued by corporates with a credit rating lower than AA as collateral for short-term borrowing. The new rule affects only corporate bonds issued after 7 April.

Hong Kong, China

The People's Republic of China and Hong Kong, China Launch Bond Market Link

On 17 May, the PRC and Hong Kong, China approved a plan to link the PRC's interbank bond market with Hong Kong, China's bond market. The link will allow Hong Kong, China and foreign investors to invest in the PRC's bond market via Hong Kong, China's financial markets.

Indonesia

Bank Indonesia and the Bank of Korea Renew Bilateral Currency Swap Arrangement

On 6 March, Bank Indonesia and the Bank of Korea agreed to renew their bilateral local currency swap arrangement to promote bilateral trade and financial cooperation between the two markets. The agreement calls for the exchange of local currencies up to KRW10.7 trillion–IDR115 trillion for a period of 3 years, subject to an extension with the consent of both parties.

Bank Indonesia Issues New Regulation to Boost the Trading of Negotiable Deposit Certificates

In March, Bank Indonesia issued a new regulation to boost the trading of negotiable deposit certificates and encourage financial institutions to invest excess cash in these instruments. The new regulation, which will take effect on 1 July, provides guidance on the approval process for issuers, transactions, and supervision, among others. Bank Indonesia is also looking at issuing regulations for commercial paper transactions.

Republic of Korea

Financial Services Commission Announces New Approach to Corporate Restructuring

On 13 April, the Financial Services Commission announced a new approach to corporate restructuring in the Republic of Korea. This is to complement the existing framework and introduce more market-based restructuring schemes where capital market players, particularly private equity funds, will have an active role. The new approach includes a review and revision of banks' existing credit-risk evaluation models and frameworks. Companies that are included under a workout program are to be reevaluated and a more appropriate plan will be considered. This may be a continuation of the workout program or a buyout plan by private equity funds. A public–private joint fund worth KRW8 trillion will also be raised over the next 5 years. State-run banks will provide KRW4 billion and the remaining half will be funded by the private sector. The fund is intended to provide sufficient liquidity in the corporate bond market and encourage more private investments in corporate restructuring.

Malaysia

Securities Commission Allows Regulated Short-Selling of Corporate Bonds

In April, Malaysia's Securities Commission allowed principal dealers, primarily banks, to undertake a regulated short-selling of corporate bonds. The Securities Commission has set out conditions on how the regulated short-selling of corporate bonds is to be conducted and the requirements to ensure market stability. The commission's regulatory development is in line with Malaysia's efforts to develop its bond market and boost liquidity.

Bank Negara Malaysia Eases Rules on Short-Selling of Government Securities

Bank Negara Malaysia (BNM) eased rules on the short-selling of Malaysian Government Securities (MGS) starting 2 May. The move is part of the liberalization measures by the central bank to develop domestic financial markets and restore investor interest in government debt. Prior to this development, only licensed banks and investment banks were allowed to short-sell MGS. The new rule allows companies and insurers to short-sell MGS to help them manage their risk and generate more trading volume, resulting in higher liquidity onshore. The central bank also said this will attract foreign investors to bring funds back to the domestic market. The clampdown on nondeliverable forwards launched in November in an effort to stabilize the ringgit saw foreign investors offload government securities.

The Bank of Japan and Bank Negara Malaysia Conclude Bilateral Currency Swap Agreement

The Bank of Japan and BNM reached a bilateral currency swap agreement in early May. The agreement between the central banks will allow them to swap their currencies with US dollars when needed up to a maximum of USD3 billion. The arrangement will deepen the economic and trade ties between the Japanese and Malaysian markets and contribute to financial stability in Southeast Asia.

Philippines

The Philippines to Borrow PHP180 Billion in the Second Quarter of 2017

The Government of the Philippines plans to borrow PHP180 billion domestically in the second quarter (Q2) of 2017, the same amount as planned borrowing in the first quarter of 2017. The offer will comprise up to PHP90 billion each of Treasury bills and Treasury bonds to be sold in six scheduled auctions. The Q2 2017 planned borrowing is higher than the PHP135 billion target in Q2 2016. Treasury bonds will have longer maturities of 7, 10, and 20 years, as the government wants to stretch its liability amid a rising interest rate environment, especially as the United States Federal Reserve has signaled two more rate hikes this year. In the first quarter of 2017, the government sold PHP150.6 billion of government securities.

ASEAN Banking Integration Framework Negotiations Conclude between Bangko Sentral ng Pilipinas and Bank Negara Malaysia

The Bangko Sentral ng Pilipinas and BNM signed in April the Declaration of Conclusion of Negotiations under the Association of Southeast Asian Nations (ASEAN) Banking Integration Framework. This marked the completion of negotiation between the central banks, allowing the entry of Qualified ASEAN Banks between the two countries. Under the agreement, these banks will have greater access to each other's markets and more operational flexibility in banking activities. The Bangko Sentral ng Pilipinas has also signed a Letter of Intent with the Bank of Thailand to begin similar discussions on the ASEAN Banking Integration Framework.

Singapore

Monetary Authority of Singapore Eases Finance Company Regulations in Support of Small and Medium-Sized Enterprise Financing

In February, the Monetary Authority of Singapore eased business restrictions on finance companies in support of their lending operations to small and medium-sized enterprises (SMEs). Uncollateralized business loans will be raised to 25% from 10% of its capital funds. The limit on an uncollateralized business loan to a single borrower will be raised to 0.5% of capital funds from the current limit of SGD5,000. Finance companies will also be allowed to offer current account and checking services to their business customers. Finally, the Monetary Authority of Singapore will consider applications for any foreign merger or takeover of a finance company if the merger partner or acquirer commits to maintaining SME financing as a core business. The aim of the relaxed regulations is to enhance the ability of finance companies to provide financing for SMEs.

Thailand

Securities and Exchange Commission Tightens Regulations on Nonrated Bonds

New regulations from the Securities and Exchange Commission governing nonrated and non-investment grade bonds went into effect on 16 January. Asset management companies were given 120 days to comply. The new regulations effectively bar any intermediary, including asset management companies, from holding more than one-third of any nonrated or non-investment grade bond issue. In addition, the intermediary is also barred from being the issuer's major creditor. The regulations were aimed at reestablishing investor confidence and protecting investors after a string of unrated bills of exchange began defaulting in October 2016.

The Bank of Japan and Bank of Thailand Sign Bilateral Swap Arrangement

On 5 May, the Bank of Japan and the Bank of Thailand signed their fourth bilateral swap arrangement with a facility size of USD3 billion. The arrangement will enable authorities in both economies to swap their local currencies against US dollars. The aim is to reinforce the stability of financial markets and to deepen economic cooperation and trade between both economies.

Viet Nam

Ministry of Finance Issues Regulations on the Buyback of Government Bonds

Effective 1 May, the Government of Viet Nam can conduct buybacks and repurchases of government bonds. Eligible bonds for repurchase are those issued by the State Treasury. Bond repurchases by the government are conducted to help better manage its liabilities and establish benchmark interest rates. Buyback transactions will be undertaken in the Hanoi Stock Exchange (HNX) through negotiated sale or bidding process. The Ministry of Finance will provide the interest rate range for bond buybacks. This new regulation is expected to boost liquidity and maintain stability in the bond market.

Ministry of Finance Issues Regulations on Short-Selling and Sell–Buyback of Government Bonds

The Ministry of Finance issued a new regulation that will take effect on 1 September, allowing short-selling and repurchase transactions among member participants of HNX. The short-selling term will only be allowed up to a maximum of 180 days and must not exceed the remaining maturity of the bonds. Both HNX and Viet Nam Securities Depository also released rules governing short-selling and sell–buyback of bonds to help deepen the derivatives market in Viet Nam.

Do Local Currency Bond Markets Enhance Financial Stability? Some Empirical Evidence

Introduction

Currency and maturity mismatches are widely viewed as a major source of financial vulnerability in developing markets.[10] If an economy's financial liabilities are denominated in a foreign currency such as United States (US) dollars but its financial assets are denominated in the domestic currency, then a sudden depreciation of the domestic currency damages its balance sheet, destabilizing the financial system and the overall economy. If the maturity of its financial liabilities is shorter than the maturity of its assets, the likelihood of a crisis further increases. In short, borrowing on short term in a foreign currency and lending on long term in the domestic currency is a recipe for instability and even crisis. The double mismatch problem (currency and maturity) was a contributing factor to the devastating 1997/1998 Asian financial crisis.

In the aftermath of the crisis, markets in members of the Association of Southeast Asian Nations (ASEAN) and the People's Republic of China (PRC), Japan, and the Republic of Korea—collectively known as ASEAN+3—prioritized the development of local currency (LCY) bond markets as a major policy objective.[11] In 2003, the finance ministers of the ASEAN+3 economies introduced the Asian Bond Markets Initiative to develop LCY bond markets in the region. Given the region's heavy reliance on bank financing, developing LCY bond markets can contribute to a larger role for capital markets and thus more diversified and balanced financial systems across the region. The painful experience of the 1997/1998 Asian financial crisis highlighted the need for the region's bank-centered financial systems to develop LCY bond markets as a "spare tire" to enhance resilience in the event of shocks.

The literature points to other benefits of LCY bond market development in emerging economies. For example, Caballero, Farhi, and Gourinchas (2008) argued that the chronic excess demand for US assets, which contribute to global imbalances, is due to financial underdevelopment in emerging markets. In addition to mitigating the double mismatch problem, vibrant LCY bond markets that comprise debt instruments of varying maturities can increase the supply of Asian financial assets and thus channel the region's ample savings into needed investments. Prasad (2011) argues that a more developed financial system that effectively channels funds into productive uses and enables better risk-sharing would promote growth in Asia by encouraging more entrepreneurial activity. The International Monetary Fund (IMF) (2016) emphasizes the increasingly important role of LCY bond markets as a source of long-term funding for long-term investments such as infrastructure and housing.

The central objective of this chapter is to empirically investigate the role of LCY bond markets in enhancing financial stability in developing markets by mitigating currency and maturity mismatches. To do so, we analyze and compare the financial vulnerability of developing economies during two episodes of financial stress: the Global Financial Crisis and the so-called Taper Tantrum. We find that economies whose LCY bond markets experienced greater expansion in size between the two episodes also experienced a greater reduction in exchange rate depreciation during the latter episode, indicating the stabilizing role of LCY bond markets. Our evidence indicates that a gradual expansion of bank loans may also contribute to financial stability. On the other hand, we do not find any evidence of a stabilizing effect for stock market development.

[10] Eichengreen and Hausmann (1999) emphasized that most emerging economies suffer from "original sin," which refers to when the domestic currency cannot be used to borrow abroad or borrow on long term. Later, Eichengreen, Hausmann, and Panizza (2005) focused more on the problem of currency mismatch.

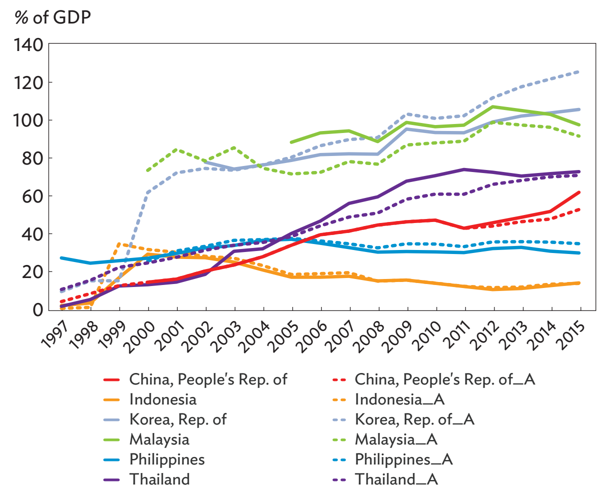
[11] See, for example, Park (2016) for initiatives to develop LCY bond markets in Asia.

Recent Developments in Asia's Local Currency Bond Markets

Data on the amount outstanding of LCY bond markets are not widely available. *AsianBondsOnline* reports time series data for the following Asian LCY bond markets: the PRC; Hong Kong, China; Indonesia; Japan; the Republic of Korea; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam. To include as many developing economies as possible in this study, we use debt securities statistics from the Bank for International Settlements (BIS) in our main empirical analysis.[12]

The BIS' debt securities statistics report total debt securities (TDS) issued by residents. TDS are divided into domestic debt securities (DDS) and international debt securities (IDS).[13] Since DDS are not separately reported for different currency denominations, we assume that all DDS issued by residents are denominated in local currencies. On the other hand, IDS are separately reported by those issued in local currencies and those in foreign currencies. We calculate the size of local currency bond markets by adding the outstanding amounts of DDS and IDS that are denominated in local currency. For some markets, only a subset of these statistics is available. If the outstanding amount of IDS denominated in local currency is missing, we use the outstanding amount of DDS only.[14] If the amount of DDS is missing, we use the amount of TDS by residential issuers after subtracting IDS that are not denominated in local currency.

Figure 14: Size of Local Currency Bond Markets as a Share of Gross Domestic Product for Select Asian Economies



GDP = gross domestic product.
Notes:
1. Hong Kong, China; Japan; and Singapore are not shown since they are advanced economies and/or financial centers.
2. For each market, the solid line represents the size of local currency bond markets based on data collected by the Bank for International Settlements and the dotted lines are based on data from *AsianBondsOnline*. We calculate the size of local currency bond markets by adding the amount outstanding of domestic debt securities and international debt securities that are denominated in local currency. For those markets for which only a subset of these statistics is available, we use the amount outstanding of domestic debt securities or total debt securities after subtracting international debt securities that are not denominated in local currency.

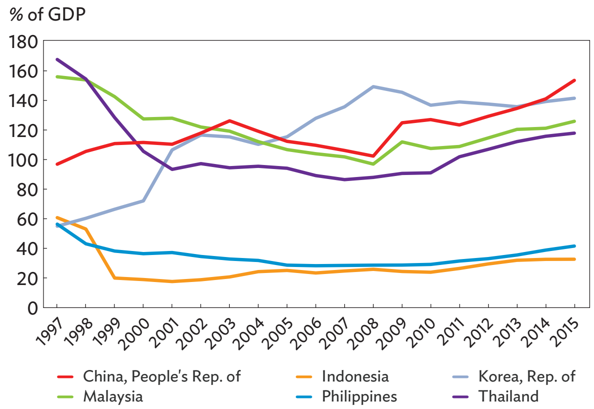
Sources: Authors' calculations based on the Bank for International Settlements' Debt Securities Statistics, World Bank's World Development Indicators, and data from *AsianBondsOnline*.

Figure 14 shows the size of LCY bond markets in Asia calculated as a percentage of gross domestic product (GDP).[15] We also plot the size of LCY bond markets using data obtained from the *AsianBondsOnline* website. The amount of LCY bonds outstanding calculated from the two sources is quite similar. The figure shows that since the 1997/1998 Asian financial crisis, the amount of LCY bonds outstanding increased substantially in the PRC, the Republic of Korea, and Thailand. According to *AsianBondOnline*, the size of the LCY bond market as a share of GDP in 1998 in the PRC, the Republic of Korea, and Thailand was 9%, 16%, and 16%, respectively. These shares had increased to 53%, 125%, and 71%, respectively, by 2015. The growth of LCY bond markets in other Asian economies has not been as dramatic. In fact, the relative size of LCY bond markets has been steadily decreasing in Indonesia since 2000 and in the Philippines since 2005.

Figure 15 illustrates the size of bank loans as a percentage of GDP for Asian economies.[16] In contrast to LCY bond markets, the relative size of bank loans as a share of GDP in Asian economies has not increased much since 1998. The Republic of Korea and the PRC are two exceptions,

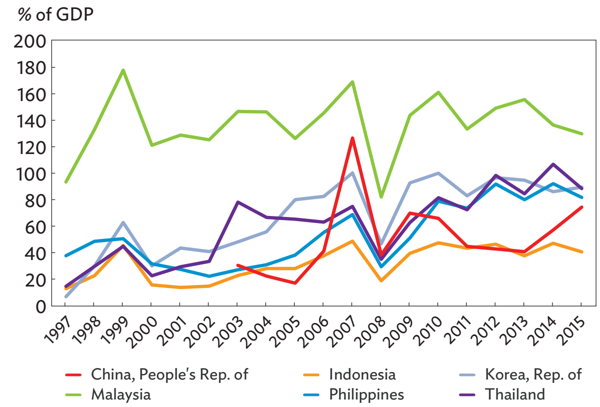
[12] A number of authors used the BIS data to measure the size of LCY bond markets. See, for example, Bae (2012) and Burger and Warnock (2006).
[13] The sum of DDS and IDS is not exactly the same as TDS due to potential overlap between DDS and IDS.
[14] IDS are compiled from a security-by-security database built by BIS and the relevant information is supplied by commercial data providers. IDS are mostly compiled from data reported to BIS by central banks. For a few countries, BIS collects data directly from publicly available sources. BIS does not calculate TDS and its statistics are published only when central banks provide the relevant data to BIS. For more information on debt securities statistics, see the BIS webpage at http://www.bis.org/statistics/about_securities_stats.htm
[15] Hong Kong, China; Japan; and Singapore are not included since they are advanced economies and/or financial centers. The nominal GDP data are collected from the World Bank's World Development Indicators.
[16] Bank loans are domestic credit provided to the private sector by banks. Data were collected from the World Bank's World Development Indicators.

Figure 15: Bank Loans as a Share of Gross Domestic Product for Select Asian Economies



GDP = gross domestic product.
Note: Bank loans are domestic credit provided to the private sector by banks.
Source: World Bank. World Development Indicators. http://data.worldbank.org/data-catalog/world-development-indicators

Figure 16: Stock Market Capitalization as a Share of Gross Domestic Product for Select Asian Economies



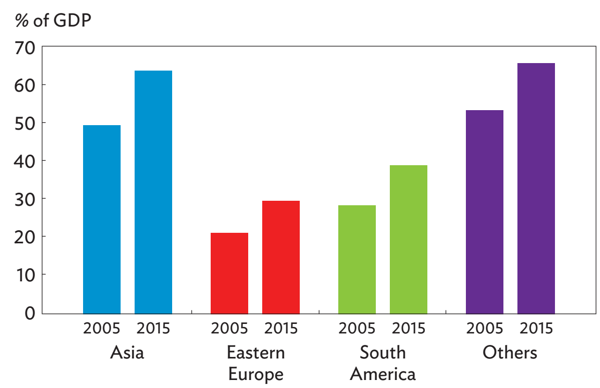
GDP = gross domestic product.
Source: Source: World Bank. World Development Indicators. http://data.worldbank.org/data-catalog/world-development-indicators

but even in these economies bank loans grew more slowly than LCY bond markets. Between 1998 and 2015, bank loans grew from 60% of GDP to 141% of GDP in the Republic of Korea, and from 105% to 153% in the PRC. In other economies, the relative size of bank loans was lower in 2015 than in 1998.

Figure 16 presents stock market capitalization as a percentage of GDP, which has been increasing in most Asian markets in recent decades. Between 1998 and 2015, stock market capitalization increased from 23%–49% to 41%–89% in Indonesia, the Republic of Korea, the Philippines, and Thailand. Generally, the region's stock markets grew more slowly than the region's LCY bond markets during the review period. Taken together, Figures 14–16 show that, on average, LCY bond markets grew more rapidly than both bank loans and stock markets in Asian economies.

Figure 17 shows the size of LCY bond markets as a share of GDP in 2005 and 2015 for various regions. While the relative size of LCY bond markets is larger in Asia than in Eastern Europe and South America in both years, growth is comparable across regions. Hence, we can conclude that the development of LCY bond markets is not an Asia-specific trend.

Figure 17: Growth of Local Currency Bond Markets in Various Regions



GDP = gross domestic product.
Notes:
1. The size of local currency bond markets is based on data collected from the Bank for International Settlements. We calculate the size of local currency bond markets by adding the amount outstanding of domestic debt securities and international debt securities that are denominated in local currency. For those markets for which only a subset of these statistics is available, we use the amount outstanding of domestic debt securities or total debt securities after subtracting international debt securities that are not denominated in local currency.
2. Asia comprises the People's Republic of China, Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand. Eastern Europe comprises Croatia, the Czech Republic, Hungary, Latvia, Lithuania, Poland, the Russian Federation, and Turkey. South America comprises Argentina, Brazil, Colombia, Mexico, and Peru. Others comprises South Africa, Israel, Lebanon, and Pakistan.

Source: Authors' calculations based on Bank for International Settlements' Debt Securities Statistics.

Empirical Framework

One main benefit of LCY bond markets is that they foster financial stability by mitigating currency and maturity mismatches. A logical implication is that LCY bond market development reduces the vulnerability of financial markets in developing markets to external shocks. We can test this hypothesis following the empirical approach used by Eichengreen and Gupta (2015) and Park, Ramayandi, and Shin (2016). These studies sought to identify the factors associated with the destabilizing impact of the Taper Tantrum on developing economies. Both studies used exchange rate depreciation as the measure of financial vulnerability and empirically analyzed which factors influence the effects of quantitative easing tapering on exchange rate depreciation.

The basic regression equation estimated by Eichengreen and Gupta (2015) and Park, Ramayandi, and Shin (2016) takes the following linear form:

$$ERD_i = X_i\beta + \epsilon_i \qquad (1)$$

where ERD_i is the nominal exchange rate depreciation against the US dollar experienced by an emerging market i during the Taper Tantrum—defined as the period between the end of April 2013 and the end of August 2013—and X_i is a vector of market-specific factors for the economy i that are associated with exchange rate depreciation.[17] The factors considered by these studies include (i) the deterioration in the current account deficit and real exchange rate appreciation before the Taper Tantrum (2010–2012) as measures of local market impact and loss in competitiveness; (ii) cumulative private capital inflows and the stock of portfolio liabilities as measures of capital inflows and the size of the financial market; (iii) real GDP growth, inflation, and the foreign reserves–M2 ratio as measures of economic fundamentals; and (iv) the exchange rate regime and institutional quality as structural variables. These variables are measured either in 2012 or as their averages from 2010–2012.[18]

We will use the same setup but add the size of LCY bond markets to equation (1) as an additional explanatory variable. We will investigate whether the development of LCY bond markets has any beneficial effect on financial vulnerability in the sense that emerging economies with a larger LCY bond market experienced less exchange rate depreciation during the Taper Tantrum. In particular, we will estimate the effect of LCY bond market size after controlling for the above explanatory variables that were also used in Eichengreen and Gupta (2015) and Park, Ramayandi, and Shin (2016).

Eichengreen and Gupta (2015) and Park, Ramayandi, and Shin (2016) estimated equation (1) to identify factors associated with the adverse impact of the Taper Tantrum. In principle, the same equation can be used to analyze factors responsible for the vulnerability of an economy to other financial stress episodes. For example, the same equation can be estimated for the Global Financial Crisis to check if the same factors caused financial vulnerability during both the Global Financial Crisis and the Taper Tantrum. Therefore, we estimate equation (1) for both period 1 (Global Financial Crisis) and period 2 (Taper Tantrum):

$$ERD_{ip} = X_{ip}\beta + \epsilon_{ip}, \qquad \text{p=1 or 2} \qquad (2)$$

where p=1 (period 1) is for the Global Financial Crisis and p=2 (period 2) is for the Taper Tantrum.

One advantage of considering both periods is that now we can eliminate market-fixed effects by combining the experiences of the two periods. Since the estimation of equation (1) in Eichengreen and Gupta (2015) and Park, Ramayandi, and Shin (2016) is a cross-section regression, unobservable market-fixed effects, f_i, may not have been completely eliminated, thereby generating biased estimates as follows:

$$ERD_{ip} = X_{ip}\beta + f_i + \epsilon_{ip}, \qquad \text{p=1 or 2} \qquad (3)$$

In equation (3), if f_i and ϵ_{ip} are correlated, the estimates of β should be biased. However, if market-fixed effects, f_i, are not time-varying, we can eliminate market-fixed effects by taking the difference of equation (3) across periods and estimating the following equation:

$$\Delta ERD_i = \Delta X_i\beta + \delta_i \qquad (4)$$

where $\Delta ERD_i = ERD_{i2} - ERD_{i1}$, $\Delta X_i = X_{i2} - X_{i1}$, and $\delta_i = \epsilon_{i2} - \epsilon_{i1}$. Since f_i is no longer present, estimates of β in equation (4) are not biased.

17 The list of emerging markets is included in the Appendix as Table A1.
18 Please refer to Park, Ramayandi, and Shin (2016) for a more comprehensive discussion of the variables and data.

Empirical Findings

The data sources for most explanatory variables are the World Bank's World Development Indicators (WDI) and the IMF's International Financial Statistics (IFS).[19] Specifically, the current account deficit as a percentage of GDP, the foreign reserves–M2 ratio, real GDP growth rate, and inflation are collected from WDI; the real exchange rate is calculated by using the nominal exchange rate against the US dollar; and domestic inflation indexes and the US Consumer Price Index are collected from IFS. Private capital flows data are measured by the net incurrence of liabilities of equity, debt securities, and other debt instruments in the financial account, as reported in the IMF's Balance of Payments Statistics. Exchange rate regime classification follows the categorizations of the annual fine classification in Ilzetzki, Reinhart, and Rogoff (2017). The stock of portfolio liabilities is obtained from the Lane and Milesi–Ferretti dataset that extends Lane and Milesi–Ferretti (2007).

Table 5 presents summary statistics of the variables for both periods 1 and 2. On average, the nominal exchange rate depreciation, which is the dependent variable of equation (1), is much lower in period 2 than in period 1, indicating that the impact of the Taper Tantrum on emerging economies was much less severe than the

Table 5: Summary Statistics

A. Period 1: Global Financial Crisis

	Observations	Mean	Minimum	Maximum
Percentage Change in Nominal Exchange Rate	59	0.259	0.000	0.960
Increase in Current Account Deficit (% of GDP), 2010–2012	59	1.959	−19.056	15.936
Average Annual Percentage Change in Real Exchange Rate, 2009–2012	59	−5.400	−14.295	10.598
Increase in Credit-to-GDP Ratio, 2009–2012	59	9.398	−12.903	33.922
Log of Portfolio Liability, 2011	59	10.093	5.980	13.656
Reserves–M2 Ratio, 2012	59	0.431	0.059	1.731
Inflation (CPI), 2012	59	6.673	0.510	15.842
Exchange Rate Regime (Annual fine classification of Reinhart and Rogoff), 2010	57	7.860	2.000	13.000
Total Capital Inflows during Quantitative Easing	59	4.863	−0.093	65.581
Size of Local Currency Bonds, 2012	22	0.361	0.000	0.939
Asia	59	0.119	0.000	1.000

B. Period 2: Taper Tantrum

	Observations	Mean	Minimum	Maximum
Percent Change in Nominal Exchange Rate	59	0.047	0.000	0.205
Increase in Current Account Deficit (% of GDP), 2005–2007	59	2.324	−9.740	31.436
Average Annual Percentage Change in Real Exchange Rate, 2004–2007	59	−4.046	−11.481	4.779
Increase in Credit-to-GDP Ratio, 2004–2007	59	2.339	−26.583	27.266
Log of Portfolio Liability, 2007	59	10.470	6.763	14.079
Reserves–M2 Ratio, 2007	59	0.388	0.080	1.180
Inflation (CPI), 2007	59	5.540	−0.944	21.069
Exchange Rate Regime (Annual fine classification of Reinhart and Rogoff), 2007	57	7.947	2.000	13.000
Total Capital Inflows before Global Financial Crisis	59	7.082	−1.057	129.918
Size of Local Currency Bonds, 2007	21	0.482	0.111	1.065
Asia	59	0.119	0.000	1.000

CPI = Consumer Price Index, GDP = gross domestic product, M2 = money and quasi-money.
Note: See Table A2 in the Appendix for definitions and sources of variables.
Source: Authors' calculations.

19 Definitions of variables and data sources are explained in the Appendix in Table A2.

Global Financial Crisis. A comparison of the statistics across periods yields other interesting observations. For example, the deterioration of the current account deficit and capital inflows were larger during period 2 than during period 1. There is not much difference in the other explanatory variables.

Table 6 reports the regression results of equation (1) in period 2. In column (1), we replicate Park, Ramayandi, and Shin (2016), except that we do not include real GDP growth and the rule of law as explanatory variables.[20] While the number of observations increased substantially due to changes in the IFS database, the main results in Park, Ramayandi, and Shin (2016) are preserved.[21] For example, the appreciation of real exchange rates and the increase in the credit-to-GDP ratio are highly significant at the 1% level. While the increase in the current account deficit is not significant in column (1), it is highly significant at the 1% level in the last column. In column (2), we use only the size of LCY bond markets as an explanatory variable. We add an Asia dummy in column (3) that takes the value of one for seven Asian markets and zero otherwise.[22] Irrespective of whether the Asia dummy is included or not, the size of LCY bond markets is not statistically significant, indicating that economies with a larger LCY bond market do not necessarily experience less exchange rate depreciation.

Since data on the size of LCY bond markets are available only for a limited number of markets, it might not be desirable to include too many explanatory variables. The reduction in the number of observations due to the inclusion of LCY bond market size may cause the

Table 6: Local Currency Bond Markets and Exchange Rate Depreciation in Emerging Economies during the Taper Tantrum

Variables	Percentage Change in Nominal Exchange Rate								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Increase in Current Account Deficit (% of GDP), 2010–2012	0.001 [0.001]			0.005 [0.003]					0.009*** [0.003]
Average Annual Percentage Change in Real Exchange Rate, 2009–2012	−0.005*** [0.002]			−0.007*** [0.002]				−0.006** [0.003]	−0.000 [0.003]
Increase in Credit-to-GDP Ratio, 2009–2012	0.002*** [0.001]				0.002* [0.001]			0.002** [0.001]	0.001 [0.001]
Log of Portfolio Liability, 2011	0.001 [0.003]				0.023 [0.016]				−0.013 [0.022]
Reserves–M2 Ratio, 2012	0.032 [0.022]					−0.029 [0.065]			0.005 [0.039]
Inflation (CPI), 2012	0.001 [0.001]					0.012* [0.006]		0.014** [0.005]	0.012* [0.005]
Exchange Rate Regime (Annual fine classification of Reinhart and Rogoff), 2010	0.001 [0.002]						0.002 [0.004]		0.003 [0.008]
Total Capital Inflows during Quantitative Easing	0.002** [0.001]						0.003*** [0.001]	0 [0.000]	0.003** [0.001]
Size of Local Currency Bonds, 2012		−0.004 [0.033]	−0.004 [0.040]	−0.014 [0.038]	−0.034 [0.037]	0.026 [0.050]	−0.040 [0.026]	0.033 [0.029]	−0.002 [0.026]
Asia			−0.000 [0.025]	−0.005 [0.018]	−0.017 [0.026]	0.014 [0.022]	0.026 [0.017]	0.009 [0.018]	0.026 [0.020]
Observations	57	25	25	24	23	22	24	21	20
R-squared	0.598	0.001	0.001	0.266	0.235	0.316	0.502	0.651	0.821

CPI = Consumer Price Index, GDP = gross domestic product, M2 = money and quasi-money.
Note: The dependent variable is the exchange rate depreciation experienced by the developing economy between the end of April 2013 and the end of August 2013. An increase in nominal and real exchange rates represents depreciation. The exchange rate regime is the annual fine classification in Ilzetzki, Reinhart, and Rogoff (2017). Asia is a dummy variable for six Asian markets: the People's Republic of China, Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand. Numbers in brackets are robust standard errors. ***, **, and * denote significance at the 1%, 5%, and 10%, levels, respectively.
Source: Authors' calculations.

[20] Since the GDP growth and rule of law variables were never significant in Park, Ramayandi, and Shin (2016), we decided to omit them.
[21] The reason the number of observations differs is due to capital inflows data. For this paper, we downloaded the IFS data on 15 March 2017 from http://data.imf.org/?sk=5DABAFF2-C5AD-4D27-A175-1253419C02D1. Park, Ramayandi, and Shin (2016) used data collected from IMF (2013). Interestingly, observations reported as zeros in the IMF (2013) data are reported as missing values on the IFS website. We sum the amounts of bond, equity, and loan flows unless any one of the three flows is missing.
[22] The seven Asian markets are the People's Republic of China, Indonesia, India, the Republic of Korea, Malaysia, the Philippines, and Thailand. Viet Nam is not included in the Asian dummy since the BIS Debt Securities Data are not available.

problem of overfitting if all the explanatory variables are included simultaneously. Hence, in columns (4)–(7), besides the size of LCY bond markets and the Asia dummy, we include two additional explanatory variables. For example, in column (4), we include the increase in the current account deficit and the average annual percent change in the real exchange rate. In column (5), we include the increase in the credit-to-GDP ratio and the log of portfolio liabilities. In column (8), in addition to the size of LCY bond markets and the Asia dummy, we include all significant variables in columns (4)–(7). In the last column, we also report the estimation results when all the explanatory variables are included. The results show that neither the size of LCY bond markets nor the Asia dummy is statistically significant in any column. Hence, the cross-section regression results for period 2 seem to suggest that LCY bond markets did not necessarily mitigate the impact of the Taper Tantrum in emerging economies.

In **Table 7**, we report the same cross-section regression results for period 1. Unlike the results for period 2, the increases in the current account deficit and the average annual percentage change in the real exchange rate are not statistically significant. Instead, the increase in the credit-to-GDP ratio and the log of portfolio liability are statistically significant in column (5), and the exchange rate regime and total capital inflows are statistically significant in column (7). Like the results in Table 6, however, the size of LCY bond markets remains statistically insignificant in most columns, suggesting that LCY bond markets did not mitigate the impact of the Global Financial Crisis either.

In **Table 8a**, we report the regression results of equation (4) by differencing all the variables from period 2 to period 1. In column (1), only the increase in current account deficit is statistically significant with the right sign. In column (4), the increase in the current account deficit is even more statistically significant. In columns (5) and (6), the increase in the credit-to-GDP ratio, the reserves–M2 ratio, and inflation are all statistically significant with the right sign. The coefficient of average annual percent change in the real exchange rate

Table 7: Local Currency Bond Markets and Exchange Rate Depreciation in Emerging Economies during the Global Financial Crisis

Variables	Percentage Change in Nominal Exchange Rate								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Increase in Current Account Deficit (% of GDP), 2005–2007	0.003 [0.004]			0.008 [0.010]					0.018 [0.011]
Average Annual Percentage Change in Real Exchange Rate, 2004–2007	0.953 [0.716]			−0.678 [0.539]					0.047 [0.500]
Increase in Credit-to-GDP Ratio, 2004–2007	−0.000 [0.002]				0.005*** [0.002]			0.002 [0.002]	−0.001 [0.002]
Log of Portfolio Liability, 2007	−0.026 [0.025]				0.071*** [0.024]			0.012 [0.054]	−0.041 [0.067]
Reserves–M2 Ratio, 2007	0.048 [0.097]					−0.112 [0.155]			−0.227* [0.119]
Inflation (CPI), 2007	0.001 [0.007]					0.010 [0.010]			−0.009 [0.013]
Exchange Rate Regime (Annual fine classification of Reinhart and Rogoff), 2007	0.023*** [0.008]						0.025*** [0.008]	0.022* [0.011]	0.022* [0.011]
Total Capital Inflows before Global Financial Crisis	0.014** [0.006]						0.006*** [0.002]	0.005 [0.004]	0.012 [0.008]
Size of Local Currency Bonds, 2007		−0.004 [0.131]	0.055 [0.161]	0.213 [0.138]	0.064 [0.109]	0.237* [0.133]	0.036 [0.072]	0.049 [0.075]	0.041 [0.105]
Asia			−0.098 [0.079]	−0.094 [0.091]	−0.094 [0.061]	−0.149** [0.065]	−0.049 [0.055]	−0.048 [0.071]	0.045 [0.072]
Observations	57	24	24	22	24	23	23	23	21
R-squared	0.337	0.000	0.079	0.389	0.494	0.344	0.628	0.643	0.740

CPI = Consumer Price Index, GDP = gross domestic product, M2 = money and quasi-money.
Note: The dependent variable is the exchange rate depreciation experienced by the developing economy between the end of July 2007 and the end of June 2009. An increase in nominal and real exchange rates represents depreciation. The exchange rate regime is the annual fine classification in Ilzetzki, Reinhart, and Rogoff (2017). Asia is a dummy variable for six Asian markets: the People's Republic of China, Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand. Numbers in brackets are robust standard errors. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.
Source: Authors' calculations.

Table 8a: Growth of Local Currency Bond Markets and Exchange Rate Depreciation during Crisis Periods (India included)

Variables	Difference of Percentage Change in Nominal Exchange Rate								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Difference of Increase in Current Account Deficit (% of GDP)	0.005** [0.002]			0.027*** [0.007]				0.039** [0.013]	0.045*** [0.013]
Difference of Average Annual Percentage Change in Real Exchange Rate	0.007 [0.005]			0.010*** [0.003]				0.009 [0.006]	0.008 [0.007]
Difference of Increase in Credit-to-GDP Ratio	0.001 [0.002]				0.008*** [0.002]			−0.004 [0.003]	−0.006 [0.004]
Difference of Log of Portfolio Liability	−0.017 [0.030]				−0.075 [0.145]				−0.126 [0.143]
Difference of Reserves−M2 Ratio	−0.223 [0.168]					−0.311** [0.115]		−0.489*** [0.152]	−0.413* [0.179]
Difference of Inflation (CPI)	0.000 [0.005]					0.040*** [0.011]		0.039*** [0.012]	0.059*** [0.017]
Difference of Exchange Rate Regime (Annual fine classification of Reinhart and Rogoff)	−0.011 [0.012]						−0.000 [0.008]		0.032** [0.011]
Difference of Total Capital Inflows	0.003 [0.004]						0.005 [0.004]	0.001 [0.001]	0.001 [0.003]
Difference in Size of Local Currency Bonds		−0.262 [0.407]	−0.258 [0.446]	−0.194 [0.334]	0.171 [0.318]	−0.268 [0.367]	−0.327 [0.428]	−0.741* [0.346]	−1.230** [0.431]
Asia			0.084 [0.073]	−0.083 [0.058]	0.024 [0.040]	0.152* [0.074]	0.074 [0.086]	−0.093 [0.062]	−0.169** [0.051]
Observations	55	24	24	22	22	21	23	20	19
R-squared	0.263	0.025	0.093	0.557	0.540	0.381	0.144	0.824	0.878

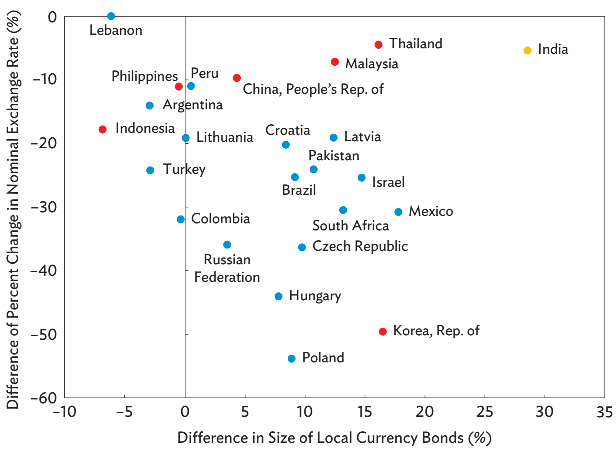
CPI = Consumer Price Index, GDP = gross domestic product, M2 = money and quasi-money.
Note: The dependent variable is the difference of the exchange rate depreciation between period 2 (Taper Tantrum) and period 1 (Global Financial Crisis). All the explanatory variables are similarly calculated by differencing the values between period 2 and period 1. India is included in the sample of emerging economies. Asia is a dummy variable for six Asian markets: the People's Republic of China, Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand. Numbers in brackets are robust standard errors. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.
Source: Authors' calculations.

becomes insignificant in column (8), which includes all the variables that are significant in columns (4)–(7). On the other hand, the increase in the current account deficit, the reserves–M2 ratio, and inflation are all statistically significant with the right sign, even in column (8). The coefficient of the size of LCY bond markets is mostly negative but not statistically significant in columns (2)–(7). However, in columns (8) and (9), which includes more explanatory variables, the size of LCY bond markets becomes statistically significant at the 10% and 5% levels, respectively, with the right sign. In other words, the results in columns (8) and (9) suggest that economies with a larger LCY bond market in period 2 than in period 1 experienced less exchange rate depreciation, indicating that they have become more resilient to external shocks.

While Table 8a provides some evidence that the development of LCY bond markets enhances financial stability, the evidence is not compelling. **Figure 18** illustrates why this is so by presenting the relationship between the increase in the size of LCY bond markets on the horizontal axis and the increase in nominal exchange rate depreciation on the vertical axis. There is a clear negative relationship between the two if we exclude one outlier market, India. While the size of the LCY bond market in India increased substantially from period 1 to period 2, there is not much improvement in exchange rate depreciation. We believe that this may be due to data problems. **Figure 19** illustrates the size of LCY bond markets based on BIS debt statistics for 24 individual markets. India seems to have a discrepancy in the data that occurred around 2011—a discrepancy that can overstate the increase in the size of an LCY bond market between period 1 and period 2.

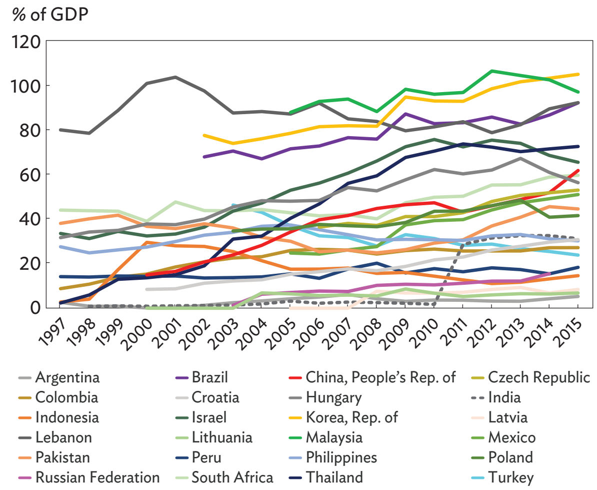
In light of such data problems, we exclude India from the sample and rerun the regression. **Table 8b** reports the ex-India regression results. The coefficient of the size of LCY bond markets becomes much more statistically significant. In columns (2) and (3), irrespective of whether the Asia dummy is included or not, the coefficient of the size of LCY bond markets is negative at the 10% level of significance. Even when other

Figure 18: The Relationship between an Increase in the Size of a Local Currency Bond Market and an Increase in Nominal Exchange Rate Depreciation



Note: Increase in the size of local currency bond markets between two periods (Taper Tantrum and Global Financial Crisis) is on the horizontal axis and the increase in nominal exchange rate depreciation is on the vertical axis. Asian markets are denoted by red dots, except for India, which is yellow-colored.
Source: Authors' calculation.

Figure 19: Size of Local Currency Bond Markets as Percentage of Gross Domestic Product



GDP = gross domestic product.
Note: We calculate the size of local currency bond markets by adding the amount outstanding of domestic debt securities and international debt securities that are denominated in local currency. For markets for which only a subset of these statistics is available, we use the amount outstanding of domestic debt securities or total debt securities after subtracting international debt securities that are not denominated in local currency. If total debt securities minus international debt securities is negative, we make it zero.
Source: Authors' calculation based on the Bank for International Settlements' Debt Securities Statistics.

Table 8b: Growth of Local Currency Bond Markets and Exchange Rate Depreciation during Crisis Periods (India excluded)

Variables	Difference of Percentage Change in Nominal Exchange Rate								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Difference of Increase in Current Account Deficit (% of GDP)	0.005** [0.002]			0.025*** [0.005]				0.035** [0.013]	0.042** [0.013]
Difference of Average Annual Percentage Change in Real Exchange Rate	0.007 [0.005]			0.009** [0.003]				0.007 [0.007]	0.007 [0.008]
Difference of Increase in Credit-to-GDP Ratio	0.001 [0.002]				0.007*** [0.002]			−0.002 [0.004]	−0.005 [0.004]
Difference of Log of Portfolio Liability	−0.011 [0.030]				0.005 [0.141]				−0.075 [0.112]
Difference of Reserves–M2 Ratio	−0.221 [0.167]					−0.219** [0.094]		−0.400** [0.163]	−0.343* [0.180]
Difference of Inflation (CPI)	−0.000 [0.005]					0.034*** [0.010]		0.033** [0.012]	0.053** [0.017]
Difference of Exchange Rate Regime (Annual fine classification of Reinhart and Rogoff)	−0.011 [0.013]						−0.001 [0.009]		0.030** [0.009]
Difference of Total Capital Inflows	0.002 [0.003]						0.003 [0.002]	0.001 [0.001]	0.001 [0.002]
Difference in Size of Local Currency Bonds		−0.684* [0.369]	−0.725* [0.385]	−0.547* [0.278]	−0.216 [0.215]	−0.578 [0.402]	−0.728* [0.400]	−0.818* [0.387]	−1.267** [0.452]
Asia			0.104 [0.070]	−0.061 [0.049]	0.046 [0.036]	0.155** [0.072]	0.095 [0.087]	−0.076 [0.062]	−0.149** [0.050]
Observations	54	23	23	21	21	20	22	19	18
R-squared	0.260	0.133	0.242	0.625	0.621	0.412	0.251	0.832	0.890

CPI = Consumer Price Index, GDP = gross domestic product, M2 = money and quasi-money.
Note: The dependent variable is the difference of the exchange rate depreciation between period 2 (Taper Tantrum) and period 1 (Global Financial Crisis). All the explanatory variables are similarly calculated by differencing the values between period 2 and period 1. India is included in the sample of emerging economies. Asia is a dummy variable for six Asian markets: the People's Republic of China, Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand. Numbers in brackets are robust standard errors. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.
Source: Authors' calculations.

explanatory variables are included, the coefficient of the size of LCY bond markets is always negative and, in many cases, statistically significant at either the 10% or the 5% level. Hence, if the outlier (India) is excluded, we obtain more compelling evidence that the development of LCY bond markets enhances financial stability.

Figure 18 demonstrates Asian markets' exchange rate reaction during the Taper Tantrum. It is seen that only the Republic of Korea experienced the largest growth in its LCY bond market and the largest reduction in depreciation. In Malaysia and Thailand, even though LCY bond markets grew substantially between the two stress episodes, nominal exchange rate depreciation did not decline tangibly during the Taper Tantrum. Interestingly, however, in other emerging bond markets, the negative relation between the difference in LCY bond market size and the difference in the nominal exchange rate depreciation is even stronger, implying a beneficial effect of LCY bond markets on financial stability.

In **Table 9**, we report regression results when we replace the difference in the size of LCY bond markets between the two periods with the difference in the size of bank loans as a percentage of GDP. While the coefficient of the difference of bank loans as a percentage of GDP is always negative, it is statistically significant only in columns (5), (8), and (9). One common element of these columns is that the difference in the increase in the credit-to-GDP ratio is included as an explanatory variable. This variable measures how rapidly the credit-to-GDP ratio increased before each stress period. Hence, the results suggest that if the increase in the credit-to-GDP ratio before the stress period is appropriately managed, the increase in the size of bank loans itself can be stabilizing. Usually a rapid increase in the credit-to-GDP ratio is accompanied by a rapid increase in noncore liabilities that mostly consist of foreign borrowings in the banking sector.[23] Hence, a gradual increase in the bank loans-to-GDP ratio that is not accompanied by a rapid increase in

Table 9: Growth of Bank Loans and Exchange Rate Depreciation during Crisis Periods

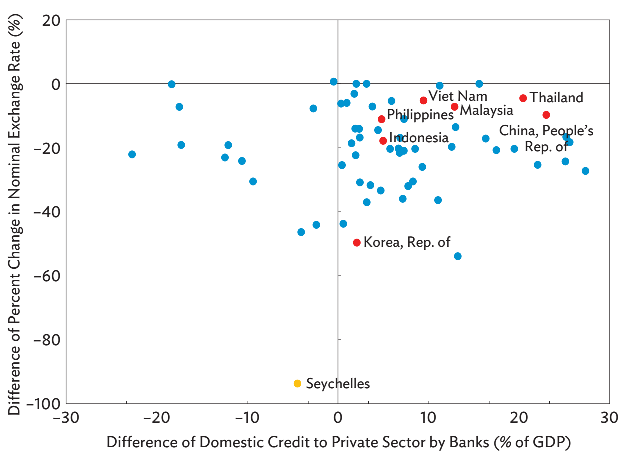
Variables	Difference of Percentage Change in Nominal Exchange Rate								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Difference of Increase in Current Account Deficit (% of GDP)	0.002 [0.002]			0.004** [0.002]				0.001 [0.002]	0.002 [0.002]
Difference of Average Annual Percentage Change in Real Exchange Rate	0.001 [0.003]			0.002 [0.003]					0.003 [0.003]
Difference of Increase in Credit-to-GDP Ratio	0.002 [0.001]				0.004*** [0.001]			0.004*** [0.001]	0.003** [0.002]
Difference of Log of Portfolio Liability	−0.013 [0.034]				0.009 [0.038]				0.005 [0.033]
Difference of Reserves–M2 Ratio	−0.045 [0.126]					−0.049 [0.115]			−0.082 [0.114]
Difference of Inflation (CPI)	0.000 [0.004]					0.001 [0.005]			−0.002 [0.004]
Difference of Exchange Rate Regime (Annual fine classification of Reinhart and Rogoff)	−0.004 [0.008]						−0.004 [0.005]		−0.010 [0.008]
Difference of Total Capital Inflows	0.002 [0.004]						0.004 [0.004]		0.003 [0.003]
Difference of Bank Loans (% of GDP)		−0.000 [0.001]	−0.000 [0.001]	−0.001 [0.001]	−0.004** [0.002]	−0.001 [0.001]	−0.001 [0.001]	−0.004** [0.002]	−0.004** [0.002]
Asia			0.052 [0.062]	0.061 [0.060]	0.056 [0.060]	0.060 [0.065]	0.052 [0.073]	0.053 [0.061]	0.085 [0.078]
Observations	54	63	63	58	61	59	61	61	54
R-squared	0.122	0.000	0.016	0.083	0.186	0.025	0.043	0.187	0.216

CPI = Consumer Price Index, GDP = gross domestic product, M2 = money and quasi-money.
Note: The dependent variable is the difference of exchange rate depreciation between period 2 (Taper Tantrum) and period 1 (Global Financial Crisis). All the explanatory variables are similarly calculated by differencing the values between period 2 and period 1. Bank loans are measured as domestic credit provided to the private sector by banks (% of GDP) and collected from the World Bank's World Development Indicators. Asia is a dummy variable for seven Asian markets: the People's Republic of China, Indonesia, the Republic of Korea, Malaysia, the Philippines, Thailand, and Viet Nam. Numbers in brackets are robust standard errors. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.
Source: Authors' calculations.

noncore liabilities can reduce vulnerability to external shocks. **Figure 20** plots the relationship between the increase in bank loans as a percentage of GDP and the increase in nominal exchange rate depreciation.[24] Since the difference in the increase in the credit-to-GDP ratio is not appropriately controlled, no clear negative relationship shows up between the two variables.

Table 10 reports regression results when we replace the difference in the size of LCY bond markets between the two periods with the difference of stock market capitalization as a percentage of GDP. While the coefficient of the difference of stock market capitalization is always negative, it is statistically significant only in column (4) (at the 10% level). Hence, the evidence of a contribution to financial stability is much weaker for stock markets than for LCY bond markets or bank loans. **Figure 21** plots the relation between the increase in stock market capitalization as a percentage of GDP and the increase in nominal exchange rate depreciation. The figure fails to show any clear relationship between the two variables.

Figure 20: The Relationship between an Increase in Bank Loans and an Increase in Nominal Exchange Rate Depreciation



GDP = gross domestic product.
Note: The increase in bank loans (% of GDP) between two periods (Taper Tantrum and Global Financial Crisis) is on the horizontal axis and the increase in nominal exchange rate depreciation is on the vertical axis. Bank loans are measured as domestic credit provided to the private sector by banks (% of GDP) and collected from the world Bank's World Development Indicators. Asian markets are denoted by red dots. An outlier market, the Seychelles, is denoted by a yellow dot.
Source: Authors' calculation.

Conclusion

According to conventional wisdom, LCY bond markets can enhance financial stability in developing markets. In particular, developing LCY bond markets that offer bonds of varying maturities can mitigate the double mismatch problem (currency and maturity) arising from borrowing short term in a foreign currency and lending long term in a domestic currency that lay at the heart of the 1997/1998 Asian financial crisis. We empirically test this conventional wisdom by analyzing and comparing financial vulnerability during two episodes of financial stress (Global Financial Crisis and Taper Tantrum) and the role of LCY bond markets in reducing vulnerability. Our main finding is that developing economies that experienced a greater expansion of their LCY bond market between the two episodes experienced a greater reduction in exchange rate depreciation, which is a measure of financial vulnerability, during the latter episode. This provides some empirical support for the notion that LCY bond markets protect the financial systems of developing economies from destabilizing external shocks.

The literature points to other benefits of fostering bigger, deeper, and more liquid LCY bond markets in developing markets. They include mitigation of global imbalances, better risk-sharing, and long-term financing of long-term investments such as infrastructure and housing. Of particular interest for developing economies is the role of LCY bond markets as facilitators of productive long-term investments that can lift long-term economic growth. Well-developed LCY bond markets can also contribute to a more diversified and balanced financial system that is more resilient to shocks. In the future, it will be interesting to empirically examine if the development of LCY bond markets generates these other benefits as well. At a broader level, empirically testing for the effects of LCY bond market development, instead of just assuming them, will give us a more accurate understanding of exactly how LCY bond markets benefit developing economies.

[23] See Shin and Shin (2011) for the concept of noncore liabilities. They classify retail deposits as core liabilities and the other components of bank funding as the noncore liabilities. Hahm, Shin, and Shin (2013) show that the noncore liabilities are mostly banking sector liabilities of the foreign sector and a large stock of noncore liabilities serves as an indicator of the erosion of the risk premium and, hence, vulnerability to a crisis.

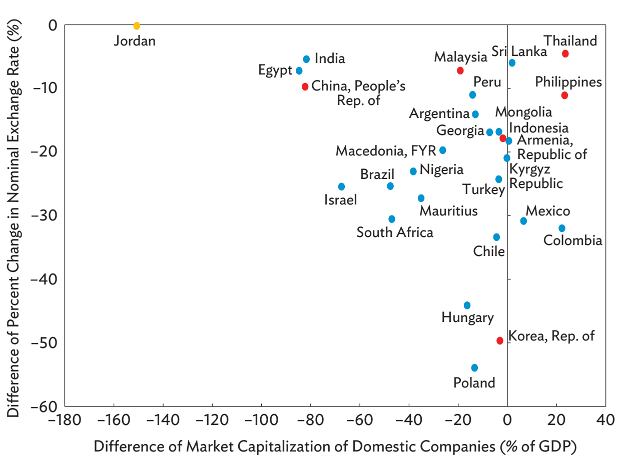
[24] In Figure 20, the Seychelles is an outlier. The regression results do not qualitatively change if we exclude outliers like the Seychelles and Jordan.

Table 10: Growth of Stock Market Capitalization and Exchange Rate Depreciation during Crisis Periods

Variables	Difference of Percentage Change in Nominal Exchange Rate								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Difference of Increase in Current Account Deficit (% of GDP)	0.005* [0.002]			0.006* [0.003]				0.005* [0.002]	0.011** [0.004]
Difference of Average Annual Percentage Change in Real Exchange Rate	0.007 [0.005]			0.008** [0.004]				0.004 [0.004]	0.002 [0.006]
Difference of Increase in Credit-to-GDP Ratio	0.002 [0.002]				0.004** [0.002]			0.003 [0.002]	0.003 [0.003]
Difference of Log of Portfolio Liability	-0.011 [0.031]				-0.022 [0.048]				-0.050** [0.022]
Difference of Reserves–M2 Ratio	-0.216 [0.166]					-0.198 [0.140]			-0.517** [0.211]
Difference of Inflation (CPI)	–0.000 [0.005]					-0.005 [0.007]			-0.009 [0.011]
Difference of Exchange Rate Regime (Annual fine classification of Reinhart and Rogoff)	-0.011 [0.012]						0.010 [0.013]		0.004 [0.010]
Difference of Total Capital Inflows	0.003 [0.004]						0.003 [0.004]		0.000 [0.002]
Difference of Market Capitalization of Domestic Companies (% of GDP)		-0.001 [0.001]	-0.001 [0.001]	-0.001* [0.001]	-0.001 [0.001]	-0.001 [0.001]	-0.001 [0.001]	-0.001 [0.001]	-0.009 [0.001]
Asia			0.076 [0.070]	0.059 [0.061]	0.028 [0.059]	0.084 [0.074]	0.075 [0.101]	0.034 [0.060]	0.005 [0.096]
Observations	54	27	27	25	27	27	25	25	23
R-squared	0.262	0.027	0.085	0.295	0.303	0.155	0.127	0.362	0.601

CPI = Consumer Price Index, GDP = gross domestic product, M2 = money and quasi-money.
Note: The dependent variable is the difference of exchange rate depreciation between period 2 (Taper Tantrum) and period 1 (Global Financial Crisis). All the explanatory variables are similarly calculated by differencing the values between period 2 and period 1. Stock market capitalization is measured as a percentage of GDP and the data is collected from the World Bank's World Development Indicators. Asia is a dummy variable for six Asian markets: the People's Republic of China, Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand. Numbers in brackets are robust standard errors. ***, **, and * denote the significance at the 1%, 5%, and 10% levels, respectively.
Source: Authors' calculations.

Figure21: Relationship between an Increase in Stock Market Capitalization and an Increase in Nominal Exchange Rate Depreciation



GDP = gross domestic product.
Note: The increase in stock market capitalization (% of GDP) between two periods (Taper Tantrum and Global Financial Crisis) is on the horizontal axis and the increase in nominal exchange rate depreciation, is on the vertical axis. Asian economies are denoted by red dots and an outlier market, Jordan, is denoted by a yellow dot.
Source: Authors' calculation.

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Appendix

Table A1: Sample of Markets

Albania	Indonesia	Nigeria
Armenia	Israel	Pakistan
Bangladesh	Jamaica	Paraguay
Brazil	Jordan	Peru
Bulgaria	Kenya	Philippines
Cape Verde	Kazakhstan	Poland
Chile	Korea, Republic of	Romania
China, People's Rep. of	Kyrgyz Republic	Russian Federation
Colombia	Latvia	Seychelles
Costa Rica	Lesotho	South Africa
Croatia	Lithuania	Sri Lanka
Czech Republic	Macedonia, FYR	Suriname
Dominican Republic	Malaysia	Tanzania
Egypt	Mauritius	Thailand
Georgia	Mexico	Turkey
Ghana	Moldova	Uganda
Guatemala	Mongolia	Ukraine
Honduras	Morocco	Uruguay
Hungary	Mozambique	Venezuela, Bolivarian Rep.
India	Nicaragua	Viet Nam

Note: The sample follows Park, Ramayandi, and Shin (2016) by including developing markets covered by Lim, Mohapatra, and Stocker (2014) and then adds other emerging economies included in Eichengreen and Gupta (2015). We also include the People's Republic of China. However, we dropped Hong Kong, China and Singapore as they are financial centers and not considered to be developing economies. We also ended up dropping some markets for reasons of data availability.culations.
Source: Authors' compilation.

Table A2: Definitions of Variables and Data Sources

Variables	Description and Construction	Data Source
Percentage Change in Nominal Exchange Rate, 2013m4–2013m8 and 2007m7–2009m6	Log difference in nominal exchange rate (local currency per US dollar) from April 2013 to August 2013 and from July 2007 to June 2009	IMF's International Financial Statistics
Increase in Current Account Deficit (% of GDP), 2010–2012 and 2005–2007	Difference in current account deficit from 2010 to 2012 and from 2005 to 2007	World Bank's World Development Indicators
Average Annual Percentage Change in Real Exchange Rate, 2009–2012 and 2005–2007	[Log of nominal exchange rate 2012 (or 2007) M12 * CPI of US 2012 (or 2007) M12 /CPI of each market 2012 (or 2007) M12 – Log of nominal exchange rate 2009 (or 2005) M1 * CPI of US 2009 (or 2005) M1 / CPI of each market 2009 (or 2005) M1] /3	IMF's International Financial Statistics
Increase in Credit-to-GDP Ratio, 2009-2012 and 2004–2007	Increase in domestic credit provided to private sector (% of GDP) from 2009 to 2012 and from 2004 to 2007	World Bank's World Development Indicators
Log of Portfolio Liability, 2011 and 2007	Sum of portfolio equity and portfolio debt securities in 2011 and 2007	Lane and Milesi–Ferretti dataset that extends Lane and Milesi–Ferretti (2007)
Reserves/M2, 2012 and 2007	Inverse of money and quasi money (M2) to total reserves ratio in 2012 and 2007	World Bank's World Development Indicators
Inflation (CPI), 2012 and 2007	Inflation, consumer prices (annual % change) in 2012 and 2007	World Bank's World Development Indicators
Exchange Rate Regime (Annual fine classification of Reinhart and Rogoff), 2010 and 2007	Exchange rate regime Reinhart and Rogoff—annual fine classification in 2010 and 2007	Reinhart and Rogoff Exchange Regime dataset
Total Capital Inflows during QE and before Global Financial Crisis	Sum of equity, bond, and loan inflows during QE and before Global Financial Crisis	IMF's Balance of Payments database
Size of Local Currency Bonds, 2012 and 2007	Sum of domestic debt securities and local international debt securities in 2012 and 2007	BIS' Debt Securities database
Bank Loans (% of GDP), 2012 and 2007	Domestic credit provided to private sector by banks in 2012 and 2007	World Bank's World Development Indicators
Asia	A dummy of Asian markets	

BIS = Bank for International Settlements, CPI = Consumer Price Index, GDP = gross domestic product, IMF = International Monetary Fund, M2 = money and quasi-money, QE = quantitative easing.
Source: Authors' compilation.

Market Summaries

People's Republic of China

Yield Movements

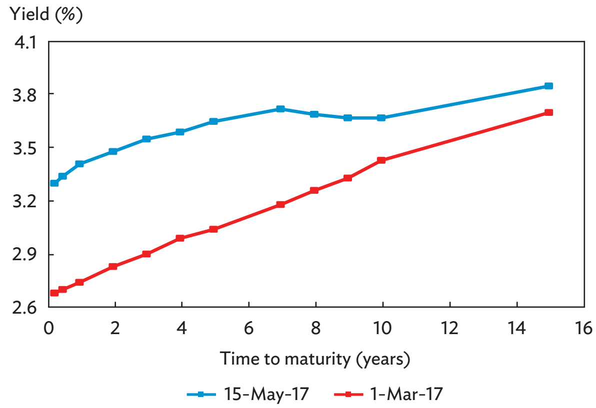
The local currency (LCY) government bond yield curve of the People's Republic of China (PRC) shifted strongly upward between 1 March and 15 May for all tenors (**Figure 1**). Yields gained the most for tenors of 5 years or less, with yields rising between 60 basis points (bps) and 67 bps. For tenors longer than 5 years, yields rose between 15 bps and 54 bps. As a result of the much faster rise at the short-end of the curve, the 2-year versus 10-year yield spread fell to 19 bps on 15 May from 60 bps on 1 March.

The rise in yields in the PRC was largely due to efforts by the government to reduce credit risk in its financial markets through a mix of regulatory and market-based measures. These measures include raising interest rates on various open market operation tools to reduce lending by financial institutions and increase costs for borrowers. On 24 January, the People's Bank of China (PBOC) raised interest rates on its 6-month and 1-year Medium-Term Lending Facility by 10 bps each. On 3 February, the central bank raised interest rates on its reverse repurchase agreements by 10 bps and on its Standing Lending Facility by 35 bps. The PBOC raised rates again on its reverse repurchase operations and Medium-Term Lending Facility by 10 bps each on 16 March.

In January, the PRC reportedly instructed banks to reduce lending, particularly mortgage lending, during the first quarter (Q1) of 2017. The PRC also sought to impose additional oversight on wealth management products by increasing disclosure requirements and, as of May 2017, was planning to raise capital requirements on banks.

Despite deleveraging efforts, the PRC reported real gross domestic product (GDP) growth of 6.9% year-on-year (y-o-y) in Q1 2017, up from GDP growth of 6.8% y-o-y in the fourth quarter (Q4) of 2016. The gains in the GDP growth rate were driven mostly by the manufacturing sector, which grew 6.4% y-o-y in Q1 2017 compared with 6.1% y-o-y in Q4 2016. The PRC is targeting slower GDP growth of 6.5% in full-year 2017 versus an actual growth of 6.7% in 2016.

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



Source: Based on data from Bloomberg LP.

Inflation in the PRC has been relatively soft. In 2017, consumer price inflation peaked at 2.5% y-o-y in January and fell to 0.8% y-o-y in February before rising slightly to 0.9% y-o-y in March and 1.2% in April.

Size and Composition

The PRC's outstanding LCY bonds rose 0.8% quarter-on-quarter (q-o-q) and 17.2% y-o-y to reach CNY49.9 trillion (USD7.2 trillion) at the end of March (**Table 1**).

Government Bonds. Growth in the PRC's bond market was driven mostly by increases in government bonds outstanding, which gained 1.6% q-o-q and 26.3% y-o-y to CNY35.1 trillion. The slower growth rates in Q1 2017 versus Q4 2016 were due to an overall decline in government bond issuance (except policy bank bonds) as authorities concerned with credit risk in the PRC's bond markets continued with efforts to reduce risk.

In particular, growth rates for municipal bonds slowed, with local government bonds outstanding growing 3.6% q-o-q in Q1 2017 after rising 9.3% q-o-q in Q4 2016. In April, the PRC announced that local government bond issuance would be governed by a formula to limit

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

	Outstanding Amount (billion)						Growth Rates (%)			
	Q1 2016		Q4 2016		Q1 2017		Q1 2016		Q1 2017	
	CNY	USD	CNY	USD	CNY	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**42,569**	**6,596**	**49,510**	**7,129**	**49,895**	**7,245**	**4.9**	**28.2**	**0.8**	**17.2**
Government	27,791	4,306	34,545	4,974	35,113	5,098	5.2	33.0	1.6	26.3
Treasury Bonds	15,856	2,457	22,142	3,188	22,510	3,268	5.8	54.5	1.66	42.0
Central Bank Bonds	428	66	6	1	0	0	0.0	0.0	(100.0)	(100.0)
Policy Bank Bonds	11,507	1,783	12,397	1,785	12,604	1,830	4.6	12.8	1.7	9.5
Corporate	14,778	2,290	14,965	2,155	14,782	2,146	4.3	20.1	(1.2)	0.03
Policy Bank Bonds										
China Development Bank	6,816	1,056	7,081	1,020	7,185	1,043	3.3	7.6	1.5	5.4
Export–Import Bank of China	1,913	296	2,133	307	2,190	318	3.3	12.9	2.7	14.5
Agricultural Devt. Bank of China	2,778	430	3,184	458	3,229	469	9.2	27.9	1.4	16.2

( ) = negative, CNY = Chinese yuan, LCY = local currency, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth 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 rate is used.
4. Growth rates are calculated from an LCY base and do not include currency effects.
Sources: *ChinaBond*, *Wind Info*, and Bloomberg LP.

debt issuance by riskier local governments. However, overall local government bond issuance is still expected to increase in 2017 as the quota for local government bonds outstanding was raised from CNY17.2 trillion to CNY18.8 trillion.

Central bank bonds outstanding fell to zero in Q1 2017 as all remaining central bank bonds have matured since the cessation of central bank bond issuance by the PBOC in 2014. In contrast to slowing growth in other government bonds, policy bank bonds grew 1.7% q-o-q in Q1 2017 versus 1.5% q-o-q in the previous quarter.

Corporate Bonds. Corporate bonds outstanding declined in Q1 2017, falling 1.2% q-o-q and growing only 0.03% y-o-y to CNY14.8 trillion at the end of March (**Table 2**). The decline was mostly due to slowing growth in medium-term notes and a dip in outstanding commercial paper. Medium-term notes expanded 0.5% q-o-q in Q1 2017, while commercial paper declined 10.8% q-o-q. All other major corporate bond categories showed q-o-q declines except commercial bank bonds and Tier 2 notes, albeit not to the extent of commercial paper. The decline in corporate bonds outstanding is a result of the PRC's continued deleveraging efforts, which has led to a decline in issuance amid rising interest rates. Commercial paper was most affected with the rise in interest rates, leading to a reluctance by corporate borrowers to issue short-term debt.

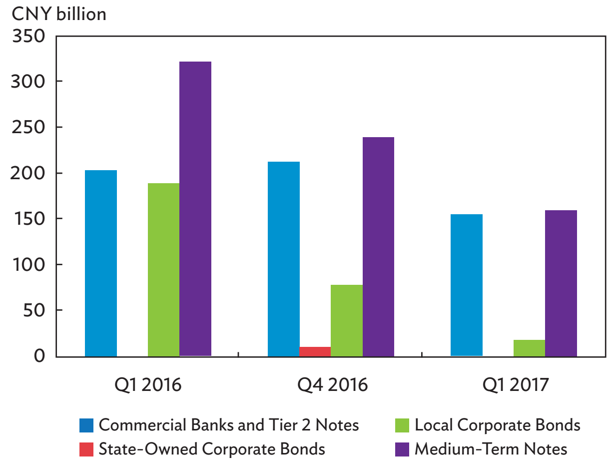
As a result of deleveraging, corporate bond issuance declined 39.1% q-o-q, with all major corporate bond categories showing declines in Q1 2017 (**Figure 2**). The smallest declines were seen in commercial bank bonds

Table 2: Corporate Bonds Outstanding in Key Categories

	Amount (CNY billion)			Growth Rate (%)			
				Q1 2016		Q1 2017	
	Q1 2016	Q4 2016	Q1 2017	q-o-q	y-o-y	q-o-q	y-o-y
Commercial Bank Bonds and Tier 2 Notes	2,196	2,522	2,534	1.1	34.0	0.5	15.4
SOE Bonds	583	546	542	1.0	(4.8)	(0.6)	(7.0)
Local Corporate Bonds	2,690	2,936	2,912	1.1	13.2	(0.8)	8.3
Commercial Paper	2,841	2,144	1,912	1.1	31.3	(10.8)	(32.7)
Medium-Term Notes	4,575	4,678	4,701	1.0	13.3	0.5	2.8

( ) = negative, CNY = Chinese yuan, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth quarter, SOE = state-owned enterprise, y-o-y = year-on-year.
Sources: *ChinaBond* and *Wind Info*.

Figure 2: Corporate Bond Issuance in Key Sectors



CNY = Chinese yuan, Q1 = first quarter, Q4 = fourth quarter.
Sources: *ChinaBond* and *Wind Info*.

and Tier 2 notes, where issuance fell 27.2% q-o-q as financial institutions continued issuance for the purpose of raising capital and boosting liquidity with long-term funding.

The decline in issuance stemmed from deleveraging, which raised borrowing costs for issuers. Risk aversion resulting from recent corporate bond defaults also led to rising interest rates.

The PRC's corporate bond market is dominated by a few big issuers (**Table 3**). At the end of Q4 2016, the top 30 corporate bond issuers accounted for CNY5.8 trillion worth of corporate bonds outstanding, or about 39.5% of the total market. Out of the top 30, the 10 largest issuers accounted for CNY3.8 trillion.

The top 30 issuer list is dominated by banks, owing to the continued issuance of commercial bank bonds as banks accelerate their fund-raising amid turmoil in credit markets in order to strengthen their capital base and improve liquidity by using long-term funding. Among the top 30 corporate issuers at the end of March, 14 were in the banking industry.

Table 4 lists the most notable corporate bond issuances in Q1 2017. Most companies on the list are from the banking sector, while one issuer, China Railway, is from the infrastructure sector.

Investor Profile

Treasury Bonds and Policy Bank Bonds. Banks' share of investments in Treasury bonds, including policy bank bonds, continued to fall in Q1 2017, declining to 67.9% at the end of March from 71.9% a year earlier (**Figure 3**). The share of funds institutions rose to 13.6% from 10.3% during the review period.

Corporate Bonds. Due to continued declines in the share of bank holdings of corporate bonds, funds institutions are now the largest investor in the PRC's LCY corporate bond market, with their share rising to 47.5% at the end of March from 38.1% a year earlier (**Figure 4**). Banks' share continued to decline in Q1 2017, falling to 15.9% from 21.3% in Q1 2016. The larger drop in banks' share of corporate bonds versus Treasury bonds was due to rising risk aversion driven by credit defaults as well as the PRC's deleveraging efforts.

Figure 5 details the investor profile across different corporate bond categories at the end of March. Funds institutions are the dominant buyer of both local corporate bonds and medium-term notes, while banks and insurance companies were the dominant holders of commercial bank bonds.

Liquidity

The volume of interest rate swaps declined 9.7% q-o-q. The 7-day repurchase interest rate is the most used interest rate swap, comprising an 89.4% share of interest rate swap volume during the review period (**Table 5**).

The rise in interest rates due to efforts by the PRC to deleverage has led to reduced trading activity owing to a negative outlook on bond prices (**Figure 6**).

Ratings Update

On 24 May, Moody's Investor Services reduced the PRC's long-term local and foreign currency ratings by one notch to A1. According to Moody's Investor Services, the downgrade reflects expectations that the PRC's overall debt levels will continue to rise as the economy's potential growth slows.

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	1,381.5	200.59	Yes	No	Transportation
2.	State Grid Corporation of China	450.8	65.45	Yes	No	Public Utilities
3.	China National Petroleum	355.0	51.54	Yes	No	Energy
4.	Agricultural Bank of China	278.0	40.36	Yes	Yes	Banking
5.	Industrial and Commercial Bank of China	268.0	38.91	Yes	Yes	Banking
6.	Bank of China	258.9	37.59	Yes	Yes	Banking
7.	Bank of Communications	215.0	31.22	Yes	Yes	Banking
8.	China Construction Bank	212.0	30.78	No	Yes	Banking
9.	Industrial Bank	185.0	26.86	No	Yes	Banking
10.	China Minsheng Banking	175.1	25.42	No	Yes	Banking
11.	Shanghai Pudong Development Bank	169.6	24.63	Yes	Yes	Energy
12.	PetroChina	155.0	22.51	No	Yes	Banking
13.	China Everbright Bank	154.9	22.49	Yes	No	Energy
14.	State Power Investment	134.5	19.53	Yes	Yes	Banking
15.	Bank of Beijing	122.9	17.84	Yes	No	Asset Management
16.	Central Huijin Investment	109.0	15.83	No	Yes	Banking
17.	China CITIC Bank	107.5	15.61	Yes	No	Energy
18.	Shenhua Group	104.5	15.17	Yes	Yes	Energy
19.	China Huarong Asset Management	96.0	13.94	Yes	Yes	Banking
20.	Tianjin Infrastructure Construction and Investment Group	91.5	13.29	Yes	Yes	Energy
21.	China Three Gorges	88.5	12.85	Yes	No	Public Utilities
22.	China Guangfa Bank	86.5	12.56	No	Yes	Banking
23.	Dalian Wanda Commercial Properties	85.0	12.34	Yes	No	Industrial
24.	Haitong Securities	81.2	11.80	Yes	Yes	Energy
25.	China United Network Communications	81.0	11.76	Yes	No	Banking
26.	Huatai Securities	79.9	11.60	No	Yes	Banking
27.	Guotai Junan Securities	79.0	11.47	Yes	Yes	Brokerage
28.	Huaxia Bank	78.4	11.38	Yes	Yes	Telecommunications
29.	Postal Savings Bank of China	75.0	10.89	Yes	Yes	Asset Management
30.	China Datang	74.7	10.85	Yes	No	Asset Management
Total Top 30 LCY Corporate Issuers		**5,833.94**	**847.07**			
Total LCY Corporate Bonds		**14,782.17**	**2,146.33**			
Top 30 as % of Total LCY Corporate Bonds		**39.5%**	**39.5%**			

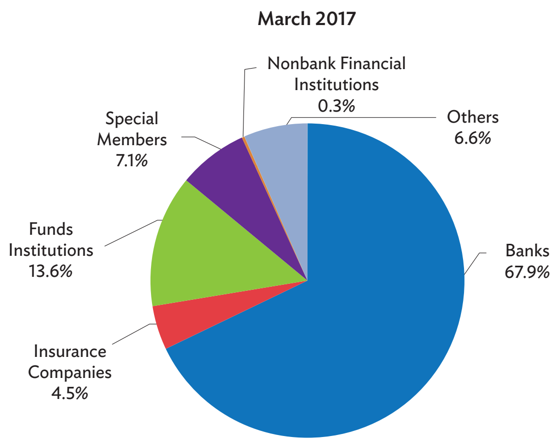
CNY = Chinese yuan, LCY = local currency, USD = United States dollar.
Notes:
1. Data as of end-March 2017.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
Source: *AsianBondsOnline* calculations based on Bloomberg LP data.

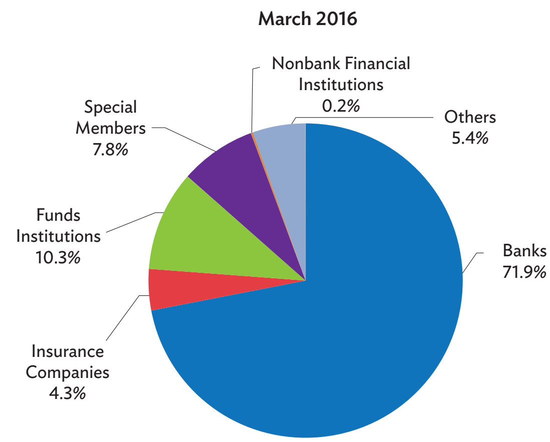
Table 4: Notable Local Currency Corporate Bond Issuance in the First Quarter of 2017

Corporate Issuers	Coupon Rate (%)	Issued Amount (CNY billion)
China Railway		
180-day bond	3.92	20.0
3-year bond	3.87	20.0
5-year bond	4.30	15.0
10-year bond	4.25	5.0
China Everbright Bank		
3-year bond	4.00	28.0
10-year bond	4.60	28.0
Minsheng Banking		
3-year bond	4.00	30.0
Everbright Securities		
1-year bond	4.00	2.0
1-year bond	4.10	2.0
2-year bond	4.30	20.0
3-year bond	4.45	2.0
Postal Savings Bank		
10-year bond	4.50	20.0

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

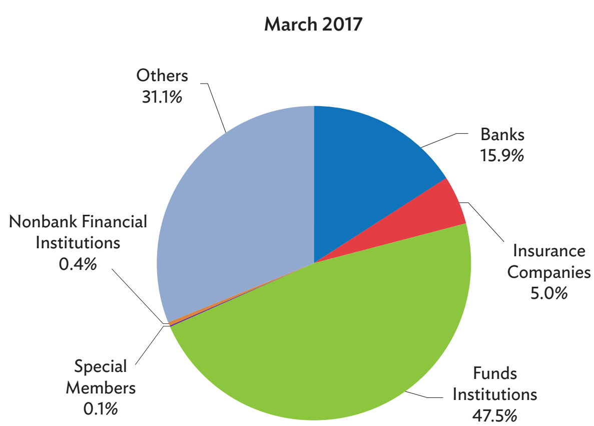
Figure 3: Local Currency Treasury Bonds and Policy Bank Bonds Investor Profile

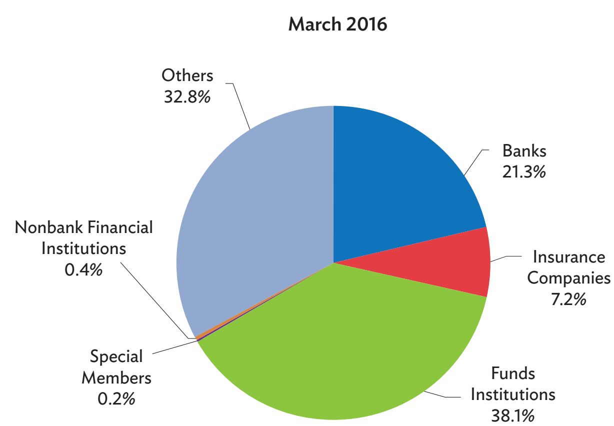




Source: *ChinaBond*.

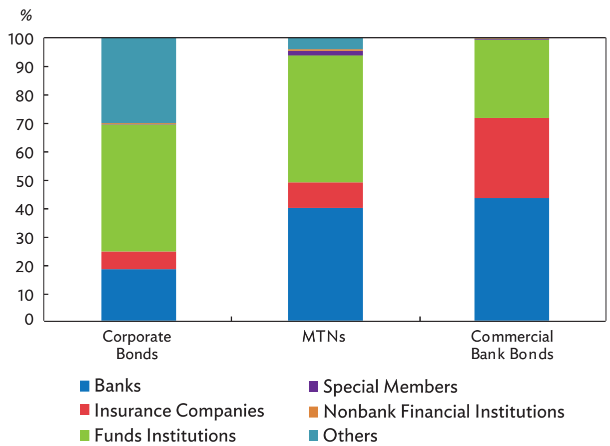
Figure 4: Local Currency Corporate Bonds Investor Profile





Source: *ChinaBond*.

Figure 5: Investor Profile across Bond Categories



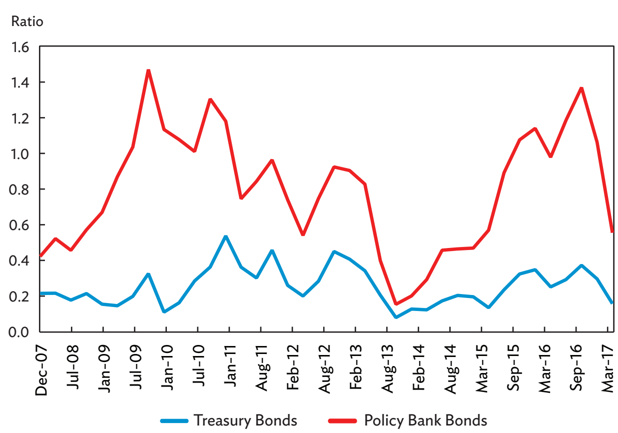
MTNs = medium-term notes.
Note: Data as of end-March 2017.
Source: *ChinaBond*.

Table 5: Notional Values of the People's Republic of China's Interest Rate Swap Market in the First Quarter of 2017

Interest Rate Swap Benchmarks	Notional Amount (CNY billion)	Percentage of Total Notional Amount (%)	Growth Rate (%)
	Q1 2017		q-o-q
7-Day Repo Rate	2,399.2	89.4	(4.6)
Overnight SHIBOR	17.8	0.7	(79.7)
3-Month SHIBOR	263.8	9.8	(27.9)
1-Year Term Deposit Rate	1.3	0.05	68.8
1-Year Lending Rate	0.7	0.02	(13.3)
LPR1Y	0.3	0.01	(84.2)
Total	**2,683.1**	**100.0**	**(9.7)**

( ) = negative, CNY = Chinese yuan, LPR1Y = 1-Year Loan Prime Rate, q-o-q = quarter-on-quarter, Q1 = first quarter, Repo = repurchase, SHIBOR = Shanghai Interbank Offered Rate.
Notes:
1. Growth rate computed based on notional amounts.
2. 3-Year Lending Rate and 5-Year Lending Rate had no transaction for Q1 2017.
Sources: *AsianBondsOnline* and *ChinaMoney*.

Figure 6: Turnover Ratios for Government Bonds



Source: *ChinaBond*.

Policy, Institutional, and Regulatory Developments

New Regulations for the Issuance of Local Government Bonds

In February and March, the PRC announced new rules governing the issuance of local government bonds in Q1 2017 to limit the credit risk of local governments. The regulations will limit the total amount that a local government can issue, subject to a formula. In addition, local governments cannot issue more than 30% of the quota in a single quarter. Funds sourced from bonds issued from the debt swap program can only be used for the repayment of debt. The PRC also raised the quota of local government bond issuance from CNY17.2 trillion to CNY18.8 trillion.

Limits on Use of Low-Rated Bonds as Borrowing Collateral

On 7 April, the PRC issued rules prohibiting the use of corporate bonds with credit ratings lower than AAA or corporate bonds issued by corporates with a credit rating lower than AA as collateral for short-term borrowing. The new rule affects only corporate bonds issued after 7 April.

Hong Kong, China

Yield Movements

Hong Kong, China's local currency (LCY) government bond yield curve shifted downward for all tenors between 1 March and 15 May due to domestic liquidity factors (**Figure 1**). The largest movements were for tenors of 2 years and longer, where yields fell an average of 37 basis points (bps). Yields for tenors of less than 2 years fell an average of 13 bps. As a result of the bigger drop at the long-end of the curve, the 2-year versus 10-year yield spread fell to 76 bps on 15 May from 79 bps on 1 March.

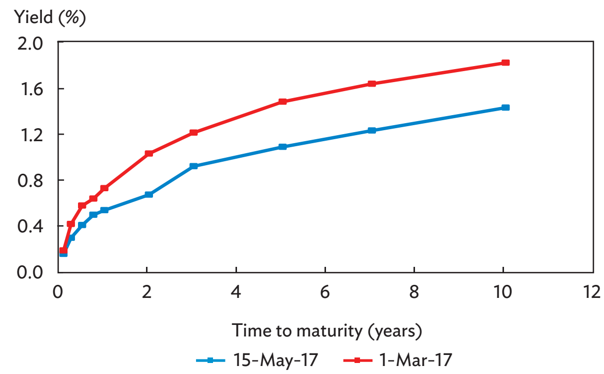
Hong Kong, China's government bond yields closely track United States (US) interest rates, owing to the lack of an independent monetary policy. During the review period, US yields fell for tenors of 3 years and longer by an average of 10 bps. The decline in US yields followed weaker-than-expected US economic data in the first quarter (Q1) of 2017. Real gross domestic product (GDP) growth fell to 1.2% year-on-year (y-o-y) in Q1 2017 from 2.1% y-o-y in the fourth quarter (Q4) of 2016. In contrast, US yields rose at the short-end of the curve following the Federal Reserve's rate hike in March.

In Hong Kong, China, yields also fell for all tenors due to abundant liquidity in Hong Kong, China's financial markets. Since last year, there has been significant demand for HKD-denominated assets, prompting the Hong Kong Monetary Authority to issue additional Exchange Fund Bills (EFBs).

In contrast to the fall in yields, Hong Kong, China's GDP expanded 4.3% y-o-y in Q1 2017 after growing 3.2% y-o-y in Q4 2016. The faster GDP growth rate was due to larger gains in Hong Kong, China's gross domestic capital formation, which expanded 6.4% y-o-y in Q1 2017 versus 5.6% in Q4 2016. There were also gains in consumer spending.

Hong Kong, China experienced an acceleration in inflation, with the rate rising to 2.0% y-o-y in April from 0.5% y-o-y in March. However, the rise was mostly due to a low base effect due to the timing of the Easter holiday and some government subsidies.

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 bonds grew 0.4% quarter-on-quarter (q-o-q) and 11.8% y-o-y to stand at HKD1,839 billion at the end of March (**Table 1**). The growth was driven by gains in EFBs and corporate bonds.

Government bonds outstanding rose 0.3% q-o-q and 11.5% y-o-y, mostly due to growth in EFBs, which rose 0.4% q-o-q.

Exchange Fund Notes (EFNs) outstanding continued to decline in Q1 2017 as Hong Kong, China issued only 2-year EFNs, replacing longer tenors with issuances of Hong Kong Special Administrative Region (HKSAR) bonds. EFNs fell 4.6% q-o-q as a result.

HKSAR bonds rose 1.8% q-o-q and 2.6% y-o-y in Q1 2017, though HKSAR bond issuance totaling HKD1.8 billion was down from Q4 2016 levels. Specifically, a 10-year HKD1.2 billion HKSAR bond and a HKD0.6 billion 15-year HKSAR bond were issued under the Institutional Bond Issuance Programme. This compares with a total of HKD6.5 billion worth of HKSAR bonds issued in the previous quarter.

The amount of corporate bonds outstanding rose 0.5% q-o-q and 12.1% y-o-y in Q1 2017. Hong Kong, China's

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

	Outstanding Amount (billion)						Growth Rate (%)			
	Q1 2016		Q4 2016		Q1 2017		Q1 2016		Q1 2017	
	HKD	USD	HKD	USD	HKD	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**1,646**	**212**	**1,831.87**	**236**	**1,839**	**237**	**1.8**	**6.5**	**0.4**	**11.8**
Government	957	123	1,064	137	1,068	137	3.2	11.7	0.3	11.5
Exchange Fund Bills	800	103	915	118	919	118	4.0	16.6	0.4	14.8
Exchange Fund Notes	56	7	48	6	46	6	(3.8)	(15.2)	(4.6)	(18.4)
HKSAR Bonds	101	13	101	13	103	13	1.6	(3.7)	1.8	2.6
Corporate	688	89	767	99	771	99	(0.04)	0.1	0.5	12.1

( ) = negative, HKD = Hong Kong dollar, HKSAR = Hong Kong Special Administrative Region, LCY = local currency, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth 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. Data for Q1 2017 are based on *AsianBondsOnline* estimates.
Sources: Hong Kong Monetary Authority and Bloomberg LP.

top 30 nonbank issuers had outstanding LCY bonds amounting to HKD144.7 billion at the end of March, comprising 18.8% of total corporate bonds outstanding. The top 30 list continued to be dominated by real estate firms and the financing vehicles of corporates (**Table 2**). The Hong Kong Mortgage Corporation remained the top issuer with outstanding bonds of HKD28.0 billion, followed by Sun Hung Kai Properties (Capital Market) with HKD9.1 billion of bonds outstanding and MTR Corporation (C.I.) with HKD8.9 billion. Among the top 30 nonbank issuers at the end of March, six were state-owned companies and eight were Hong Kong Exchange-listed firms.

Among the top five nonbank issuances in Q1 2017, the majority came from real estate-related entities. Comprising the list are Emperor International Holdings, NWD (MTN), MTR Corporation, Hong Kong Mortgage Corporation, and CLP Power Hong Kong Financing (**Table 3**).

Ratings Update

On 25 May, Moody's Investor Service downgraded Hong Kong, China's credit rating by one notch, the day after downgrading the People's Republic of China's (PRC) debt rating. Hong Kong, China's credit rating is now at Aa2 and reflects the likelihood that Hong Kong, China will be affected by rising debt levels in the PRC given the economic linkages between the two.

Policy, Institutional, and Regulatory Developments

The People's Republic of China and Hong Kong, China Launch Bond Market Link

On 17 May, the PRC and Hong Kong, China approved a plan to link the PRC's interbank bond market with Hong Kong, China's bond market. The link will allow Hong Kong, China and foreign investors to invest in the PRC's bond market via Hong Kong, China's financial markets.

Table 2: Top 30 Nonbank Corporate Issuers in Hong Kong, China

	Issuers	Outstanding Amount		State-Owned	Listed Company	Type of Industry
		LCY Bonds (HKD billion)	LCY Bonds (USD billion)			
1.	The Hong Kong Mortgage Corporation	28.03	3.61	Yes	No	Finance
2.	Sun Hung Kai Properties (Capital Market)	9.13	1.18	No	No	Real Estate
3.	MTR Corporation (C.I.)	8.92	1.15	Yes	Yes	Transportation
4.	Swire Pacific	8.62	1.11	No	Yes	Diversified
5.	CLP Power Hong Kong Financing	7.81	1.00	No	No	Finance
6.	HKCG (Finance)	7.80	1.00	No	No	Finance
7.	The Link Finance (Cayman) 2009	7.79	1.00	No	No	Finance
8.	Hongkong Electric Finance	7.69	0.99	No	No	Finance
9.	NWD (MTN)	7.35	0.95	No	Yes	Finance
10.	Wharf Finance	5.70	0.73	No	No	Finance
11.	Swire Properties MTN Financing	5.20	0.67	No	No	Finance
12.	Vank Real Estate (Hong Kong)	3.65	0.47	No	No	Real Estate
13.	Emperor International Holdings	3.55	0.46	No	Yes	Real Estate
14.	Kowloon-Canton Railway	3.40	0.44	Yes	No	Transportation
15.	Urban Renewal Authority	3.30	0.42	Yes	No	Real Estate
16.	Wheelock Finance	3.10	0.40	No	No	Finance
17.	Cathay Pacific MTN Financing	2.37	0.31	No	Yes	Finance
18.	Leading Affluence	2.30	0.30	No	No	Real Estate
19.	Tencent Holdings	2.20	0.28	No	Yes	Comunications
20.	Bohai International Capital	2.00	0.26	No	No	Iron and Steel
21.	China Energy Reserve and Chemicals Group Overseas	2.00	0.26	No	No	Oil
22.	CK Property Finance (MTN)	1.85	0.24	No	No	Finance
23.	Hong Kong Science and Technology Parks	1.71	0.22	Yes	No	Real Estate
24.	Bestgain Real Estate Lyra	1.55	0.20	No	No	Real Estate
25.	Cheung Kong Finance (MTN)	1.50	0.19	No	No	Finance
26.	Airport Authority Hong Kong	1.45	0.19	Yes	No	Transportation
27.	Hysan (MTN)	1.40	0.18	No	Yes	Real Estate
28.	Wharf Finance (No. 1)	1.33	0.17	No	No	Finance
29.	Dragon Drays	1.00	0.13	No	No	Diversified
30.	K. Wah Intenational Financial Services	1.00	0.13	No	Yes	Finance
Total Top 30 Nonbank LCY Corporate Issuers		**144.68**	**18.62**			
Total LCY Corporate Bonds		**771.46**	**99.28**			
Top 30 as % of Total LCY Corporate Bonds		**18.75%**	**18.75%**			

LCY = local currency.
Notes:
1. Data as of end-March 2017.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
Source: *AsianBondsOnline* calculations based on Hong Kong Monetary Authority data.

Table 3: Notable Local Currency Corporate Bond Issuance in the First Quarter of 2017

Corporate Issuers	Coupon Rate (%)	Issued Amount (HKD billion)
NWD (MTN)		
7-year bond	3.50	0.70
12-year bond	4.00	1.15
MTR Corporation		
25-year bond	3.13	0.58
20-year bond	3.00	0.40
Emperor International Holdings		
5-year bond	4.70	0.80
The Hong Kong Mortgage Corporation		
2-year bond	1.48	0.10
2-year bond	1.52	0.10
3-year bond	1.96	0.30
15-year bond	2.65	0.11
CLP Power Hong Kong Financing		
15-year bond	3.16	0.30

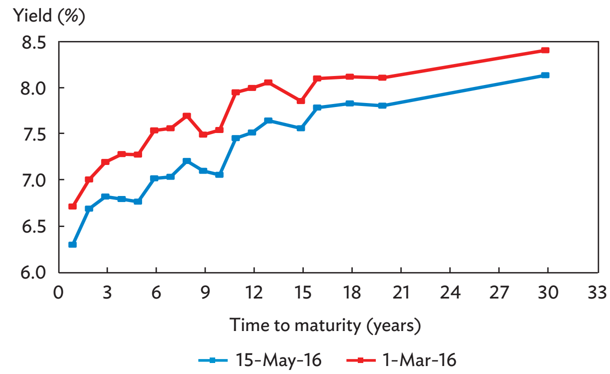
HKD = Hong Kong dollar.
Source: Central Moneymarkets Unit, Hong Kong Monetary Authority.

Indonesia

Yield Movements

Between 1 March and 15 May, local currency (LCY) government bond yields in Indonesia fell for all tenors, resulting in the downward shift of the yield curve (**Figure 1**). Across the curve, yields shed an average of 41 basis points (bps). Yields fell the most in the belly of the curve—bonds with maturities of 4 years to 8 years—which declined an average of 51 bps. Yields at the very long-end of the curve—bonds with maturities of 15 years or more—shed the least, falling an average of 30 bps. The spread between the yield on 2-year and 10-year bonds narrowed from 54 bps on 1 March to 37 bps on 15 May.

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



Source: Based on data from Bloomberg LP.

The overall decline in yields is reflective of improved investor sentiment that has been buoyed by confidence in Indonesia's government bond market amid improving macroeconomic and financial conditions. Foreign investors have returned to the bond market since the start of the year, increasing their holdings of government bonds to a share of 38.2% of the total at the end of March and further to 39.1% at the end of April. In addition, revisions in the sovereign rating outlook by Fitch Ratings in December and Moody's Investors Services in February fueled expectations of a sovereign rating upgrade by Standard and Poor's (S&P) Global Ratings. Other regional rating agencies, including Ratings and Investment Information (R&I) and Japan Credit Rating Agency (JCR), have also revised their outlook for Indonesia. These rating agencies took note of Indonesia's prudent fiscal deficit, manageable external debt, and efforts to improve the investment climate through policy reforms. Expectations were proven correct later on as S&P subsequently raised Indonesia's sovereign rating to investment grade on 19 May.

While consumer prices have accelerated since the start of the year, the annual inflation rate has remained within Bank Indonesia's target range of between 3.0% and 5.0% for full-year 2017. Inflation climbed to 3.5% year-on-year (y-o-y) in January and 3.8% y-o-y in February before easing to 3.6% y-o-y in March. It rose again to 4.2% y-o-y in April following the second phase of electricity tariff adjustments.

Despite the uptick in inflation, Bank Indonesia has refrained from raising its policy rate. In a meeting held on 17–18 May, Bank Indonesia's Board of Governors held steady the 7-day reverse repurchase (repo) rate at 4.75%. It also kept unchanged the deposit facility rate at 4.00% and the lending facility rate at 5.50%. The current levels were deemed consistent with Bank Indonesia's efforts to maintain macroeconomic and financial system stability, and at the same time taking note of an improving global economic outlook. The central bank, however, remains vigilant with regard to global risks such as monetary policy normalization and overall policy direction in the United States, and other geopolitical risks in other regions. On the domestic front, Bank Indonesia vowed to monitor administered price inflation.

Real gross domestic product (GDP) growth inched up to 5.0% y-o-y in the first quarter (Q1) of 2017 from 4.9% y-o-y in the fourth quarter of 2016. Domestic consumption, which gained 4.9% y-o-y, continued to drive the economy, accounting for the largest contribution to GDP. The recovery in exports and gross fixed capital formation also contributed to the faster growth in Q1 2017. On a non-seasonally adjusted and quarter-on-quarter (q-o-q) basis, however, GDP contracted 0.3%.

Size and Composition

Indonesia's LCY bond market continued to expand in Q1 2017, rising to IDR2,291.0 trillion (USD172 billion) at the end of March from IDR2,190.3 trillion at the end of December (**Table 1**). Growth was robust at 4.6% q-o-q and 20.3% y-o-y in Q1 2017, making it the fastest-growing LCY bond market in the region. Central government bonds, comprising Treasury bills and bonds issued by the Ministry of Finance, largely contributed to the growth. To a lesser extent, corporate bonds also contributed to the overall growth.

At the end of March, government bonds accounted for a dominant share of Indonesia's LCY bond market at 86.0% of the aggregate LCY bond stock. The remaining 14.0% was accounted for by corporate bonds. Conventional bonds also dominated Indonesia's LCY bond market, representing 87.0% of the total stock at the end of March, while *sukuk* (Islamic bonds) accounted for the remainder.

Government Bonds. The outstanding size of government bonds reached IDR1,970.1 trillion, up 4.9% q-o-q and 19.4% y-o-y. Much of the growth in government bonds was driven by central government bonds. The outstanding volume of central bank bills, or Sertifikat Bank Indonesia (SBI), declined during the review period.

Central Government Bonds. The stock of central government bonds climbed to IDR1,891.0 trillion at the end of March on gains of 6.6% q-o-q and 20.1% y-o-y. The government continued to adopt a frontloading policy for its bond issuance, in which it plans to issue about 60% of its gross issuance target for the year (including foreign currency bonds) within the first semester. The frontloading policy allows the government to lock in low borrowing cost as the Federal Reserve moves to normalize its monetary policy. Also, the frontloading policy allows the government to secure funding for its spending early in the year when public revenues are still low.

In Q1 2017, new issuance of central government bonds reached IDR176.6 trillion. Of this amount, IDR162.6 trillion was raised through weekly auctions of conventional bonds and project-based *sukuk*. The government issued bonds as planned, awarding in full or above target 12 of 13 scheduled auctions held during the quarter. Improved domestic market conditions buoyed investor confidence and provided the government an opportunity to issue bonds as targeted. Demand for government Treasury instruments remained strong in Q1 2017 with total incoming bids averaging at IDR27.8 trillion, up from IDR18.7 trillion in the same period a year earlier. The only time a Treasury auction fell short of its target amount was during the week coinciding with the Federal Reserve's March meeting when the federal funds target rate was increased by 25 bps.

The government also raised IDR14.0 trillion through bookbuilding for the sale of retail *sukuk* (series name

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

	Outstanding Amount (billion)						Growth Rate (%)			
	Q1 2016		Q4 2016		Q1 2017		Q1 2016		Q1 2017	
	IDR	USD	IDR	USD	IDR	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**1,903,610**	**144**	**2,190,326**	**163**	**2,290,966**	**172**	**8.8**	**16.8**	**4.6**	**20.3**
Government	1,649,687	125	1,878,648	139	1,970,089	148	9.9	17.7	4.9	19.4
Central Govt. Bonds	1,575,115	119	1,773,279	132	1,891,043	142	7.7	20.7	6.6	20.1
of which: *Sukuk*	204,222	15	245,708	18	274,492	21	28.3	40.6	11.7	34.4
Central Bank Bills	74,572	6	105,369	8	79,047	6	93.3	(22.4)	(25.0)	6.0
of which: *Sukuk*	7,038	0.5	10,788	0.8	12,273	0.9	12.1	(20.1)	13.8	74.4
Corporate	253,923	19	311,679	23	320,877	24	1.6	11.6	3.0	26.4
of which: *Sukuk*	9,216	0.7	11,578	0.9	11,834	0.9	(6.0)	30.2	2.2	28.4

( ) = negative, IDR = Indonesian rupiah, LCY = local currency, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth 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-March stood at IDR235.8 trillion.
Sources: Bank Indonesia; Directorate General of Budget Financing and Risk Management, Ministry of Finance; Indonesia Stock Exchange; and Bloomberg LP.

SR-009) in March. This latest retail *sukuk* carried a maturity of 3 years and a coupon rate of 6.9%. A total of 29,838 investors purchased the retail *sukuk*.

The government's issuance plan for 2017 also targets increased issuance of Surat Perbendaharaan Negara Indonesia, or Treasury bills, of about IDR5 trillion per auction for conventional short-term bills and IDR2 trillion per auction for Islamic Treasury bills. In 2016, average Treasury bill issuance for conventional short-term bills was only around IDR1.5 trillion per auction and IDR1.0 trillion for Islamic Treasury bills. This increase in issuance is directed at providing more liquidity for the short-term tenors to better reflect current market rates, which is used as a benchmark reference for the pricing of financial products.

Central Bank Bills. The stock of central bank bills declined to IDR79.0 trillion at the end of March on a 25.0% q-o-q contraction. On a y-o-y basis, however, the outstanding stock of SBI inched up 6.0%. In Q1 2017, Bank Indonesia ceased issuance of conventional SBI and only conducted monthly auctions for *shariah*-compliant central bank bills for maturities of 9 months and 1 year. This resulted in double-digit declines for SBI issuance on both a q-o-q and y-o-y basis. Reduced issuance of central bank certificates was due to Bank Indonesia's plan of gradually replacing it with short-term Treasury bills for its monetary operations.

Corporate Bonds. The stock of LCY corporate bonds climbed to IDR320.9 trillion at the end of March, rising 3.0% q-o-q and 26.4% y-o-y. The entire corporate bond market comprises 109 firms and bond issuance is largely dominated by financial institutions, which account for a 65.3% share of the total outstanding stock. The pace of growth of Indonesia's corporate bond market has remained slow relative to the growth of government bonds. Most corporates tend to borrow from banks due to the lengthy issuance process needed for raising funds from the bond market.

At the end of March, the 30 largest issuers of corporate bonds had an aggregate bond stock of IDR239.2 trillion, representing 74.5% of the total (**Table 2**). This was higher compared with the top 30 list at the end of December, which totaled IDR228.0 trillion and had a share of 73.2%. The top 30 list at the end of March was largely dominated by firms from the financial sector (banks and nonbank financial institutions). A few corporate names that made it to the top 30 list came from highly capitalized industries such as telecommunications, energy, and property and real estate.

The composition of the top three largest corporate bond issuers remained the same from the end of December. Taking the top spot was state-owned lender Indonesia Eximbank as the largest corporate bond issuer. Eximbank's total outstanding LCY bond size further rose to IDR36.0 trillion at the end of March. Another state-owned lender, Bank Rakyat Indonesia, took the second spot with IDR15.1 trillion. Rounding out the top three corporate bond issuers was telecommunications firm, Indosat, with outstanding bonds valued at IDR13.7 trillion.

Comprising the top 30 list were 12 state-owned entities, with five of the state-owned firms landing in the top 10. Also, more than half of the firms in the list have tapped the equities market for funding.

New corporate bond sales in Q1 2017 reached IDR22.4 trillion, lower on a q-o-q but higher on a y-o-y basis. Bond issuance during the quarter came from 13 corporate entities. It was only in mid-February when issuance of corporate bonds resumed. A total of 34 bond series were issued in Q1 2017. New corporate debt issues during the quarter comprised conventional bonds and few series of *sukuk mudharabah* (bonds backed by a profit-sharing scheme).

The largest new corporate bond issue in Q1 2017 was that of Indonesia Eximbank, with a multitranche sale in February amounting to IDR5.2 trillion. The state-owned lender will use the proceeds to further expand its financing portfolio. Astra Sedays Finance followed with a triple-tranche issuance in March with an aggregate amount of IDR2.5 trillion. Adira Dinamika Multifinance and Bank Pan Indonesia each issued IDR2.4 trillion worth of bonds in March. Adira Dinamika Multifinance issued both conventional and Islamic bonds, while Bank Pan Indonesia raised funds from a single tranche of 7-year bonds. **Table 3** presents some of the largest corporate debt issues during the quarter.

Foreign Currency Bonds. In March, the government raised USD3 billion from a dual-tranche offering of global *sukuk*. The bond sale comprised a USD1 billion 5-year *sukuk* priced at par to yield 3.4% and a USD2 billion 10-year *sukuk* priced at par to yield 4.15%. This latest offering

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	35,966	2.70	Yes	No	Banking
2.	Bank Rakyat Indonesia	15,137	1.14	Yes	Yes	Banking
3.	Indosat	13,721	1.03	No	Yes	Telecommunications
4.	Bank Tabungan Negara	12,950	0.97	Yes	Yes	Banking
5.	Bank Pan Indonesia	12,085	0.91	No	Yes	Banking
6.	Adira Dinamika Multifinance	10,965	0.82	No	Yes	Finance
7.	PLN	10,683	0.80	Yes	No	Energy
8.	Astra Sedaya Finance	9,725	0.73	No	No	Finance
9.	Telekomunikasi Indonesia	8,995	0.68	Yes	Yes	Telecommunications
10.	Federal International Finance	8,148	0.61	No	No	Finance
11.	Bank Internasional Indonesia	7,320	0.55	No	Yes	Banking
12.	Waskita Karya	7,232	0.54	Yes	Yes	Building Construction
13.	Sarana Multigriya Finansial	7,040	0.53	Yes	No	Finance
14.	Medco-Energi International	6,662	0.50	No	Yes	Petroleum and Natural Gas
15.	Perum Pegadaian	6,592	0.49	Yes	No	Finance
16.	Bank CIMB Niaga	6,230	0.47	No	Yes	Banking
17.	Sarana Multi Infrastruktur	6,000	0.45	Yes	No	Finance
18.	Bank Permata	5,810	0.44	No	Yes	Banking
19.	Toyota Astra Financial Services	5,464	0.41	No	No	Finance
20.	Bank Mandiri	5,000	0.38	Yes	Yes	Banking
21.	Jasa Marga	4,500	0.34	Yes	Yes	Toll Roads, Airports, and Harbors
22.	Surya Artha Nusantara Finance	4,422	0.33	No	No	Finance
23.	Bank OCBC NISP	4,115	0.31	No	Yes	Banking
24.	Indofood Sukses Makmur	4,000	0.30	No	Yes	Food and Beverages
25.	Agung Podomoro Land	3,700	0.28	No	Yes	Property and Real Estate
26.	Permodalan Nasional Madani	3,433	0.26	Yes	No	Finance
27.	BFI Finance indonesia	3,350	0.25	No	No	Finance
28.	Mandiri Tunas Finance	3,325	0.25	No	No	Finance
29.	Bumi Serpong Damai	3,315	0.25	No	Yes	Property and Real Estate
30.	Bank Bukopin	3,305	0.25	No	Yes	Banking
Total Top 30 LCY Corporate Issuers		**239,190**	**17.95**			
Total LCY Corporate Bonds		**320,877**	**24.09**			
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 end-March 2017.
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.

Table 3: Notable Local Currency Corporate Bond Issuance in the First Quarter of 2017

Corporate Issuers	Coupon Rate (%)	Issued Amount (IDR billion)
Indonesia Eximbank		
370-day bond	7.40	861
3-year bond	8.40	1,339
5-year bond	8.90	748
7-year bond	9.20	1,007
10-year bond	9.40	1,266
Astra Sedaya Finance		
370-day bond	7.40	1,000
3-year bond	8.50	1,125
5-year bond	8.75	375
Adira Dinamika Multifinance		
370-day bond	7.50	913
370-day *sukuk mudharabah*	7.50	274
3-year bond	8.60	860
3-year *sukuk mudharabah*	8.60	105
5-year bond	8.90	241
5-year *sukuk mudharabah*	8.90	7
Bank Pan Indonesia		
7-year bond	10.25	2,400
Sarana Multigriya Finansial		
370-day bond	7.50	677
3-year bond	8.40	1,000
Waskita Karya		
3-year bond	8.50	747
5-year bond	9.00	910
Toyota Astra Financial Services		
370-day bond	7.65	800
3-year bond	8.50	755

IDR = Indonesian rupiah.
Note: *Sukuk mudharabah* are Islamic bonds backed by a profit-sharing scheme from a business venture or partnership.
Source: Indonesia Stock Exchange.

attracted USD790 million worth of funds from investors in the United States.

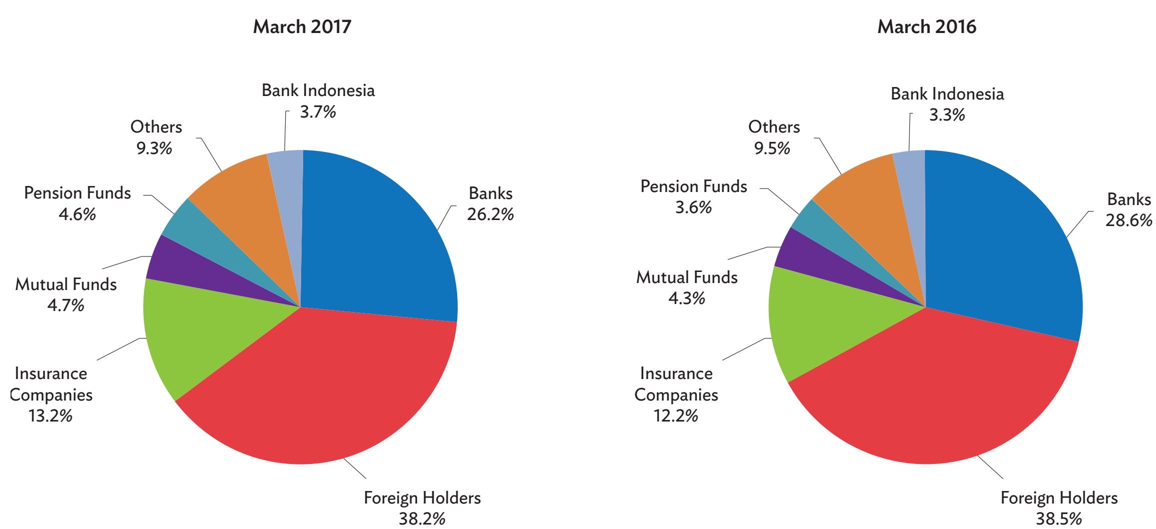
Investor Profiles

Central Government Bonds. Offshore investors returned to Indonesia's LCY government bond market in Q1 2017, following a bond market rout in Q4 2016 that saw their share of the total bond stock slipping to 37.6%. Investor sentiment turned positive at the start of the year on the back of improved domestic conditions amid continued uncertainties in the global market. While government bond yields have declined, foreign investors remain attracted to Indonesian government bond yields as they remain the highest among all peers in emerging East Asia.

Foreign investors remained the largest investor group in Indonesia's LCY government bond market with a share of 38.2% at the end of March and holdings valued at IDR723.2 trillion (**Figure 2**). Compared with March 2016, however, the share of offshore investors was marginally lower.

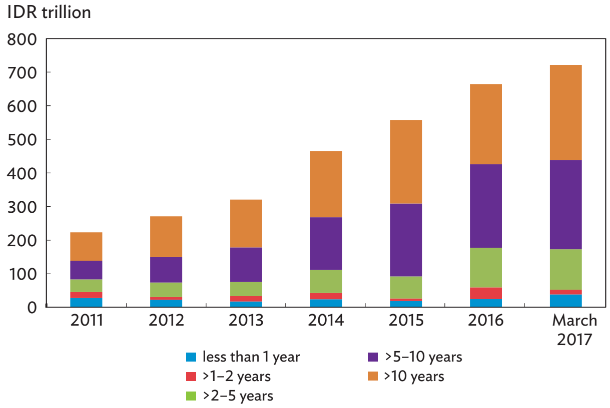
Nonresident holdings of government bonds in long-term maturities—bonds with maturities of over 10 years—further climbed at the end of March, representing a 39.2% share of aggregate foreign holdings (**Figure 3**). Total nonresident holdings of government bonds with maturities of more than 5 years to 10 years were still substantial at a 36.9% share of total foreign ownership, although this share slightly slipped during the review

Figure 2: Local Currency Central Government Bonds Investor Profile



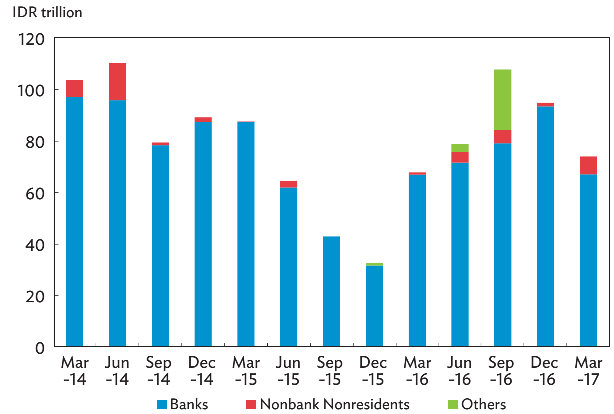
Source: Directorate General of Budget Financing and Risk Management, Ministry of Finance.

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



IDR = Indonesian rupiah.
Source: Directorate General of Budget Financing and Risk Management, Ministry of Finance.

Figure 4: Local Currency Central Bank Bills Investor Profile



IDR = Indonesian rupiah.
Notes:
1. In September and December 2015, nonbank nonresidents had no holdings of *Sertifikat* Bank Indonesia (SBI).
2. In March 2016, nonbank nonresidents held IDR0.9 trillion of SBI.
Source: Bank Indonesia.

period. The share of government bonds with maturities of 1 year or less climbed to 5.2% of total foreign holdings.

Among domestic investors, banking institutions were the largest investor group, accounting for a share of 26.2% of the total stock of LCY central government bonds at the end of March. This, however, represents a decline in holdings from a share of 28.6% at the end of March 2016. Banks shed the most in terms of bond holdings among all investor groups.

Government bond holdings by insurance firms and pension funds increased at the end of March as both investor groups are now required to hold 30% of their assets in government bonds effective this year. In 2016, the regulatory requirement was set at 20% of their respective assets. Holdings of insurance firms and pension funds rose by 1 percentage point each at the end of March from their respective holdings a year earlier. Holdings of mutual funds and Bank Indonesia also climbed 0.4 percentage points each during the review period.

Central Bank Bills. SBI were mostly held by banking institutions at the end of March, representing a share of 90.6% of the total central bank stock (**Figure 4**). In contrast, the share of nonbank nonresident investors climbed to 9.4% after falling to 1.5% at the end of December.

Ratings Update

On 7 March, JCR revised Indonesia's sovereign rating outlook to positive from stable and affirmed its BBB– issuer credit rating. In making its decision, JCR noted two drivers of the change in the sovereign rating outlook: (i) an improved investment climate and (ii) contained private external debt.

On 31 March, RAM Ratings affirmed Indonesia's global rating of $_{g}$BBB$_{2}$(pi)/stable/P2(pi) and its ASEAN-scale rating of $_{sea}$AA$_{3}$(pi)/stable/P1(pi). In the decision to affirm its ratings, RAM Ratings forecast that Indonesia will sustain its economic growth and continue to accelerate infrastructure development. Also, the rating agency noted that Indonesia's fiscal deficit and government debt ratios were at manageable levels.

On 5 April, R&I revised Indonesia's sovereign rating outlook to positive from stable and affirmed its BBB– investment grade issuer rating. In making its decision to change Indonesia's sovereign rating outlook, R&I cited the improvement in Indonesia's external position as reflected by a narrowing current account deficit and rising foreign reserves and stable growth in private sector external debt. R&I noted the fiscal discipline evident in Indonesia's prudent deficit management and low government debt levels. The rating agency also cited the government's strong commitment to policy reforms.

On 19 May, S&P raised Indonesia's sovereign credit rating to investment grade. Indonesia's long-term sovereign credit rating was raised to BBB- and short-term sovereign credit rating to A-3. The rating was given a stable outlook. In making its decision, S&P cited reduced risk in Indonesia's fiscal metrics.

Policy, Institutional, and Regulatory Developments

Bank Indonesia and the Bank of Korea Renew Bilateral Currency Swap Arrangement

On 6 March, Bank Indonesia and the Bank of Korea agreed to the renewal of their bilateral local currency swap arrangement to promote bilateral trade and financial cooperation between the two markets. The agreement calls for the exchange of local currencies up to KRW10.7 trillion–IDR115 trillion for a period of 3 years, subject to an extension with the consent of both parties.

Bank Indonesia Issues New Regulation to Boost the Trading of Negotiable Deposit Certificates

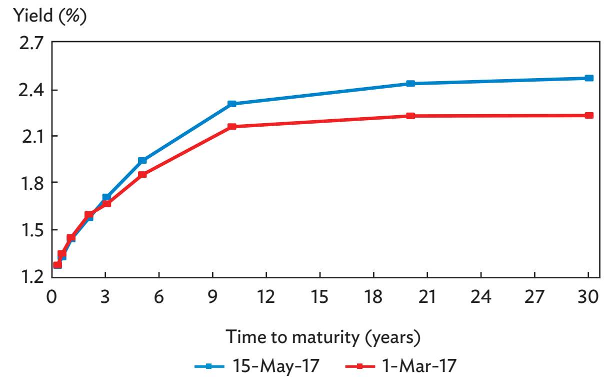
In March, Bank Indonesia issued a new regulation to boost the trading of negotiable deposit certificates and encourage financial institutions to invest excess cash in these instruments. The new regulation, which will take effect on 1 July, provides guidance on the approval process for issuers, transactions, and supervision, among others. Bank Indonesia is also looking at issuing regulations for commercial paper transactions.

Republic of Korea

Yield Movements

Between 1 March and 15 May, local currency (LCY) government bond yields in the Republic of Korea exhibited mixed movements. Yields for tenors of less than 3 years were barely changed, declining between 0.4 basis point (bp) and 2 bps (**Figure 1**). Yields for tenors of 3 years to 10 years rose between 4 bps and 15 bps, while yields for tenors of 20 years and 30 years rose 21 bps and 24 bps, respectively. The spread between the 2-year and 10-year yields widened to 72 bps on 15 May from 56 bps on 1 March.

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



Source: Based on data from Bloomberg LP.

Yields rose in the first half of March as the market awaited the Constitutional Court of Korea's ruling on the presidential impeachment trial and the impending rate hike by the United States (US) Federal Reserve on 15 March. Yields, however, immediately corrected and subsequently remained range-bound, lacking clear direction amid uncertainty over both domestic and foreign macroeconomic policies.

On the domestic front, weakening economic growth led to expectations of a rate cut by the Bank of Korea. However, the market also considered that lower interest rates could pose a risk to further growth in household debt. Uncertainty in the direction of US macroeconomic policies and the pace of the Federal Reserve rate hikes still remain.

An uptick in yields was observed in May, ahead of the presidential election on 9 May. Better-than-expected economic growth in the first quarter (Q1) of 2017 and the possibility of a supplementary budget by the new administration also contributed to the steepening of the yield curve. This has lessened expectations of a rate cut by the Bank of Korea.

At its 25 May monetary policy meeting, the Bank of Korea decided to maintain its base rate at 1.25%. The central bank cited expansion in domestic growth, supported by exports and investments as consumption remained weak. The economy is expected to maintain its pace of expansion in 2017 with annual gross domestic product growth forecast to be slightly above the 2.6% year-on-year (y-o-y) April projection. Inflation is expected to stay close to the 2.0% y-o-y target level for the time being, and full-year 2017 inflation is expected to be near the 1.9% projection made in April. The central bank noted that it will monitor the process of monetary policy normalization in the US, trade conditions with major countries, the new government's economic policies, the growth of the household debt, and geopolitical risks.

The Republic of Korea's GDP growth rose to 1.1% quarter-on-quarter (q-o-q) in Q1 2017 from 0.5% q-o-q in the fourth quarter (Q4) of 2016. By type of expenditure, the higher growth in Q1 2017 was led by increased gross fixed capital formation, higher private consumption expenditure, and a rebound in exports. On a y-o-y basis, the Republic of Korea's economy grew 2.9% in Q1 2017 versus 2.4% in Q4 2016.

Consumer price inflation in the Republic of Korea picked up in the first 4 months of 2017 to a monthly average of 2.0% y-o-y from an annual average of 1.0% in full-year 2016. The rise in inflation was driven by a rebound in oil prices and a pickup in economic activity.

Size and Composition

The Republic of Korea's LCY bond market grew 1.4% q-o-q to reach KRW2,095 trillion (USD1,873 billion) at the end of March (**Table 1**). The rise was most notable in the government bond sector as the corporate bond

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

	Outstanding Amount (billion)						Growth Rate (%)			
	Q1 2016		Q4 2016		Q1 2017		Q1 2016		Q1 2017	
	KRW	USD	KRW	USD	KRW	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**2,044,415**	**1,788**	**2,066,453**	**1,714**	**2,094,915**	**1,873**	**1.2**	**7.6**	**1.4**	**2.5**
Government	839,618	734	847,537	703	872,215	780	2.1	6.3	2.9	3.9
Central Government Bonds	501,171	438	516,908	429	533,303	477	3.3	10.3	3.2	6.4
Central Bank Bonds	181,390	159	168,390	140	174,860	156	0.3	(1.9)	3.8	(3.6)
Others	157,057	137	162,239	135	164,052	147	0.7	4.4	1.1	4.5
Corporate	1,204,797	1,054	1,218,916	1,011	1,222,700	1,093	0.5	8.5	0.3	1.5

( ) = negative, KRW = Korean won, LCY = local currency, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth 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 (LCY) base and do not include currency effects.
4. "Others" comprise Korea Development Bank Bonds, National Housing Bonds, and Seoul Metro Bonds.
5. Corporate bonds include equity-linked securities and derivatives-linked securities.
Sources: The Bank of Korea and *EDAILY BondWeb*.

market exhibited only a marginal increase from the previous quarter. On a y-o-y basis, the LCY bond market increased at a faster pace of 2.5%. Total government bonds outstanding reached KRW872 trillion, while corporate bonds amounted to KRW1,223 trillion.

Government Bonds. LCY government bonds outstanding rose 2.9% q-o-q to KRW872 trillion at the end of March. The growth was mainly driven by a 3.2% q-o-q increase in the outstanding stock of central government bonds, due to higher issuance of Korea Treasury Bonds. This is in line with the government's efforts to prop up the economy, frontloading almost one-third of its budget in Q1 2017. The outstanding stock of central bank bills also increased 3.8% q-o-q to KRW175 trillion at the end of March. Other government bonds rose 1.1% q-o-q to KRW164 trillion.

Government bond issuance in Q1 2017 surged 30.4% q-o-q to reach KRW88.4 trillion, driven by higher issuance of Korea Treasury Bonds and Monetary Stabilization Bonds. The surge was also partly due to the relatively low base in Q4 2016 as both the Ministry of Finance and Bank of Korea decreased their issuance to help stabilize market volatility following the US elections in November.

Corporate Bonds. LCY corporate bonds marginally rose 0.3% q-o-q to KRW1,223 trillion at the end of March. **Table 2** presents the top 30 LCY corporate bond issuers in the Republic of Korea at the end of March. The top 30 issuers comprised 64.8% of the total LCY corporate bond market, with aggregate bonds outstanding amounting to KRW792 trillion. Securities companies and banks continued to dominate the top 30 largest debt issuers with total bonds outstanding worth KRW325 trillion and KRW140 trillion, respectively. Of those in the list, 16 were state-owned firms, including the Korea Housing Finance Corporation, which continued to top the list with outstanding corporate bonds worth KRW111 trillion.

Corporate bond issuance slowed in Q1 2017, down 3.8% q-o-q to KRW96 trillion from KRW99 trillion in the previous quarter. **Table 3** lists notable corporate bond issuances in Q1 2017. The National Agricultural Cooperative Federation, a holding company with interests in agriculture, banking, and insurance, topped the list. Other top issuers of bonds for the quarter were from the banking sector, including Woori Bank and KEB Hana Bank.

Investor Profile

Insurance companies and pension funds continued to account for the largest holdings share of LCY government bonds at the end of December 2016, with an aggregate share of 33.6%, up from 32.6% a year earlier (**Figure 2**). General government comprised the second largest investor group, accounting for 19.3%, which was down slightly from a year earlier. The share of other financial institutions at 18.7% was almost unchanged from a year earlier. The share of banks rose to 14.3% from 13.9% during the period in review. Meanwhile, foreign investors held 10.5% of LCY government bonds at the end of December 2016.

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	110,682	99.0	Yes	No	No	Housing Finance
2.	NH Investment & Securities	66,000	59.0	Yes	Yes	No	Securities
3.	Mirae Asset Daewoo	58,281	52.1	No	Yes	No	Securities
4.	Korea Investment and Securities	51,350	45.9	No	No	No	Securities
5.	Korea Land & Housing Corporation	44,548	39.8	Yes	No	No	Real Estate
6.	Hana Financial Investment	36,756	32.9	No	No	No	Securities
7.	Mirae Asset Securities	36,206	32.4	No	Yes	No	Securities
8.	Industrial Bank of Korea	35,920	32.1	Yes	Yes	No	Banking
9.	KB Securities	27,169	24.3	No	No	No	Securities
10.	Korea Deposit Insurance Corporation	27,090	24.2	Yes	No	No	Insurance
11.	Korea Electric Power Corporation	22,480	20.1	Yes	Yes	No	Electricity, Energy, and Power
12.	Samsung Securities	21,446	19.2	No	Yes	No	Securities
13.	Korea Expressway	21,370	19.1	Yes	No	No	Transport Infrastructure
14.	Korea Rail Network Authority	19,320	17.3	Yes	No	No	Transport Infrastructure
15.	Shinhan Bank	19,122	17.1	No	No	No	Banking
16.	Woori Bank	18,755	16.8	Yes	Yes	No	Banking
17.	Kookmin Bank	18,146	16.2	No	No	No	Banking
18.	Daishin Securities	17,092	15.3	No	Yes	No	Securities
19.	Korea Gas Corporation	14,469	12.9	Yes	Yes	No	Gas Utility
20.	The Export–Import Bank of Korea	13,360	11.9	Yes	No	No	Banking
21.	NongHyup Bank	12,890	11.5	Yes	No	No	Banking
22.	Small & Medium Business Corporation	12,610	11.3	Yes	No	No	SME Development
23.	KEB Hana Bank	11,710	10.5	No	No	No	Banking
24.	Korea Student Aid Foundation	11,510	10.3	Yes	No	No	Student Loan
25.	Shinhan Card	11,206	10.0	No	No	No	Credit Card
26.	Hyundai Capital Services	10,974	9.8	No	No	No	Consumer Finance
27.	Standard Charted Bank Korea	10,960	9.8	No	No	No	Banking
28.	Shinyoung Securities	10,956	9.8	No	Yes	No	Securities
29.	Korea Railroad Corporation	10,290	9.2	Yes	No	No	Transport Infrastructure
30.	Korea Water Resources Corporation	9,637	8.6	Yes	No	No	Water
Total Top 30 LCY Corporate Issuers		**792,306**	**708.4**				
Total LCY Corporate Bonds		**1,222,700**	**1,093.2**				
Top 30 as % of Total LCY Corporate Bonds		**64.8%**	**64.8%**				

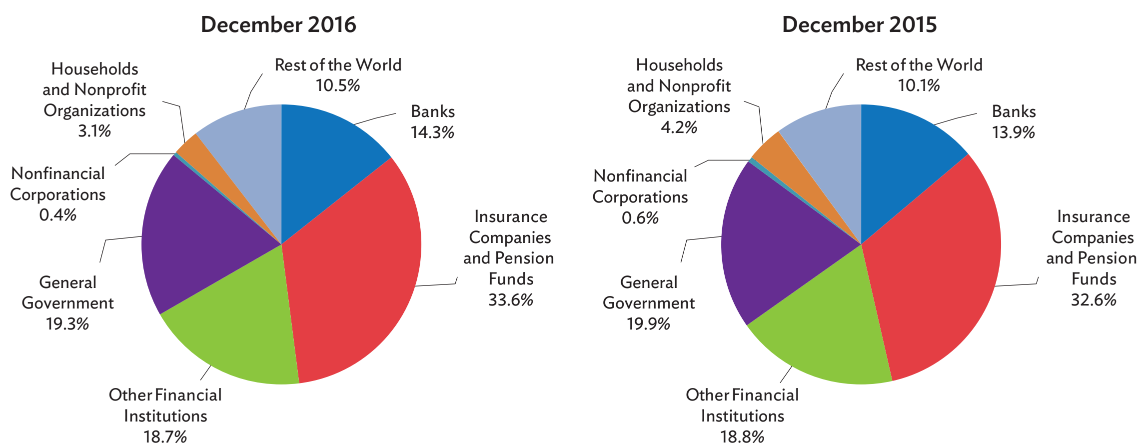
KOSDAQ = Korean Securities Dealers Automated Quotations, KOSPI = Korea Composite Stock Price Index, KRW = Korean won, LCY = local currency, USD = United States dollar.
Notes:
1. Data as of end-March 2017.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
3. Corporate bonds include equity-linked securities and derivatives-linked securities.
Sources: *AsianBondsOnline* calculations based on Bloomberg LP and *EDAILY BondWeb* data.

Table 3: Notable Local Currency Corporate Bond Issuance in the First Quarter of 2017

Corporate Issuers	Coupon Rate (%)	Issued Amount (KRW billion)
National Agricultural Cooperative Federation		
3-year bond	1.81	380
3-year bond	1.80	260
3-year bond	1.95	210
3-year bond	1.82	170
3-year bond	1.92	120
5-year bond	1.98	350
5-year bond	2.07	50
7-year bond	2.20	70
10-year bond	2.26	30
Woori Bank		
2-year bond	1.70	100
2-year bond	1.71	200
2-year bond	1.73	200
2-year bond	1.70	230
3-year bond	1.82	100
3-year bond	1.85	100
3-year bond	1.85	100
3-year bond	1.94	200
5-year bond	2.10	250
5-year bond	2.06	110
KEB Hana Bank		
2-year bond	1.69	100
2-year bond	1.67	100
2-year bond	1.71	100
2-year bond	1.68	100
2-year bond	1.70	100
2-year bond	1.76	100
3-year bond	1.81	100
3-year bond	1.80	100
3-year bond	1.82	100
3-year bond	1.82	100
3-year bond	1.81	100
3-year bond	1.83	100
3-year bond	1.83	100
10-year bond	2.81	200

KRW = Korean won.
Source: Based on data from Bloomberg LP.

Figure 2: Local Currency Government Bonds Investor Profile

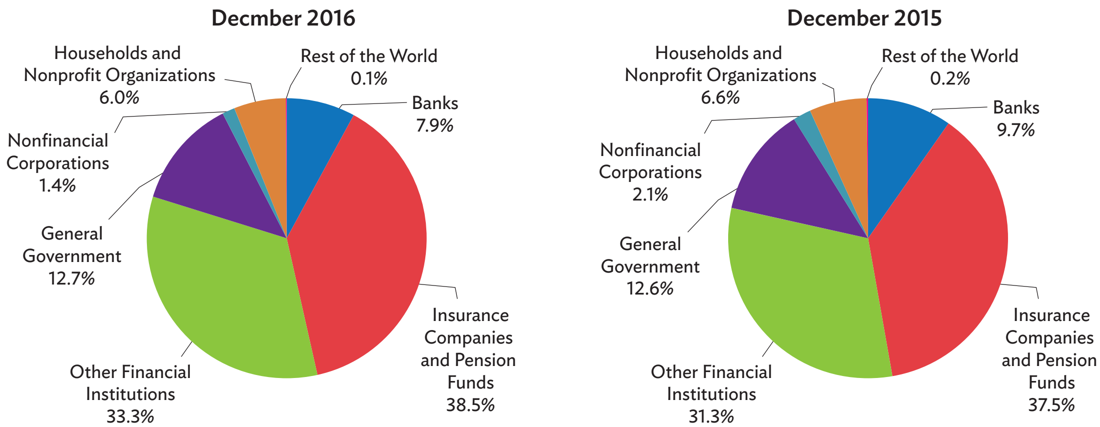


Sources: *AsianBondsOnline* and the Bank of Korea.

The investor profile of the Republic of Korea's corporate bond market was barely changed at the end of December 2016 compared with a year earlier (**Figure 3**). Insurance companies and pension funds remained the largest investor group with a share of 38.5%, up from 37.5% in December 2015. Other financial institutions were the second largest group, accounting for a third of total holdings. The share of foreign investors in the Republic of Korea's corporate bond market remained negligible.

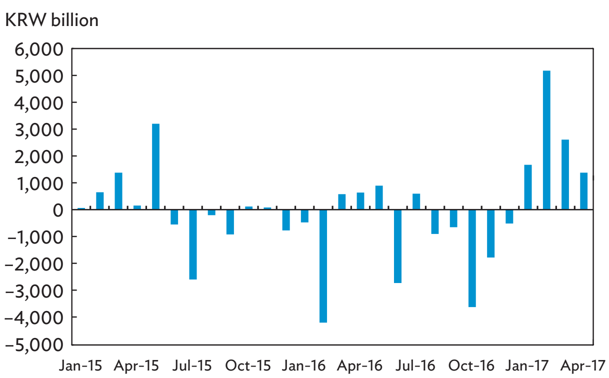
Net foreign investments in the Republic of Korea's local currency bond market surged in the first 4 months of 2017 following net investment outflows in most of 2016 (**Figure 4**). Net foreign investments amounted to KRW1,665 billion in January and reached a peak of KRW5,186 billion in February before easing to KRW2,607 billion in March and further to KRW1,375 billion in April.

Figure 3: Local Currency Corporate Bonds Investor Profile



Sources: *AsianBondsOnline* and the Bank of Korea.

Figure 4: Net Foreign Investment in Local Currency Bonds in the Republic of Korea



KRW = Korean won.
Source: Financial Supervisory Service.

Foreign funds returned to the region at the start of the year as the market stabilized following volatility posed by the unexpected outcome of the US presidential election in November. The high demand was partly due to the market taking advantage of the appreciation of the won, which strengthened 5.7% against the US dollar to KRW1,138 at the end of April from KRW1,206 at the end of December 2016.

Policy, Institutional, and Regulatory Developments

Financial Services Commission Announces New Approach to Corporate Restructuring

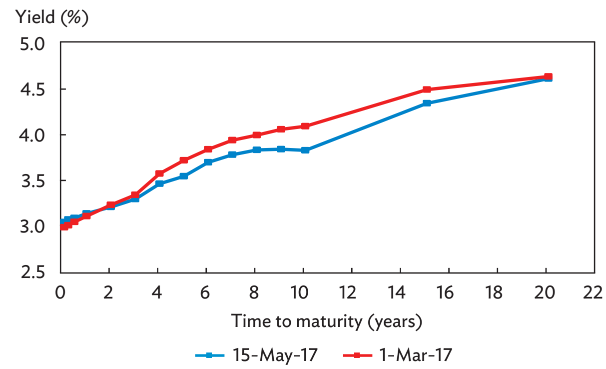
On 13 April, the Financial Services Commission announced a new approach to corporate restructuring in the Republic of Korea. This is to complement the existing framework and introduce more market-based restructuring schemes where capital market players, particularly private equity funds, will have an active role. The new approach includes a review and revision of banks' existing credit-risk evaluation models and frameworks. Companies that are included under a workout program are to be reevaluated and a more appropriate plan will be considered. This may be a continuation of the workout program or a buyout plan by private equity funds. A public–private joint fund worth KRW8 trillion will also be raised over the next 5 years. State-run banks will provide KRW4 billion and the remaining half will be funded by the private sector. The fund is intended to provide sufficient liquidity in the corporate bond market and encourage more private investments in corporate restructuring.

Malaysia

Yield Movements

Between 1 March and 15 May, local currency (LCY) government bond yields in Malaysia fell for most tenors, specifically those securities with tenors of between 2 years and 20 years (**Figure 1**). The largest drop in yields was seen in the 10-year tenor, which declined 26 basis points (bps), while a smaller drop was seen in the 2-year and 20-year tenors of 2 bps each. The decline in yields reflected restored confidence in the domestic bond market as foreign funds returned due to government policy initiatives to develop the local bond market, coupled with the recovery of the Malaysia ringgit and improved prospects for the economy. In contrast, bond yields at the short-end of the yield curve increased. On average, the yields for 3-month to 1-year tenors advanced 5 bps. The increase in short-end yields to some extent reflected lingering risk associated with the sell-off by foreign investors of LCY government bonds concentrated on shorter tenors. According to Bank Negara Malaysia (BNM), the bulk of the reduction in foreign holdings was in maturities of less than 1 year.[25] The yield spread between 2-year and 10-year government bonds declined by 24 bps during the review period.

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



Source: Based on data from Bloomberg LP.

BNM decided to maintain the overnight policy rate at 3.0% during its meeting on 12 May. The central bank's stance remained supportive of the markets' economic conditions and growth prospects, and inflation remained within BNM's expectations. While inflation has been trending higher, it mainly reflected the pass-through impacts of higher global oil prices and temporary supply disruptions that fed into higher consumer prices. Inflation is expected to moderate in the second half of the year. Malaysia' growth momentum from the latter part of 2016 is expected to carry into the first quarter (Q1) of 2017 and be sustained for rest of the year. On the external front, improving global economic conditions will support Malaysia's economic performance, particularly from exports. BNM has maintained its overnight policy rate since a 0.25-percentage points reduction in July 2016.

Malaysia's inflation rate moderated to 4.4% year-on-year (y-o-y) in April after sharply increasing to 5.1% y-o-y in March. The March number is the highest since posting an inflation rate of 5.7% y-o-y in November 2008. Both March and April consumer price inflation was driven by increasing fuel prices in the transport sector. Average inflation in January–April 2017 was 4.3%, higher than the 3.1% inflation rate posted in the same period in 2016. Core inflation, which excludes volatile items, remained stable at 2.5% y-o-y in April.

The ringgit appreciated 3.7% against the United States (US) dollar year-to-date through 15 May. The ringgit has recently recovered from its lows in November and December 2016, supported by BNM's currency measures, an improved inflow of foreign funds, and resilient economic fundamentals.

Malaysia's economy expanded faster than expected at 5.6% y-o-y in Q1 2017, overtaking the fourth quarter (Q4) of 2016 growth of 4.5% y-o-y. The Q1 2017 gross domestic product (GDP) growth was also the fastest in 2 years since 5.8% y-o-y growth was posted in Q1 2015. Malaysia's economy was lifted by strong private consumption expenditure and investment, as well as a robust recovery in exports. BNM stated that domestic demand is projected to continue to expand, supporting the economy, while exports are expected to benefit from the improvement in global growth. The central bank

[25] Bank Negara Malaysia. Statement by Financial Markets Committee: Roundtable Discussion on Bond Market Development. 14 March 2017. http://www.bnm.gov.my/index.php?ch=en_press&pg=en_press&ac=4392&lang=en

forecast Malaysia's GDP growth at between 4.3%–4.8% for full-year 2017. Meanwhile, Malaysia had laudable GDP growth of 4.2% y-o-y in 2016, led by strong private consumption expenditure and investment. In 2015, GDP growth was 5.0% y-o-y.

Size and Composition

Total LCY bonds outstanding in Malaysia expanded 3.3% quarter-on-quarter (q-o-q) and 5.7% y-o-y, reaching MYR1,206 billion (USD272 billion) at the end of March (**Table 1**). The q-o-q growth was a turnaround from the 0.1% q-o-q backslide seen in Q4 2016. On a y-o-y basis, the growth was faster. Despite the foreign outflow pressure and risks stemming from the global front, growth remained positive in the LCY bond market, reflecting that the market has large support from local investors. The Islamic capital market maintained its dominant position from the high issuance of *sukuk* (Islamic bonds) at end of March with a share of 57.1% of total LCY bonds outstanding.

Issuance of LCY bonds sharply rebounded in Q1 2017. Total issuance during the quarter summed to MYR76.9 billion on increases of 54.4% q-o-q and 24.1% y-o-y, reversing the double-digit drop seen in Q4 2016. The pace of issuance can be traced to market lenders locking in lower rates before a highly anticipated rate hike by the US Federal Reserve in March. The recovery of the ringgit may have also helped renew investor interest in Malaysia's bond market.

Government Bonds. LCY government bond outstanding stood at MYR651 billion at the end of March, rising 2.7% q-o-q and 3.5% y-o-y. The increase was propelled by central government bonds, which made up 94.2% of the total government bond stock. Central government bonds grew 2.7% q-o-q and 5.9% y-o-y.

Government bonds propelled growth in the LCY bond market in Q1. Issuance doubled on a quarterly basis and rose by 36.3% over the previous 12 months. Bond sales from the government totaled MYR38.9 billion during the quarter, comprising Malaysian Government Securities (MGS) and Government Investment Issues. Issuance of MGS had a dramatic increase to MYR15 billion in Q1 2017 from MYR4 billion in Q4 2016. Treasury bills and central bank bills issuance also showed positive q-o-q growth in Q1 2017. The strong bond issuance reflected the Malaysian government's increased financing needs in 2017.

Foreign holdings of LCY government bonds at the end of March dropped 18.3% to MYR156.7 billion from MYR191.8 billion at the end of December 2016 (**Figure 2**).[26] Foreign investors began to offload

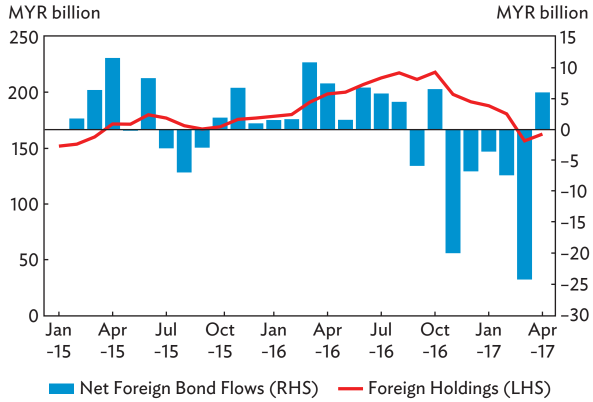
Table 1: Size and Composition of the Local Currency Bond Market in Malaysia

	Outstanding Amount (billion)						Growth Rate (%)			
	Q1 2016		Q4 2016		Q1 2017		Q1 2016		Q1 2017	
	MYR	USD	MYR	USD	MYR	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**1,141**	**293**	**1,167**	**260**	**1,206**	**272**	**1.9**	**6.3**	**3.3**	**5.7**
Government	628	161	634	141	651	147	2.7	2.7	2.7	3.5
Central Government Bonds	579	148	596	133	613	138	3.5	9.0	2.7	5.9
of which: *Sukuk*	223	57	236	53	252	57	3.3	14.3	6.6	12.9
Central Bank Bills	22	6	9	2	10	2	(12.2)	(62.3)	9.7	(55.3)
of which: *Sukuk*	0	0	0	0	0	0	(100.0)	(100.0)	–	–
Sukuk Perumahan Kerajaan	28	7	28	6	28	6	0.0	16.4	0.0	0.0
Corporate	512	131	534	119	555	125	1.0	11.1	4.0	8.3
of which: *Sukuk*	366	94	395	88	409	92	1.4	11.5	3.6	11.7

( ) = negative, – = not available, MYR = Malaysian ringgit, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth 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 local currency–USD rate is 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.

[26] Foreign holdings of debt securities and *sukuk*, excluding Bank Negara Malaysia bills.

Figure 2: Foreign Holdings of Local Currency Government Bonds



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.

their holdings of LCY government bonds when the unexpected outcome of the US presidential election led to speculation that was exacerbated by BNM's clamping down on nondeliverable forwards in order to stabilize the ringgit. This drew a significant amount of net foreign capital out of Malaysia's bond market in Q4 2016 and Q1 2017. During Q1 2017, Malaysia posted MYR35 billion net foreign outflows. Foreign holdings of MGS, which accounted for about 87.0% of total government securities held by foreign investors, declined 19.3% from the end of December to the end of March with net foreign outflows reaching MYR32.6 billion. By April, foreign fund flows turned positive with MYR6.0 billion monthly net foreign inflows, resulting in a total of MYR162.8 billion in foreign holdings of government bonds. Recent efforts by Malaysian policy makers to liberalize the bond market and the improving performance of the ringgit helped renew investor confidence in sovereign securities.

Corporate Bonds. Total LCY corporate bonds outstanding amounted to MYR555 billion at the end of March, an increase of 4.0% q-o-q and 8.3% y-o-y. With a large amount of issuance and a relatively low level of bond redemptions in Q1 2017, the corporate bond market managed to reverse the 0.5% q-o-q decline and even outpace the 5.2% y-o-y growth posted in Q4 2016.

Bonds outstanding from the top 30 corporate issuers at the end of March comprised 55.4% of the total LCY corporate bond market, which reached an aggregate amount of MYR307.7 billion (**Table 2**). The majority of the companies in the top 30 are not listed on Malaysia's stock exchange and 20 of them are state-owned. Companies from the finance industry dominated the list with a combined outstanding amount of MYR144.9 billion, while property and real estate accounted for only MYR5.1 billion. The government's funding vehicle for infrastructure projects, Danainfra Nasional, had the most outstanding bonds with MYR32.4 billion at the end of March, followed by privately owned transport, storage, and communications company, Project Lebuhraya Usahasama, with MYR30.4 billion.

Corporate bond market issuance rebounded in Q1 2017, with issuance amounting to MYR38.1 billion compared with MYR30.3 billion in the preceding quarter and MYR33.5 billion in Q1 2016. The increase in issuance was underpinned by government guaranteed bonds for Malaysia's key infrastructure projects. By instrument type, medium-term notes remained the dominant instrument in the corporate sector with a total issuance of MYR23.9 billion in Q1 2017.

Notable issuances in Q1 2017 are listed in **Table 3**. SapuraKencana TMC issued MYR3,366 million in a multitranche sale of 7-year maturities.

Investor Profile

The investor profile of government bond holders was little changed at the end of December 2016 from the previous year (**Figure 3**). Foreign investors continued to account for the largest share of LCY government bond holdings with a share that rose slightly to 32.2% from 31.5% in December 2015 despite foreign capital outflows toward the end of the year. Social security institutions followed with a 28.3% share, just overtaking financial institutions with a 28.0% share. Shares of insurance companies and other holders both decreased in 2016. BNM's holdings of LCY government bonds increased but remained the lowest overall at 1.0%.

For LCY corporate bonds, the investor profile generally remained unchanged between March 2016 and March 2017, with domestic commercial and Islamic banks accounting for the highest ownership share at 38.9% at the end of the review period (**Figure 4**). Marginal increases in the share of holdings were seen in life insurance companies and foreign commercial and Islamic

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	32.4	7.3	Yes	No	Finance
2.	Project Lebuhraya Usahasama	30.4	6.9	No	No	Transport, Storage, and Communications
3.	Cagamas	27.5	6.2	Yes	No	Finance
4.	Prasarana	18.7	4.2	Yes	No	Transport, Storage, and Communications
5.	Khazanah	18.0	4.1	Yes	No	Finance
6.	Perbadanan Tabung Pendidikan Tinggi Nasional	16.7	3.8	Yes	No	Finance
7.	Maybank	14.7	3.3	No	Yes	Banking
8.	Pengurusan Air	14.0	3.2	Yes	No	Energy, Gas, and Water
9.	Sarawak Energy	9.5	2.1	Yes	No	Energy, Gas, and Water
10.	CIMB Bank	9.5	2.1	No	No	Finance
11.	Jimah East Power	9.0	2.0	Yes	No	Energy, Gas, and Water
12.	GOVCO Holdings	7.6	1.7	Yes	No	Finance
13.	Bank Pembangunan Malaysia	7.4	1.7	Yes	No	Banking
14.	Public Bank	7.4	1.7	No	No	Banking
15.	Rantau Abang Capital	7.0	1.6	Yes	No	Finance
16.	Sarawak Hidro	6.5	1.5	Yes	No	Energy, Gas, and Water
17.	Aman Sukuk	6.1	1.4	Yes	No	Construction
18.	ValueCap	6.0	1.4	Yes	No	Finance
19.	CIMB Group Holdings	5.4	1.2	Yes	No	Finance
20.	Turus Pesawat	5.3	1.2	Yes	No	Transport, Storage, and Communications
21.	RHB Bank	5.2	1.2	No	No	Banking
22.	Putrajaya Holdings	5.1	1.2	Yes	No	Property and Real Estate
23.	1Malaysia Development	5.0	1.1	Yes	No	Finance
24.	Celcom Networks	5.0	1.1	No	No	Transport, Storage, and Communications
25.	Danga Capital	5.0	1.1	Yes	No	Finance
26.	GENM Capital	5.0	1.1	No	No	Finance
27.	YTL Power International	4.8	1.1	No	Yes	Energy, Gas, and Water
28.	AmBank	4.7	1.1	No	No	Banking
29.	Jambatan Kedua	4.6	1.0	Yes	No	Transport, Storage, and Communications
30.	Manjung Island Energy	4.5	1.0	No	No	Energy, Gas, and Water
Total Top 30 LCY Corporate Issuers		**307.7**	**69.5**			
Total LCY Corporate Bonds		**555.1**	**125.4**			
Top 30 as % of Total LCY Corporate Bonds		**55.4%**	**55.4%**			

LCY = local currency, MYR = Malaysian ringgit, USD = United States dollar.
Notes:
1. Data as of end-March 2017.
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 First Quarter of 2017

Corporate Issuers	Coupon Rate (%)	Issued Amount (MYR million)
SapuraKencana TMC		
7-year bond	6.37	1,413
7-year bond	6.53	1,102
7-year bond	6.48	426
7-year bond	6.46	350
7-year bond	4.85	75
GOVCO Holdings		
15-year bond	4.95	1,250
10-year bond	4.55	500
7-year bond	4.29	625
5-year bond	4.10	625
Cagamas		
5-year bond	4.15	2,000

MYR = Malaysian ringgit.
Source: Bank Negara Malaysia Bond Info Hub.

banks, while marginal decrease were seen in investment banks and the Employees Provident Fund. General insurance companies' holdings were unchanged at 2.3%.

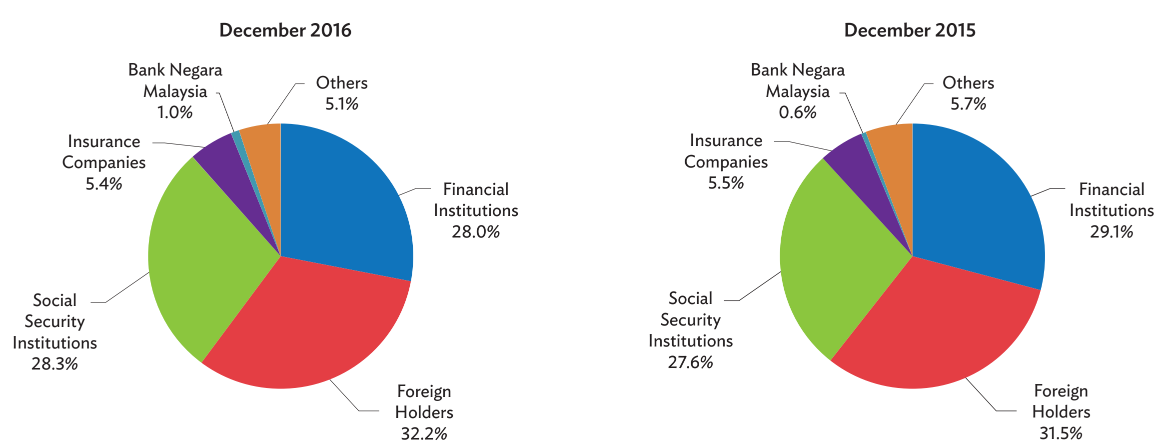
Ratings Update

In January, RAM Ratings affirmed Malaysia's global sovereign rating at $_{g}A_{2}$ and its ASEAN-scale sovereign rating at $_{sea}$AAA with a stable outlook, reflecting the market's economic resilience despite domestic and external risks. The Government of Malaysia's fiscal consolidation efforts and the market's sustained current account surplus supported the rating. However, RAM Ratings stated that if there is deterioration in the fiscal position as a result of rising debt, a persistent current account deficit, or significant deviations in the country's economic or fiscal conditions, Malaysia's rating could be revised downward.

Fitch affirmed Malaysia's long-term foreign currency and local currency international default rating at A– in April with a stable outlook based on a promising economic environment and growth prospects. Despite offloading from foreign investors in Q4 2016, which put downward pressure on the ringgit and international reserves, Malaysia managed to maintain a strong net external creditor position, resilient GDP growth, and a current account surplus. The ratings firm flagged the Malaysian government's fiscal consolidation efforts to narrow the deficit as a positive development while failure to implement these efforts, which would lead to a deterioration of fiscal discipline, were flagged as risks.

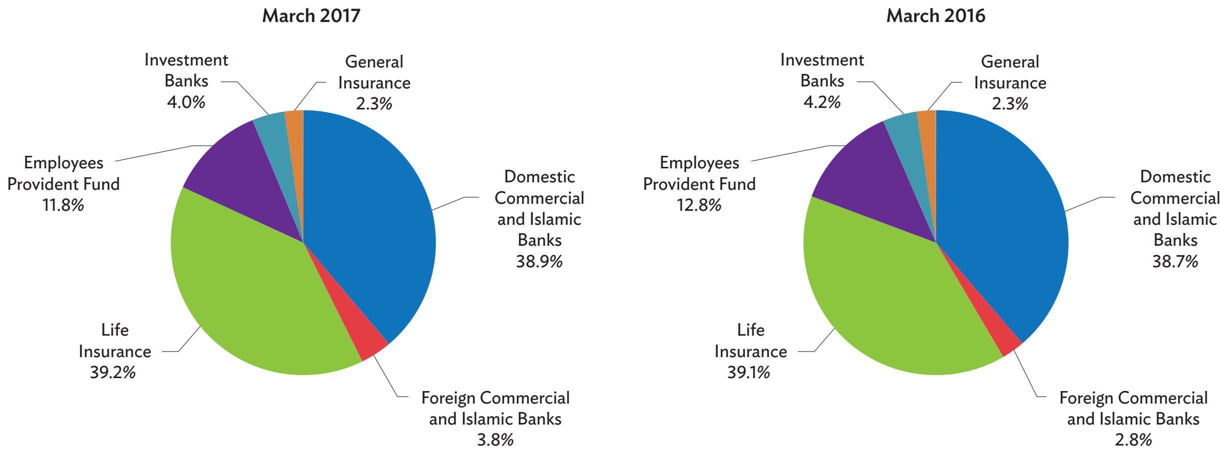
Malaysian Rating Corporation Berhad affirmed Malaysia's sovereign rating of AAA with a stable outlook in April. The rating was supported by the market's sound macroeconomic fundamentals, which were underpinned by resilient economic growth, a sustainable and strong external position, a strong and well-supervised banking system, and effective governance. The credit watcher flagged fiscal performance and high government and household debt levels as rating constraints.

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 end-December 2016.
Sources: Bank Negara Malaysia and the Employees Provident Fund.

Policy, Institutional, and Regulatory Developments

Securities Commission Allows Regulated Short-Selling of Corporate Bonds

In April, Malaysia's Securities Commission allowed principal dealers, primarily banks, to undertake a regulated short-selling of corporate bonds. The Securities Commission has set out conditions on how the regulated short-selling of corporate bonds is to be conducted and the requirements to ensure market stability. The commission's regulatory development is in line with Malaysia's efforts to develop its bond market and boost liquidity.

Bank Negara Malaysia Eases Rules on Short-Selling of Government Securities

BNM eased rules on the short-selling of MGS effective 2 May. The move is part of the liberalization measures by the central bank to develop domestic financial markets and restore investor interest in government debt. Prior to this development, only licensed banks and investment banks were allowed to short-sell MGS. The new rule allows companies and insurers to short-sell MGS to help them manage their risk and generate more trading volume, resulting in higher liquidity onshore. The central bank also said this will attract foreign investors to bring funds back to the domestic market. The clampdown on nondeliverable forwards launched in November in an effort to stabilize the ringgit saw foreign investors offload government securities.

The Bank of Japan and Bank Negara Malaysia Conclude Bilateral Currency Swap Agreement

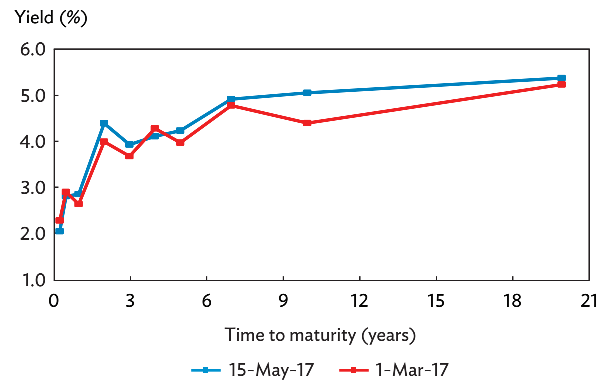
The Bank of Japan and BNM reached a bilateral currency swap agreement in early May. The agreement between the central banks will allow them to swap their currencies with US dollars when needed up to a maximum of USD3 billion. The arrangement will deepen the economic and trade ties between the Japanese and Malaysian markets and contribute to financial stability in Southeast Asia.

Philippines

Yield Movements

Between 1 March and 15 May, local currency (LCY) government bond yields in the Philippines rose for all tenors except the 3-month, 6-month, and 4-year maturities, whose yields fell by 24, 9, and 17 basis points (bps), respectively (**Figure 1**). Yields increased for government bonds with 1-, 2-, 3-, 5-, 7-, 10-, and 20-year maturities. The largest increase was seen in the yield for 10-year bonds, which advanced 65 bps. The yield spread between 2-year and 10-year tenors widened by 26 bps during the review period.

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



Source: Based on data from Bloomberg LP.

The demand for shorter-dated securities was strong because the market is in a wait-and-see position. Investors will not risk locking up their funds in long-term maturities as they remain on the lookout for policy leads on both the local and external fronts. Strong demand has bid up bond prices at the short-end, resulting in lower yields. On the other hand, advancing yields for most tenors reflect the general perception that interest rates will rise amid expectations of accelerating inflation and hawkish moves by the Bangko Sentral ng Pilipinas (BSP) toward the second half of the year.

Consumer prices in the Philippines rose 3.4% year-on-year (y-o-y) in April, the same pace of inflation from the previous month. Inflation has been trending upward since November 2016, reaching its highest level in more than 2 years in March. Year-to-date through April, the average inflation rate was 3.2% y-o-y, which was within the government's target range of 2%–4% for full-year 2017.

BSP kept its monetary policy unchanged during its meeting on 11 May, leaving the policy rate at 3.0% as it assessed that inflation remained manageable. Rates on the overnight lending and deposit facilities were also unchanged at 3.5% and 2.5%, respectively. Market expectations remained anchored to the inflation target over the policy horizon and the latest inflation forecasts for 2017 and 2018 remained within the target band of 2%–4%. The central bank flagged the proposed tax reform program and possible further adjustments in transport fares and electricity rates as upside risks to inflation. Inflation in the Philippines, while hovering near the upper end, remains within the BSP target band, thus providing enough room to delay a rate hike. The outlook for the domestic economy continued to be optimistic despite some downside risks emanating from external developments.

The Philippine peso barely moved against the United States (US) dollar year-to-date through 15 May. The peso did, however, breach the PHP50 per dollar level in mid-February, where it remained until early April. The peso reached a 10-year low in March against the backdrop of persistent uncertainty associated with the timing of the US Federal Reserve's interest rate hike and the volatile market sentiments surrounding Brexit. Consequently, the US dollar has been strengthening against currencies in Asia as investors resorted to safe-haven buying. In May, the peso began to strengthen against the greenback as the market trimmed expectations of an interest hike from the US Federal Reserve amid weaker-than-expected US inflation.

The Philippines' gross domestic product (GDP) grew at a weaker-than-expected pace of 6.4% y-o-y in the first quarter (Q1) of 2017. GDP growth in Q1 2017 was slower than that posted in the fourth quarter (Q4) of 2016 (6.6% y-o-y) and in Q1 2016 (6.9% y-o-y). It was the slowest expansion of the Philippine economy since recording 6.2% y-o-y growth in the third quarter of 2015. According to the National Economic and Development Authority, the slowing growth in Q1 2017 could be explained by the high base effects from election spending in 2016. Furthermore, the reorientation of government programs, which typically takes some time in a new administration, slowed government spending during the quarter. On the demand side, strong exports helped keep the economy afloat, while on the supply side, the services sector remained the main growth driver. Despite the slower growth, the government still sees the economy broadly in line with its full-year 2017 target GDP growth rate of 6.5%–7.5% as the government has set an ambitious infrastructure program.

Size and Composition

The Philippines' LCY bond market had bonds outstanding at the end of March amounting to PHP4,943 billion (USD98 billion), an increase of 1.5% quarter-on-quarter (q-o-q) and 5.0% y-o-y compared with a q-o-q decline and a slower y-o-y growth at the end of March 2016 (**Table 1**). The increase in the bond stock was supported by gains in both the LCY government and corporate bond segments. At the end of March, government bonds comprised 81.1% of total LCY bonds outstanding and corporate bonds comprised 18.9%.

Government Bonds. LCY government bonds outstanding registered 0.8% q-o-q growth, reaching a total of PHP4,011 billion. The q-o-q expansion was buoyed by Treasury bonds, which increased 1.0% q-o-q, but was dampened by the 0.6% q-o-q decrease in Treasury bills. The size of Treasury bonds increased because of higher issuance in Q1 2017, which was accompanied by low redemptions, while the amount of Treasury bills slightly decreased due to the partial awarding of offers in most auctions during the period. On a y-o-y basis, LCY government bonds outstanding increased 3.0%, driven by 3.3% growth in Treasury bonds and 2.6% growth in Treasury bills. On the other hand, government-owned or -controlled corporation bonds outstanding declined on a y-o-y basis as some bonds matured and there were no new issuances in Q1 2017.

Total LCY bonds issued during Q1 2017 amounted to PHP320.1 billion, up 56.0% q-o-q and 69.0% y-o-y. The government issued PHP267.8 billion of LCY securities during the quarter, more than doubling issuance in Q4 2016 and 51.0% higher compared with Q1 2016. The sharp increases reflect the government capitalizing on the local debt market to finance its ambitious infrastructure plan. Treasury bond issuance reached PHP90 billion and Treasury bill issuance reached PHP177.8 in Q1 2017.[27]

Auctions for Treasury bonds and bills were met with strong demand. However, shorter-dated Treasury bills were partially awarded by the government in most of the auctions due to investors seeking higher rates and the government being more discerning with its rates as it has enough of a cash balance. Longer-dated Treasury bonds were fully awarded as the government sought to lock in lower borrowing costs amid expectations of rate hikes in the second half of the year from the US Federal Reserve and the BSP.

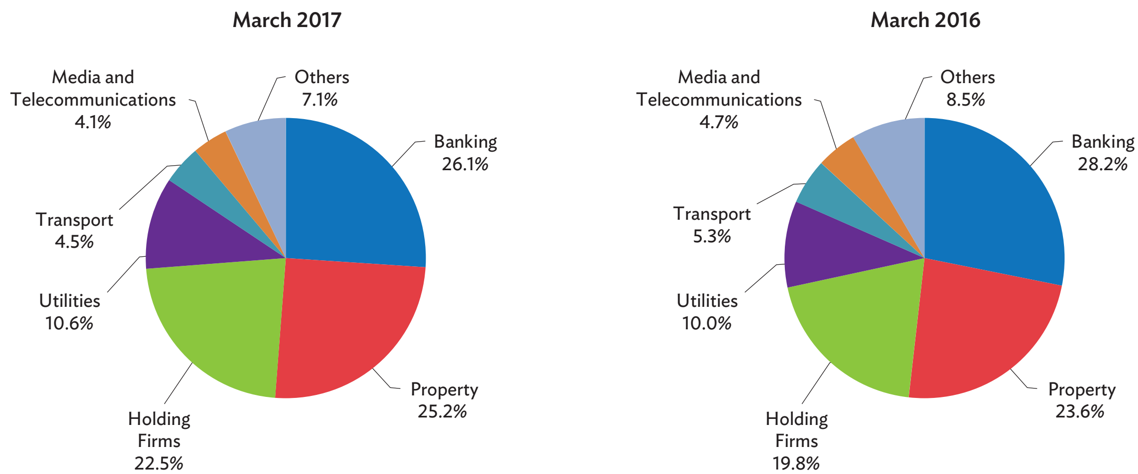
Table 1: Size and Composition of the Local Currency Bond Market in the Philippines

	Outstanding Amount (billion)						Growth Rate (%)			
	Q1 2016		Q4 2016		Q1 2017		Q1 2016		Q1 2017	
	PHP	USD	PHP	USD	PHP	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**4,706**	**102**	**4,869**	**98**	**4,943**	**98**	**(1.1)**	**0.5**	**1.5**	**5.0**
Government	3,893	85	3,978	80	4,011	80	(1.3)	(0.6)	0.8	3.0
Treasury Bills	279	6	288	6	286	6	5.5	0.2	(0.6)	2.6
Treasury Bonds	3,539	77	3,621	73	3,656	73	(1.6)	(0.2)	1.0	3.3
Others	76	2	69	1	69	1	(12.2)	(17.3)	0.0	(8.4)
Corporate	813	18	891	18	932	19	(0.1)	6.3	4.6	14.6

( ) = negative, LCY = local currency, PHP = Philippine peso, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth 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.

[27] Treasury bonds and bills include reissues and special bills.

Figure 2: Local Currency Corporate Bonds Outstanding by Sector



Source: Based on data from Bloomberg LP.

In 2017, the government plans to borrow up to PHP631.3 billion, with 80% coming from local creditors and 20% from foreign creditors.

Corporate Bonds. The LCY corporate bond market was more active in Q1 2017 in terms of growth. LCY corporate bonds outstanding at the end of March increased 4.6% q-o-q and 14.6% y-o-y, reaching PHP932 billion. Compared to the same period in 2016, the q-o-q growth was a turnaround from a decline while y-o-y growth was faster.

The banking sector remained the largest source of LCY corporate bonds outstanding at the end of March, accounting for 26.1% of the total, even though its share fell from 28.2% a year earlier (**Figure 2**). On the other hand, the property sector increased its share to 25.2% at the end of March from 23.6% a year earlier. The expansion in the property sector can be attributed to robust demand for housing units and office space that prompted property firms to tap the debt market. Banking and property remained the top two sectors in terms of the amount of bonds outstanding. Sectors that saw an increase in their share of LCY corporate bonds outstanding during the review period include utilities and holding firms, while media and telecommunications, transport, and other sectors experienced declines.

LCY bonds outstanding of the top 30 corporate issuers amounted to PHP793 billion at the end of March, which represented 89.0% of the Philippines' LCY corporate bond market (**Table 2**). Property firm Ayala Land topped the list with a total of PHP80.3 billion of outstanding bonds. By sector, banks led the group with PHP202.8 billion LCY bonds outstanding, followed closely by property firms with PHP197.2 billion.

Corporate bond issuance in Q1 2017 dropped 27.2% q-o-q but more than tripled on a y-o-y basis. The q-o-q drop can be attributed to the high base in Q4 2016 and the wait-and-see position of companies amid uncertainty surrounding the timing and direction of domestic and external policies. In comparison to Q4 2016's q-o-q growth rate, corporate bond issuance increased 60.0% q-o-q, which can be attributed to very high expectations from market participants that the US Federal Reserve would increase its policy rate in December 2016, prompting companies to cash in on relatively low interest rates to manage borrowing costs ahead of the interest rate hike.

Notable corporate issuers in Q1 2017 are listed in **Table 3**. Property firm Megaworld had the largest bond issuance during the quarter from the single sale of 7-year bonds amounting to PHP12 billion and carrying a coupon rate of 5.35%. This comprised 22.9% of all corporate bonds issued in Q1 2017.

The Philippine Dealing and Exchange Corporation is also looking at the feasibility of opening an alternative funding

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	80.3	1.6	No	Yes	Property
2.	Metrobank	55.4	1.1	No	Yes	Banking
3.	SM Prime	53.8	1.1	No	Yes	Property
4.	Ayala Corporation	50.0	1.0	No	Yes	Holding Firms
5.	SM Investments	47.3	0.9	No	Yes	Holding Firms
6.	San Miguel Brewery	37.8	0.8	No	No	Brewery
7.	BDO Unibank	37.5	0.7	No	Yes	Banking
8.	Philippine National Bank	31.4	0.6	No	Yes	Banking
9.	JG Summit Holdings	30.0	0.6	No	Yes	Holding Firms
10.	Filinvest Land	29.0	0.6	No	Yes	Property
11.	Aboitiz Equity Ventures	24.0	0.5	No	Yes	Holding Firms
12.	Meralco	23.5	0.5	No	Yes	Electricity, Energy, and Power
13.	Security Bank	23.0	0.5	No	Yes	Banking
14.	Rizal Commercial Banking Corporation	22.1	0.4	No	Yes	Banking
15.	GT Capital	22.0	0.4	No	Yes	Holding Firms
16.	San Miguel	20.0	0.4	No	Yes	Holding Firms
17.	East West Bank	19.5	0.4	No	Yes	Banking
18.	Petron	18.6	0.4	No	Yes	Electricity, Energy, and Power
19.	South Luzon Tollway	18.3	0.4	No	No	Transport
20.	Globe Telecom	17.0	0.3	No	Yes	Telecommunications
21.	Maynilad Water Services	15.9	0.3	No	No	Water
22.	MCE Leisure (Philippines)	15.0	0.3	No	No	Casinos and Gaming
23.	Philippine Long Distance Telephone Company	15.0	0.3	No	Yes	Telecommunications
24.	SMC Global Power Holdings	15.0	0.3	No	No	Electricity, Energy, and Power
25.	Union Bank of the Philippines	14.0	0.3	No	Yes	Banking
26.	Megaworld	12.0	0.2	No	Yes	Property
27.	Robinsons Land	12.0	0.2	No	Yes	Property
28.	Manila North Tollways	11.9	0.2	No	No	Transport
29.	MTD Manila Expressways	11.5	0.2	No	No	Transport
30	Vista Land and Lifescapes	10.2	0.2	No	Yes	Property
Total Top 30 LCY Corporate Issuers		**793.0**	**15.8**			
Total LCY Corporate Bonds		**891.2**	**17.8**			
Top 30 as % of Total LCY Corporate Bonds		**89.0%**	**89.0%**			

LCY = local currency, PHP = Philippine peso, USD = United States dollar.
Notes:
1. Data as of end-March 2017.
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.

avenue for public–private entities to issue project bonds to support the government's infrastructure push.

Foreign Currency Bonds. The Government of the Philippines issued USD-denominated Global Bonds in February amounting to USD2.0 billion with a tenor of 25 years and a coupon rate of 3.70%. This marked the Philippines' successful return to the international capital market where the bonds were met with strong demand amid financial market volatility. The Global Bonds comprised a USD1.5 billion switch tender offer for liability management and USD0.5 billion in "new money."

The Government of the Philippines is considering the sale of USD200 million in the second half of 2017 of panda bonds, or Chinese yuan-denominated securities, with tenors of 3 years and 5 years.

Table 3: Notable Local Currency Corporate Bond Issuance in the First Quarter of 2017

Corporate Issuers	Coupon Rate (%)	Issued Amount (PHP billion)
Megaworld		
7-year bond	5.35	12.00
Ayala Corporation		
8-year bond	4.82	10.00
San Miguel		
5-year bond	4.82	6.69
7-year bond	5.28	7.29
10-year bond	5.76	6.02

PHP = Philippine peso.
Source: Bloomberg LP.

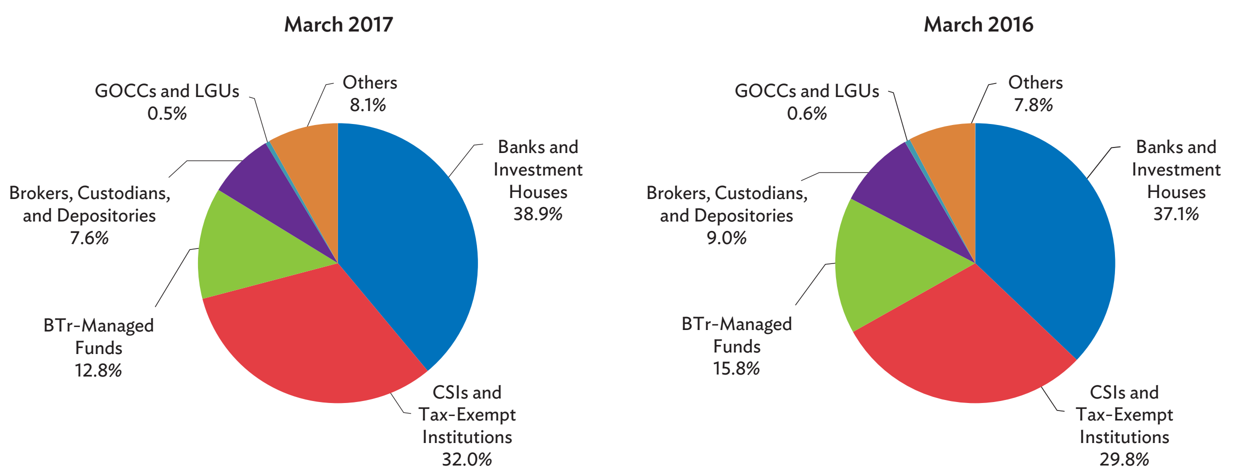
Investor Profile

Banks and investment houses remained the largest investor in LCY government bonds with a total investment of PHP1,545 billion, or a 38.9% share of all investor holdings, at the end of March (**Figure 3**). This was followed by contractual savings institutions and tax-exempt institutions with a total holding of PHP1,268 billion, accounting for 32.0% of the LCY government bond market. Government-owned and -controlled corporations and local government units had the smallest holdings at PHP20 billion. Among investor groups, banks and investment houses, contractual savings institutions and tax-exempt institutions, and "other" investor group saw y-o-y increases, gaining 8.4%,10.9%, and 8.4%, respectively. All other groups experienced y-o-y declines with the highest drop seen in the holdings of the Bureau of the Treasury-managed funds of 15.9% y-o-y.

Ratings Update

Fitch Ratings affirmed the Philippines' investment credit rating with a positive outlook in March. The ratings agency maintained the market's long-term FCY and LCY issuer default ratings at BBB– with a positive outlook. Fitch cited the Philippines' sustained strong economic

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.

growth performance, robust external credit position, and low debt levels compared to similarly rated economies to back the rating affirmation. However, relatively weak governance standards, a narrow government revenue base, and relatively low levels of per capita income and human development took a toll on the rating. Fitch also said that the government's tax reform plan, which can broaden the tax base, alongside the market's resilience to external shocks, could lead to a potential ratings upgrade, while deteriorations in governance standards and implementation risks with regard to tax reform were flagged as having the potential to lead to a downgrade from a positive outlook to stable.

Standard and Poor's (S&P) Global Ratings also maintained its investment grade rating for the Philippines with a stable outlook in April, citing the market's sufficient foreign exchange reserves and low external debt as well as policy environment remaining conducive to sustaining economic growth translating into a stable fiscal position. The Philippines' BBB long-term and A-2 short-term sovereign credit ratings are both a notch above investment grade. S&P stated that improvement in investment and economic growth prospects resulting from the newly calibrated fiscal program could lead to a potential ratings upgrade but warned that if the reform agenda stalls or if the recalibrated fiscal program leads to higher-than-expected deficits, it might lower the ratings.

Policy, Institutional, and Regulatory Developments

Securities and Exchange Commission Raises Minimum Public Float

The Securities and Exchange Commission (SEC) released a draft memorandum circular stating that it will increase the public float of Philippine-listed companies to at least 20% of the companies' issued and outstanding shares from the current 10% starting 1 July. Companies applying for an initial public offering should immediately comply with the minimum public ownership requirement, while currently listed companies should increase their public float to at least 15% by the end of 2018 and eventually increase this to at least 20% by the end of 2020. According to the SEC, the higher public float requirement will increase market depth and is essential for sustaining a continuous market for listed securities in order to provide liquidity, which in turn will attract high-quality, long-term investors.

The Philippines to Borrow PHP180 Billion in the Second Quarter of 2017

The Government of the Philippines plans to borrow PHP180 billion domestically in the second quarter (Q2) of 2017, the same amount as planned borrowing in Q1 2017. The offer will comprise up to PHP90 billion each of Treasury bills and Treasury bonds to be sold in six scheduled auctions. The Q2 2017 planned borrowing is higher than the PHP135 billion target in Q2 2016. Treasury bonds will have longer maturities of 7, 10, and 20 years, as the government wants to stretch its liability amid a rising interest rate environment, especially as the US Federal Reserve has signaled two more rate hikes this year. In Q1 2017, the government sold PHP150.6 billion of government securities.

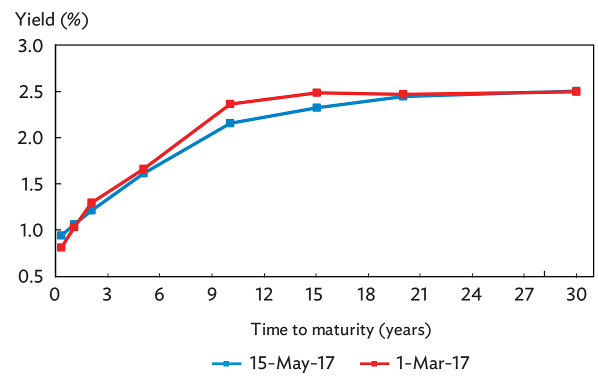
ASEAN Banking Integration Framework Negotiations Conclude between Bangko Sentral ng Pilipinas and Bank Negara Malaysia

The BSP and Bank Negara Malaysia signed in April the Declaration of Conclusion of Negotiations under the Association of Southeast Asian Nations (ASEAN) Banking Integration Framework. This marked the completion of negotiation between the central banks, allowing the entry of Qualified ASEAN Banks between the two countries. Under the agreement, these banks will have greater access to each other's markets and more operational flexibility in banking activities. The BSP has also signed a Letter of Intent with the Bank of Thailand to begin similar discussions on the ASEAN Banking Integration Framework.

Singapore

Between 1 March and 15 May, yields for most local currency (LCY) government bonds declined in Singapore (**Figure 1**). Exceptions included the yields for 3-month Singapore Government Securities (SGS) bills, and 1-year and 30-year SGS bonds, which rose 13 basis points (bps), 3 bps, and 1 bp, respectively. Yields for securities with maturities from 2 years to 5 years declined an average of 7 bps. Yields for longer-term maturities (10–15 years) fell 18 bps on average, while the yield for the 20-year SGS bond, marginally declined by 2 bps. The 2-year and 10-year yield spread narrowed from 106 bps on 1 March to 94 bps on 15 May.

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



Source: Based on data from Bloomberg LP.

Singapore bond market yields largely tracked United States (US) bond market yield movements—yields for bonds at the long-end of the curve declined, while yields for bonds at the short-end of the curve rose. The US Federal Reserve have raised interest rates in March for the second time in 3 months, but during its policy meeting in May, interest rate was kept unchanged in a unanimous vote. Expectations of at least one rate hike for the latter half of 2017 remains as the Federal Reserve gave no dovish indications.

The Monetary Authority of Singapore (MAS), on 13 April, decided to maintain the rate of appreciation of the Singapore dollar nominal effective exchange rate policy band at zero percent, while also leaving the range of the policy band width and the level at which it is centered unchanged. MAS noted that while the continued pickup in the global economy resulted in an improved outlook for Singapore's trade-driven economy, downside risks from global policy uncertainties remain. This provided support for the neutral policy stance that MAS deems appropriate for an extended period in order to ensure price stability in the medium term.

Singapore's gross domestic product (GDP) expanded 2.7% year-on-year (y-o-y) in the first quarter (Q1) of 2017 easing from 2.9% y-o-y growth in the fourth quarter (Q4) of 2016. Growth mainly came from the manufacturing sector and service-producing industries, which expanded 8.0% y-o-y and 1.6% y-o-y in Q1 2017, respectively. Alongside the positive growth outlook, downside risks persist, such as uncertainties in the direction of policies, and the credit and financial system risks in the People's Republic of China. Singapore's GDP for 2017 is forecasted to come between 1%–3%, and likely to surpass the 2.0% growth in 2016.

In 2017, inflation is expected to gradually rise to 0.5%–1.5% from an average of –0.5% in 2016. MAS core inflation is expected to average 1%–2% in 2017, higher than the 0.9% average in 2016. The rise in inflation is largely seen to come from supply-side pressures, such as energy- and administrative-related price increases, rather than being demand-induced. MAS core inflation rose 1.7% y-o-y in April up from 1.2% y-o-y in March.

Size and Composition

Singapore's LCY bonds outstanding rose 3.5% quarter-on-quarter (q-o-q) and 6.5% y-o-y to SGD345 billion (USD247 billion) at the end of March from SGD333 billion at the end of December 2016 (**Table 1**). The increase came mainly from the rise in the outstanding stock of government bonds and central bank bills, while corporate LCY bonds only decreased marginally.

Government Bonds. The outstanding stock of LCY government bonds rose 6.1% q-o-q and 11.5% y-o-y through the end of March, expanding to SGD205 billion from SGD193 billion at the end of December 2016. On a y-o-y basis, SGS bills and bonds, and MAS bills rose 6.4% and 19.2%, respectively.

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

	Outstanding Amount (billion)						Growth Rate (%)			
	Q1 2016		Q4 2016		Q1 2017		Q1 2016		Q1 2017	
	SGD	USD	SGD	USD	SGD	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**324**	**240**	**333**	**230**	**345**	**247**	**0.2**	**0.1**	**3.5**	**6.5**
Government	184	136	193	133	205	147	0.3	(4.4)	6.1	11.5
SGS Bills and Bonds	110	81	110	76	117	84	3.9	9.8	6.2	6.4
MAS Bills	74	55	83	57	88	63	(4.6)	(19.8)	6.0	19.2
Corporate	140	104	140	97	140	100	0.2	6.5	(0.1)	(0.04)

( ) = negative, LCY = local currency, MAS = Monetary Authority of Singapore, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth 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.

In Q1 2017, new issuance of MAS bills rose 10.7% q-o-q and 25.9% y-o-y to SGD90 billion. A total of SGD6.8 billion worth of SGS bills and bonds were issued in Q1 2017, while no redemptions were made.

Corporate Bonds. By the end of March 2017, the amount of outstanding LCY corporate bonds remained relatively unchanged at SGD140.2 billion, reflecting a decline of 0.1% q-o-q and 0.04% y-o-y.

The top 30 largest LCY corporate bond issuers in Singapore had an outstanding LCY bond stock of SGD69.6 billion in Q1 2017, accounting for 49.6% of all outstanding LCY corporate bonds (**Table 2**). Maintaining the top position was Singapore's Housing & Development Board with combined bonds outstanding worth SGD22.8 billion. Trailing behind was United Overseas Bank with a total of SGD5.4 billion, followed by Temasek Financial I—a subsidiary of state-owned investment company Temasek Holdings—with a total LCY bond stock of SGD3.6 billion.

The 30 largest corporate bond issuers comprised five state-owned agencies and firms from various business sectors, including banking, consumer goods, diversified holdings, education, finance, marine services, real estate, transport, and utilities sectors.

Table 3 shows the notable LCY corporate bond issuances in Q1 2017. A total of 13 firms issued LCY corporate bonds to raise an aggregate amount of SGD4.2 billion, reflecting increases of 180.0% q-o-q and 28.7% y-o-y. The largest LCY corporate bond issuance in Q1 2017 came from Singapore's Housing & Development Board with a 5-year bond sale worth SGD900 million with a coupon rate of 2.23%.

Policy, Institutional, and Regulatory Developments

Monetary Authority of Singapore Eases Finance Company Regulations in Support of Small and Medium-Sized Enterprise Financing

In February, MAS eased business restrictions on finance companies in support of their lending operations to small and medium-sized enterprises (SMEs). Uncollateralized business loans will be raised to 25% from 10% of its capital funds. The limit on an uncollateralized business loan to a single borrower will be raised to 0.5% of capital funds from the current limit of SGD5,000. Finance companies will also be allowed to offer current account and checking services to their business customers. Finally, MAS will consider applications for any foreign merger or takeover of a finance company if the merger partner or acquirer commits to maintaining SME financing as a core business. The aim of the relaxed regulations is to enhance the ability of finance companies to provide financing for SMEs.

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	22.8	16.3	Yes	No	Real Estate
2.	United Overseas Bank	5.4	3.9	No	Yes	Banking
3.	Temasek Financial I	3.6	2.6	Yes	No	Finance
4.	Land Transport Authority	3.5	2.5	Yes	No	Transportation
5.	FCL Treasury	2.8	2.0	No	No	Finance
6.	Capitaland	2.8	2.0	No	Yes	Real Estate
7.	SP Powerassets	1.9	1.3	No	No	Utilities
8.	Mapletree Treasury Services	1.8	1.3	No	No	Finance
9.	Olam International	1.7	1.2	No	Yes	Consumer Goods
10.	Keppel Corporation	1.7	1.2	No	Yes	Diversified
11.	DBS Group Holdings	1.5	1.1	No	Yes	Banking
12.	Oversea-Chinese Banking Corporation	1.5	1.1	No	Yes	Banking
13.	Singapore Airlines	1.4	1.0	No	Yes	Transportation
14.	Public Utilities Board	1.4	1.0	Yes	No	Utilities
15.	DBS Bank	1.3	0.9	No	Yes	Banking
16.	Neptune Orient Lines	1.3	0.9	No	Yes	Transportation
17.	City Developments Limited	1.2	0.9	No	Yes	Real Estate
18.	Hyflux	1.2	0.8	No	Yes	Utilities
19.	Capitaland Treasury	1.2	0.8	No	No	Finance
20.	CMT MTN	1.1	0.8	No	No	Finance
21.	GLL IHT	1.0	0.7	No	No	Real Estate
22.	National University of Singapore	1.0	0.7	No	No	Education
23.	Ascendas REIT	1.0	0.7	No	Yes	Finance
24.	Sembcorp Financial Services	1.0	0.7	No	No	Engineering
25.	Singtel Group Treasury	0.9	0.6	No	No	Finance
26.	Sembcorp Industries	0.8	0.6	No	Yes	Shipbuilding
27.	Global Logistic Properties	0.8	0.5	No	Yes	Real Estate
28.	SMRT Capital	0.8	0.5	No	No	Transportation
29.	PSA Corporation	0.7	0.5	Yes	No	Marine Services
30.	Ezion Holdings	0.7	0.5	No	Yes	Marine Services
Total Top 30 LCY Corporate Issuers		**69.6**	**49.8**			
Total LCY Corporate Bonds		**140.2**	**100.4**			
Top 30 as % of Total LCY Corporate Bonds		**49.6%**	**49.6%**			

LCY = local currency, SGD = Singapore dollar, USD = United States dollar.
Notes:
1. Data as of end-March 2017.
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 First Quarter of 2017

Corporate Issuers	Coupon Rate (%)	Issued Amount (SGD million)
Housing & Development Board		
5-year bond	2.23	900
United Overseas Bank		
12-year bond	3.50	750
Mapletree Treasury Services		
Perpetual bond	4.50	625
FCL Treasury		
10-year bond	4.15	450
South Beach Consortium		
4-year bond	2.83	400

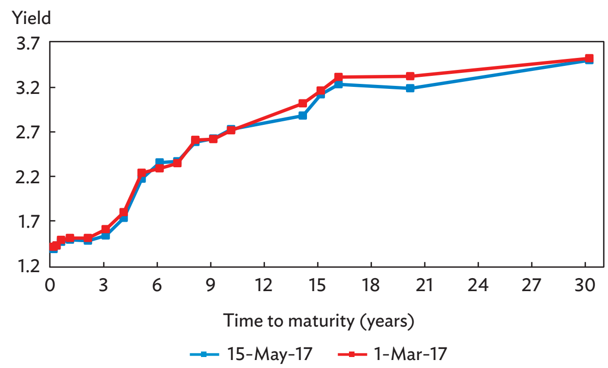
SGD = Singapore dollar.
Source: Bloomberg LP.

Thailand

Yield Movements

Between 1 March and 15 May, bond yields fell for most tenors of Thailand's local currency (LCY) government bonds. Yields for bonds with maturities of 5 years and less fell an average of 4 basis points (bps), while yields for bonds with maturities of 14–30 years fell an average of 8 bps (**Figure 1**). Only the yields for bonds with 6-, 7-, 9-, and 10-year maturities rose, on average by 3 bps. The yield spread between the 2-year and 10-year bonds rose to 124 bps in 15 May from 119 bps in 1 March.

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



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

Noting the successive capital outflows in the last 3 months of 2016, Thailand's capital flows reversed to positive in the first 4 months of 2017. The decline in government bond yields for most tenors can be partially attributed to this strong investor appetite. It can also be a result of the shift in capital flows toward government bonds after the Bank of Thailand tightened its issuance of short-term bonds—bonds with maturities of 3–6 months—by THB80 billion (USD2.3 billion) in April in an effort to stem speculation and unwarranted appreciation of the Thai baht, as well as to dampen continued strong capital inflow.

Thailand's economy continues to grow in the first quarter (Q1) of 2017. Real gross domestic product (GDP) accelerated 3.3% year-on-year (y-o-y) in Q1 2017, overtaking the 3.0% y-o-y growth logged in the fourth quarter (Q4) of 2016. The economic expansion in Q1 2017 was underpinned by strong growth in private consumption (3.2% y-o-y), exports of goods and services (6.6% y-o-y), and public investment (9.7% y-o-y). Factors providing tailwinds for economic growth include (i) continued recovery among Thailand's main trading partners and a rebound in commodity prices, (ii) high growth in public investment, (iii) continued growth in the agricultural sector and favorable prices, (iv) continued growth in the tourism sector, and (v) improvement in the domestic car market. For full-year 2017, the Thai economy is expected to grow between 3.3% and 3.8%.

The Monetary Policy Committee of the Bank of Thailand kept the policy rate unchanged in its meeting on 24 May. The Committee assessed that Thailand's economy continue to improve despite uncertainties from external factors, such as uncertainty in the economic and trade policies of the United States (US), economic structural reforms in the People's Republic of China, and geopolitical risks. In the domestic front, economic growth is mainly supported by the sustained recovery in merchandise exports, private consumption, and tourism. The Committee noted that Thailand's monetary policy will remain accommodative as the central bank is prepared to maintain a sound monetary environment to support economic growth and ensure financial stability.

Thailand's inflation rate peaked in January at 1.6% y-o-y after a deflation seen in March 2016. Since then, inflationary pressure have eased as evident from slower inflation rates in February (1.4% y-o-y), March (0.8% y-o-y), and April (0.4% y-o-y). In May, Thailand was back to deflation with consumer prices marginally dropping by 0.04% y-o-y.

Size and Composition

At the end of March 2017, Thailand's LCY bond market had risen 2.9% quarter-on-quarter (q-o-q) and 9.5% y-o-y to THB11,171 billion (USD325 billion) from THB10,856 billion at the end of December 2016 (**Table 1**).

Government Bonds. In Q1 2017, the outstanding stock of LCY government debt securities rose to THB8,257 billion

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

	Outstanding Amount (billion)						Growth Rate (%)			
	Q1 2016		Q4 2016		Q1 2017		Q1 2016		Q1 2017	
	THB	USD	THB	USD	THB	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**10,206**	**291**	**10,856**	**303**	**11,171**	**325**	**1.9**	**9.6**	**2.9**	**9.5**
Government	7,607	217	7,938	222	8,257	240	1.5	7.5	4.0	8.5
Government Bonds and Treasury Bills	3,964	113	4,036	113	4,203	122	1.9	10.8	4.1	6.0
Central Bank Bonds	2,869	82	3,136	88	3,279	95	1.6	7.0	4.6	14.3
State-Owned Enterprise and Other Bonds	774	22	765	21	775	23	(1.1)	(5.5)	1.2	0.1
Corporate	2,599	74	2,919	81	2,914	85	3.3	16.3	(0.2)	12.1

( ) = negative, LCY = local currency, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth quarter, THB = Thai baht, USD = United States dollar, y-o-y = year-on-year.
Notes:
1. Calculated using data from national sources.
2. Bloomberg end-of-period local currency–USD rates are used.
3. Growth rates are calculated from an LCY base and do not include currency effects.
4. ADB calculations used to estimate data for Q1 2017.
Sources: Bank of Thailand and Bloomberg LP.

from THB7,938 billion in the previous quarter. The outstanding stock of government LCY bonds comprises government bonds and Treasury bills (THB4,203 billion), central bank bonds (THB3,279 billion), and state-owned enterprise and other bonds (THB775 billion), all of which contributed to the rise in the aggregate stock.

In Q1 2017, newly issued central bank bonds rose 0.9% q-o-q but declined 3.5% y-o-y to THB1,836 billion at the end of March. Newly issued central government bonds rose to THB407 billion, reflecting gains of 132.2% q-o-q and 130.2% y-o-y. Thailand's Ministry of Finance plans to increase its government bond issuance this year to support fiscal spending. Including bonds issued by state-owned enterprises, new issuance of government bonds amounted to THB2,255 billion in Q1 2017.

Corporate Bonds. At the end of March 2017, the outstanding amount of LCY corporate bonds stood at THB2,914 billion, slightly down from THB2,919 billion recorded at the end of December 2016. In Q1 2017, a total of THB368 billion worth of corporate bonds were issued, reflecting declines of 26.8% q-o-q and 0.6% y-o-y.

At the end of March 2017, the combined outstanding bonds of Thailand's top 30 LCY corporate bond issuers amounted to THB1,642 billion, comprising 56.4% of Thailand's LCY corporate bond market (**Table 2**). The top corporate issuers in Q1 2017, based on total LCY bonds outstanding, were CP All (THB181.1 billion), Siam Cement (THB166.5 billion), and PTT (THB 134.8 billion).

In Q1 2017, an aggregate amount of THB368 billion of LCY bonds have been issued. Among the most notable issuances, Berli Jucker, delivered a multitranche sale of LCY bonds amounting to THB40 billion. True Corp placed second with a dual-tranche debt issuance worth THB17.5 billion. Charoen Pokphand Foods was the third largest issuer with a perpetual bond issuance worth THB15 billion. **Table 3** lists the notable corporate bond issuances in Q1 2017.

Investor Profile

At the end of March 2017, more than 50% of Thailand's LCY government bonds were held by contractual savings funds and insurance companies (**Figure 2**). The share of insurance companies increased from 25.5% in Q1 2016 to 27.0% in Q1 2017, while the share of contractual savings funds slightly decreased from 28.4% to 27.0%. At the end of March 2017, commercial banks were the third largest group of holders with a 15.3% share, followed by foreign investors who accounted for 14.7% of the total.

In the first 3 months of 2017, a total of THB89.4 billion in net foreign flows entered Thailand's LCY bond market (**Figure 3**). This amount was a reversal from the THB72.3 billion in net foreign outflows from the last quarter of 2016. Net foreign inflows in April amounted to THB12.5 billion. The continued positive net inflows reflected improved investor confidence in Thailand's economy and its resiliency amid the US Federal Reserve's ongoing rate hikes.

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.	CP All	181.1	5.3	No	Yes	Commerce
2.	Siam Cement	166.5	4.8	Yes	Yes	Construction Materials
3.	PTT	134.8	3.9	Yes	Yes	Energy and Utilities
4.	Berli Jucker	122.0	3.6	No	Yes	Food and Beverage
5.	Charoen Pokphand Foods	95.0	2.8	No	Yes	Food and Beverage
6.	Bank of Ayudhya	88.4	2.6	No	Yes	Banking
7.	Thai Airways International	59.3	1.7	Yes	Yes	Transportation and Logistics
8.	True Move H Universal Communication	55.2	1.6	No	No	Communications
9.	True Corp	48.7	1.4	No	Yes	Communications
10.	Toyota Leasing Thailand	47.4	1.4	No	No	Finance and Securities
11.	Tisco Bank	47.0	1.4	No	No	Banking
12.	Indorama Ventures	45.9	1.3	No	Yes	Petrochemicals and Chemicals
13.	Krungthai Card	41.3	1.2	Yes	Yes	Banking
14.	Banpu	37.3	1.1	No	Yes	Energy and Utilities
15.	Mitr Phol Sugar	36.4	1.1	No	No	Food and Beverage
16.	Land & Houses	35.8	1.0	No	Yes	Property and Construction
17.	Thai Union Group	33.8	1.0	No	Yes	Food and Beverage
18.	Thanachart Bank	32.5	0.9	No	No	Banking
19.	PTT Exploration and Production Company	32.1	0.9	Yes	Yes	Energy and Utilities
20.	TPI Polene	32.0	0.9	No	Yes	Property and Construction
21.	Advanced Wireless	31.6	0.9	No	Yes	Communications
22.	Bangkok Dusit Medical Services	29.6	0.9	No	Yes	Medical
23.	CPF Thailand	29.0	0.8	No	Yes	Food and Beverage
24.	CH. Karnchang	28.5	0.8	No	Yes	Property and Construction
25.	Kasikorn Bank	28.0	0.8	No	Yes	Banking
26.	Minor International	25.8	0.8	No	Yes	Food and Beverage
27.	TMB Bank	25.4	0.7	No	Yes	Banking
28.	Quality Houses	24.5	0.7	No	Yes	Property and Construction
29.	ICBC Thai Leasing	24.1	0.7	No	No	Finance and Securities
30.	30. Glow Energy	23.6	0.7	No	Yes	Energy and Utilities
Total Top 30 LCY Corporate Issuers		**1,642.3**	**47.8**			
Total LCY Corporate Bonds		**2,914.0**	**84.8**			
Top 30 as % of Total LCY Corporate Bonds		**56.4%**	**56.4%**			

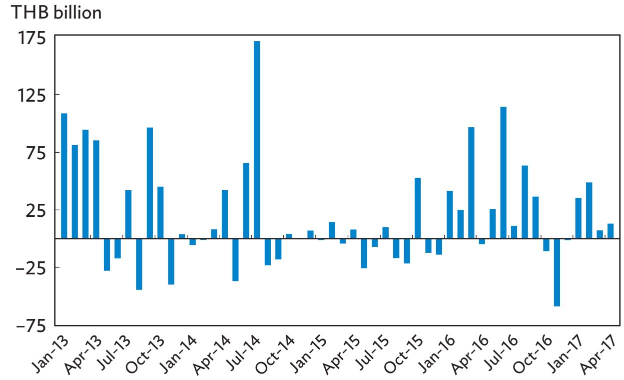
LCY = local currency, THB = Thai baht, USD = United States dollar.
Notes:
1. Data as of end-March 2017.
2. State-owned firms are defined as those in which the government has more than a 50% ownership stake.
Source: *AsianBondsOnline* calculations based on Bloomberg LP data.

Table 3: Notable Local Currency Corporate Bond Issuance in the First Quarter of 2017

Corporate Issuers	Coupon Rate (%)	Issued Amount (THB million)
Berli Jucker		
2-year bond	2.55	16,200
3-year bond	3.00	12,000
4-year bond	2.96	300
5-year bond	3.26	2,500
7-year bond	3.85	4,000
10-year bond	4.40	5,000
True Corp		
1-year bond	3.00	10,800
1-year bond	3.00	6,700
Charoen Pokphand Foods		
Perpetual bond	5.00	15,000
True Move H Universal Communication		
1-year bond	3.00	3,500
1-year bond	3.00	2,000
1-year bond	3.00	2,000
1.2-year bond	3.10	4,700
Thai Union Group		
3-year bond	2.49	3,500
5-year bond	2.91	2,000
7-year bond	3.58	2,500
10-year bond	3.94	4,000

THB = Thai baht.
Source: Bloomberg LP.

Figure 3: Foreign Investor Net Trading of Local Currency Bonds in Thailand



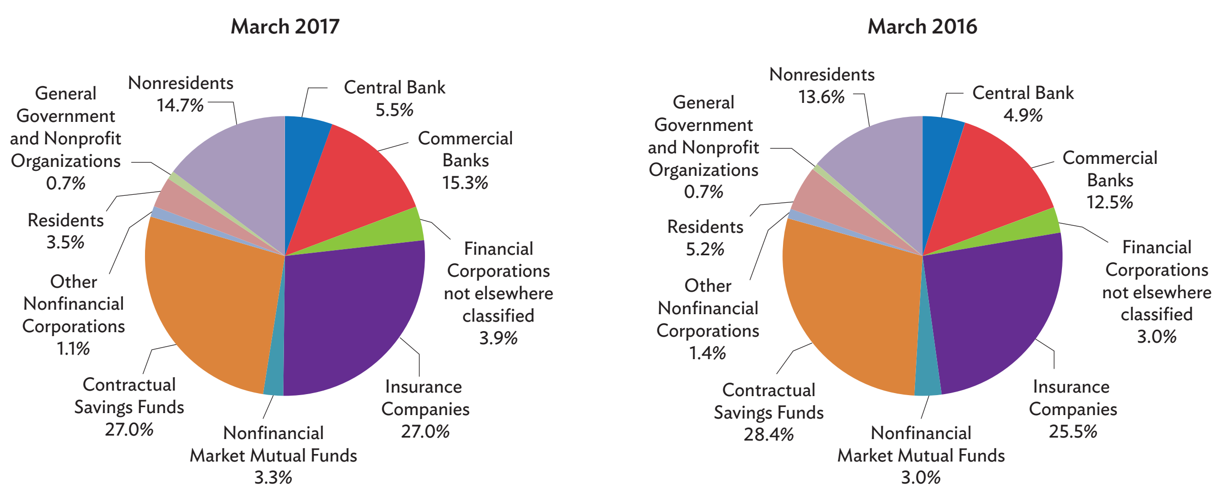
THB = Thai baht.
Source: Thai Bond Market Association.

Policy, Institutional, and Regulatory Developments

Securities and Exchange Commission Tightens Regulations on Nonrated Bonds

New regulations from the Securities and Exchange Commission governing nonrated and non-investment grade bonds went into effect on 16 January. Asset management companies were given 120 days to comply. The new regulations effectively bar any

Figure 2: Local Currency Government Bonds Investor Profile



Note: Government bonds exclude central bank bonds and state-owned enterprise bonds.
Sources: *AsianBondsOnline* and Bank of Thailand.

intermediary, including asset management companies, from holding more than one-third of any nonrated or non-investment grade bond issue. In addition, the intermediary is also barred from being the issuer's major creditor. The regulations were aimed at reestablishing investor confidence and protecting investors after a string of unrated bills of exchange began defaulting in October 2016.

The Bank of Japan and Bank of Thailand Sign Bilateral Swap Arrangement

On 5 May, the Bank of Japan and the Bank of Thailand signed their fourth bilateral swap arrangement with a facility size of USD3 billion. The arrangement will enable authorities in both economies to swap their local currencies against US dollars. The aim is to reinforce the stability of financial markets and to deepen economic cooperation and trade between both economies.

Viet Nam

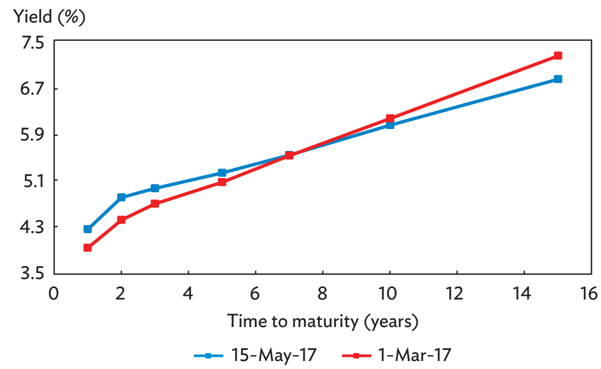
Yield Movements

Local currency (LCY) government bond yields in Viet Nam mostly rose between 1 March and 15 May (**Figure 1**). Yields climbed the most for 1-year through 3-year bonds, rising an average of 33 basis points (bps). Yields also gained for the 5-year and 7-year tenors, inching up 16 bps and 1 bp, respectively. In contrast, yields fell for both the 10-year and 15-year maturities, shedding 11 bps and 41 bps, respectively. As a result, the spread between the 2-year and 10-year tenors declined from 175 bps on 1 March to 125 bps on 15 May.

Elevated inflation levels since October 2016 have led to a rise in yields for most maturities. Consumer price inflation steadily climbed, hitting a high of 5.2% year-on-year (y-o-y) in January. However, more recent data indicated that inflation is starting to decline, easing to 3.2% y-o-y in May. The uptick in yields from the short-end through the belly of the curve is reflective of tightened liquidity conditions during and after the Tet holidays. Some banks were also reported to have raised deposit interest rates. To help stabilize interest rates, the State Bank of Vietnam (SBV) has been injecting liquidity into the banking system through open market operations. Falling yields at the long-end of the curve are partly caused by increased demand among banks for longer-tenor government securities.

In the first quarter (Q1) of 2017, real gross domestic product growth in Viet Nam eased to 5.1% y-o-y after rising 5.5% in full-year 2016. The agriculture sector grew 2.0% y-o-y in Q1 2017, while the industry and construction sector grew 4.2% y-o-y. The services sector grew 6.5% y-o-y in Q1 2017, the highest growth rate among Viet Nam's various sectors. Within the services sector, the largest gains came from the finance and insurance subsector, which rose 7.8% y-o-y.

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



Source: Based on data from Bloomberg LP.

Size and Composition

The size of Viet Nam's LCY bond market reached VND998.6 trillion (USD44 billion) at the end of March (**Table 1**). Its bonds outstanding are the smallest among all emerging East Asian economies. Growth during the review period was largely driven by government bonds, particularly Treasury bonds issued by the State Treasury.

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

	Outstanding Amount (billion)						Growth Rate (%)			
	Q1 2016		Q4 2016		Q1 2017		Q1 2016		Q1 2017	
	VND	USD	VND	USD	VND	USD	q-o-q	y-o-y	q-o-q	y-o-y
Total	**876,636**	**39**	**995,720**	**44**	**998,606**	**44**	**(6.5)**	**(9.7)**	**0.3**	**13.9**
Government	839,844	38	949,725	42	952,610	42	(7.1)	(12.0)	0.3	13.4
Treasury Bonds	629,251	28	736,932	32	747,887	33	5.0	7.9	1.5	18.9
Central Bank Bonds	4,905	0.2	8,000	0.4	0	0	(95.0)	(96.9)	(100.0)	(100.0)
State-Owned Enterprise and Municipal Bonds	205,688	9	204,792	9	204,722	9	(0.5)	(3.7)	(0.03)	(0.5)
Corporate	36,792	2	45,996	2	45,996	2	10.5	129.6	0.0	25.0

( ) = negative, LCY = local currency, q-o-q = quarter-on-quarter, Q1 = first quarter, Q4 = fourth 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.

Government Bonds. At the end of March, the government bond market in Viet Nam stood at a size of USD952.6 trillion, higher by 0.3% quarter-on-quarter (q-o-q) and 13.4% y-o-y. Growth came mainly from Treasury bonds, which climbed 1.5% q-o-q and 18.9% y-o-y. The stock of SBV bills all matured during the quarter in review as the central bank only issued bills with very short tenors that also matured in Q1 2017. The stock of state-owned enterprise bonds and other bonds marginally declined in Q1 2017.

The volume of new government debt issuance fell 56.5% q-o-q in Q1 2017, due largely to a decline in central bank issuance. On the other hand, new issues of Treasury and other government bonds rose more than twofold during the quarter. The government has reduced its issuance plan for 2017 to VND183.3 trillion from an earlier estimate of VND250 trillion. The government's issuance plan is geared toward longer tenors as it aims to extend the maturity structure and ease payment obligations.

Corporate Bonds. At the end of March, the size of the corporate bond market was unchanged from the end of December at VND46 trillion. Growth was higher on a y-o-y basis, however, at 25.0%. The corporate bond segment of Viet Nam comprises a total of 27 corporate firms and represents a 4.6% share of the total LCY bond stock (**Table 2**). (*AsianBondsOnline* classifies some state-

Table 2: Corporate 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	0.49	No	No	Diversified Operations
2.	Vingroup JSC	8,000	0.35	No	Yes	Real Estate
3.	Asia Commercial Joint Stock	4,600	0.20	No	No	Finance
4.	Hoang Anh Gia Lai	4,000	0.18	No	Yes	Real Estate
5.	Techcom Bank	3,000	0.13	No	No	Banking
6.	Ho Chi Minh City Infrastructure	2,102	0.09	No	Yes	Infrastructure
7.	Vietcombank	2,000	0.09	Yes	Yes	Banking
8.	Vietnam Electrical Equipment	1,800	0.08	No	Yes	Manufacturing
9.	Agro Nutrition International	1,300	0.06	No	No	Agriculture
10.	DIC Corporation	1,000	0.04	Yes	No	Chemicals
11.	Ocean Group	980	0.04	No	Yes	Consulting Services
12.	Saigon-Hanoi Securities Corporation	950	0.04	No	Yes	Finance
13.	Sai Gon Thuong Tin Real Estate	600	0.03	No	Yes	Real Estate
14.	Khang Dien House Trading and Investment	534	0.02	No	Yes	Building and Construction
15.	Hoangquan	500	0.02	No	Yes	Real Estate
16.	Saigon Securities	500	0.02	No	Yes	Finance
17.	Tasco Corporation	500	0.02	No	Yes	Engineering and Construction
18.	Vietinbank Securities	500	0.02	Yes	Yes	Finance
19.	An Phat Plastic & Green Environment	450	0.02	No	Yes	Industrial
20.	Sotrans Corporation	400	0.02	No	No	Logistics
21.	Vietnam Investment Construction and Trading	350	0.02	No	Yes	Building and Construction
22	Hung Vuong Corporation	300	0.01	No	Yes	Food
23.	Ha Do Corporation	200	0.01	No	Yes	Construction
24.	Son Ha International	110	0.005	No	Yes	Building and Construction
25.	Dongnai Plastic	100	0.004	No	Yes	Industrial
26.	Fecon	70	0.003	No	Yes	Engineering and Construction
27.	Construction Joint Stock Company No. 3	50	0.002	No	Yes	Real Estate
Total LCY Corporate Issuers		**45,996**	**2.02**			

LCY = local currency, USD = United States dollar, VND = Vietnamese dong.
Notes:
1. Data as of end-March 2017.
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 and Vietnam Bond Market Association data.

owned entities as part of the government bond segment.) The largest corporate bond issuer is Masan Consumer Holdings with outstanding bonds amounting to VND11.1 trillion. Its issuances accounted for a 24.1% share of the aggregate corporate bond market at the end of March. In the second spot was real estate firm Vingroup JSC with bonds valued at VND8.0 trillion. Completing the top three largest issuers was Asia Commercial Joint Stock with outstanding bonds valued at VND4.6 trillion.

Ratings Update

In April, Standard & Poor's (S&P) Global Ratings affirmed Viet Nam's BB– long-term and B short-term credit ratings. The outlook on both ratings was stable.

Policy, Institutional, and Regulatory Developments

State Treasury to Issue VND66 Trillion of Government Bonds in the Second Quarter of 2017

In April, the State Treasury released its bond issuance plan for the second quarter of 2017 amounting to VND66 trillion. Of this total, 45% will comprise bonds with maturities of 5–7 years, 27.3% will comprise bonds carrying maturities of 10–15 years, and 27.3% will comprise bonds carrying maturities of 20–30 years.

Ministry of Finance Issues Regulations on the Buyback of Government Bonds

Effective 1 May, the Government of Viet Nam can conduct buybacks and repurchases of government bonds. Eligible bonds for repurchase are those issued by the State Treasury. Bond repurchases by the government are conducted to help better manage its liabilities and establish benchmark interest rates. Buyback transactions will be undertaken in the Hanoi Stock Exchange (HNX) through negotiated sale or bidding process. The Ministry of Finance will provide the interest rate range for bond buybacks. This new regulation is expected to boost liquidity and maintain stability in the bond market.

Ministry of Finance Issues Regulations on Short-Selling and Sell–Buyback of Government Bonds

The Ministry of Finance issued a new regulation that will take effect on 1 September, allowing short-selling and repurchase transactions among member participants of HNX. The short-selling term will only be allowed up to a maximum of 180 days and must not exceed the remaining maturity of the bonds. Both HNX and Viet Nam Securities Depository also released rules governing short-selling and sell–buyback of bonds to help deepen the derivatives market in Viet Nam.

Asia Bond Monitor
June 2017

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. Find out the other notable challenges that these economies face including cybersecurity breaches and tightening global liquidity conditions.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to a large share of the world's poor. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

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ASIAN DEVELOPMENT BANK
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
www.adb.org