Introduction: Bond Yields Trend Downward amid Growth Moderation and Risk-Off Sentiment

Yields on 2-year and 10-year local currency (LCY) government bonds in emerging East Asia were down between 1 June and 15 August.[1] The same was true for major advanced economies as well as select European markets. The surge in bond markets resulted from dim global growth prospects, softening monetary stances, and investors' preference for safer assets (**Table A**). Notably, in most markets across the region the overall decline in yields was more pronounced for 10-year bonds than 2-year bonds. This pattern implies a flattening of the yield curve, a potential signal of a gloomy economic outlook.

During the review period, the largest decline in yields was observed in the Philippines, with the 2-year yield falling 167 basis points (bps) and the 10-year yield falling 119 bps, mainly driven by domestic factors, including subdued inflation and two 25-bps policy rate cuts by the Bangko Sentral ng Pilipinas on 9 May and 8 August.

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	(43)	(60)	–	3.5	–
United Kingdom	(15)	(48)	4	(1.3)	(4.3)
Japan	(11)	(14)	1	(1.5)	2.0
Germany	(26)	(51)	(1)	(2.7)	(0.6)
Emerging East Asia					
China, People's Rep. of	(11)	(28)	(5)	(2.9)	(1.8)
Hong Kong, China	(6)	(8)	–	(5.2)	(0.04)
Indonesia	(18)	(47)	(16)	0.8	(0.04)
Korea, Rep. of	(41)	(44)	(4)	(5.1)	(2.0)
Malaysia	(19)	(48)	(14)	(3.1)	(0.1)
Philippines	(167)	(119)	(9)	(1.8)	(0.8)
Singapore	(28)	(44)	–	0.3	(1.0)
Thailand	(46)	(95)	(6)	(1.0)	2.2
Viet Nam	(48)	(40)	(23)	2.0	0.9
Select European Markets					
Greece	(42)	(97)	(9)	(3.8)	(0.6)
Ireland	(20)	(55)	2	(6.3)	(0.6)
Italy	(65)	(124)	(13)	1.1	(0.6)
Portugal	(20)	(70)	(13)	(6.5)	(0.6)
Spain	(19)	(68)	(9)	(5.4)	(0.6)

( ) = negative, – = not available, bps = basis points, FX = foreign exchange.
Notes:
1. Data reflect changes between 1 June 2019 and 15 August 2019.
2. A positive (negative) value for the FX rate indicates the appreciation (depreciation) of the local currency against the United States dollar.
Sources: Bloomberg LP and Institute of International Finance.

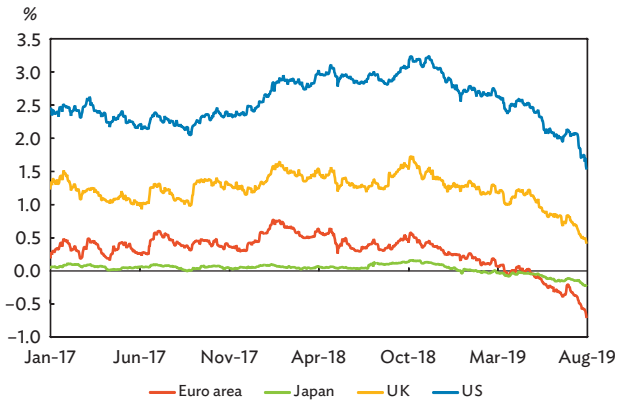
[1] Emerging East Asia comprises the People's Republic of China; Hong Kong, China; Indonesia; the Republic of Korea; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam.

Yields in other emerging East Asian markets fell to varying degrees amid uncertainties over economic prospects. Several central banks in the region have cut policy rates by 25 bps since the beginning of the year. The Bank of Thailand and the Bank of Korea each lowered their policy rate by 25 bps between 1 June and 15 August, while Bank Negara Malaysia reduced its policy rate by 25 bps on 7 May and Bank Indonesia cut rates by 25 bps in both July and August. In addition to rate adjustments, domestic factors also contributed to the decline in yields. The Indonesian bond market benefited from a credit rating upgrade by Standard and Poor's Global (S&P) from BBB– to BBB. In Hong Kong, China, the yield declined less than in other regional markets as political uncertainties raised costs for Hong Kong dollar funding.

Investor concerns over the uncertain economic outlook pushed up demand for safe-haven assets, especially the long-term Treasury bonds of major advanced economies. The yields on 2-year and 10-year government bonds of major advanced economies have dipped significantly since the middle of July, pushing 10-year government bond yields in Japan and the euro area into negative territory for the first time since 2016 (**Figure A**).

Amid persistent global trade tensions and uncertainties surrounding the global economic outlook, major central banks softened their monetary stances to support growth. The United States (US) Federal Reserve on 31 July reduced its federal funds target rate range by 25 bps to 2.00%–2.25%, the first rate cut since the end of the global financial crisis. The Federal Reserve also ended its balance sheet normalization at the beginning of August, rather than the end of September as previously announced. Recent economic data indicate that the US economy continues to expand, albeit with some weakness. Gross domestic product (GDP) growth stood at 2.0% year-on-year (y-o-y) in the second quarter (Q2) of 2019, lower than the 3.1% y-o-y reported in the first quarter of 2019. On the other hand, the labor market remains robust, with the unemployment rate steady at 3.7% in July and August, its lowest level since 1969. Despite the relative robust growth compared with other major advanced economies, strong household spending, and low unemployment, the Federal Reserve noted subdued inflation, weakening business investment, and rising economic uncertainties. The Federal Reserve slightly upgraded its full-year 2020 US GDP growth forecast to 2.0% from 1.9% in March. In June, the Federal Reserve lowered its inflation forecasts for 2019 and 2020 to 1.5% and 1.9%, respectively, from its March forecasts of 1.8% and 2.0%.

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



UK = United Kingdom, US = United States.
Note: Data as of 15 August 2019.
Source: Bloomberg LP.

In September, the European Central Bank (ECB) cut the deposit facility rate by 10 bps to –0.50% and held unchanged the refinancing operations and marginal lending facility rates. The ECB also announced it would resume bond purchases at a monthly pace of EUR20 billion, effective 1 November. The euro area's GDP growth moderated to 1.2% y-o-y in Q2 2019 from 1.3% y-o-y in Q1 2019. Inflation in the euro area has also trended downward, declining to 1.0% y-o-y in July from 1.3% y-o-y in June. (Inflation remained at 1.0% y-o-y in August.)

The ECB, in September, downgraded its annual GDP growth forecasts for 2019 and 2020 to 1.1% and 1.2%, respectively, from previous forecasts of 1.2% and 1.4% made in June. The forecast for annual GDP growth in 2021 was left unchanged at 1.4%. Full-year inflation forecasts for 2019, 2020, 2021 were also revised down to 1.2%, 1.0%, and 1.5%, respectively, from 1.3%, 1.4%, and 1.6%.

The Bank of Japan (BOJ) kept its monetary policy unchanged at its July meeting. At the same time, the BOJ signaled its readiness for additional stimulus to ensure inflation targets are met amid uncertainties arising from the planned consumption tax hike in October and the global economic slowdown. The BOJ downgraded its GDP forecasts for 2019 and 2021 in July to 0.7% and 1.1%, respectively, from 0.8% and 1.2% in April. Its growth forecast for 2020 remained unchanged.

Economic Outlook

Global economic growth is moderating amid lingering trade tensions, financial instability in some emerging markets, and other downside risks. In particular, the persistence and intensification of the People's Republic of China (PRC)–US trade tensions, which show no signs of a long-lasting settlement, is casting a long shadow over global economic prospects.

According to the International Monetary Fund's *World Economic Outlook Update, July 2019*, the global economy is projected to expand 3.2% in 2019 and 3.5% in 2020, down from growth of 3.8% in 2017 and 3.6% in 2018. Furthermore, the International Monetary Fund downgraded its forecasts for 2019 and 2020 by 0.1 percentage points each compared to its April forecasts.

GDP performance in major economies and weakening inflationary pressures around the world both point to softer-than-expected global growth momentum. Sluggish investment by firms and consumer durable spending by households in both advanced economies and emerging markets suggest a deterioration of business and consumer confidence at the global level.

Another major drag on global GDP growth is tepid trade growth. World trade volume expanded by a robust 5.5% in 2017, but growth slowed to 3.7% in 2018 and is projected to slow further to 2.5% in 2019. However, it is expected to bounce back somewhat in 2020 and grow by 3.7%. Advanced economies' GDP expanded 2.4% in 2017 and 2.2% in 2018, but their growth is projected to slow to 1.9% in 2019 and further to 1.7% in 2020.

Growth momentum has been somewhat stronger in emerging markets and developing economies, which expanded 4.8% in 2017 before slowing to 4.5% growth in 2018. Growth is expected to slow further to 4.1% in 2019 before picking up to 4.7% in 2020. According to the *World Economic Outlook Update, July 2019*, consumer price inflation in advanced economies will decline from 2.0% in 2018 to 1.6% in 2019 and rebound to 2.0% in 2020. In emerging markets and developing economies, the corresponding figures for the 3 years are 4.8%, 4.8%, and 4.7%.

In tandem with slowing global growth momentum, developing Asia's growth is projected to moderate.[2] According to the Asian Development Bank's *Asian Development Outlook 2019 Supplement* released in July, the region's economy expanded 5.9% in 2018 and is forecast to grow 5.7% in 2019 and 5.6% in 2020. If the high-income newly industrialized economies are excluded, the corresponding figures are even stronger at 6.4%, 6.1%, and 6.1%. Emerging East Asian economies are growing at a somewhat slower but still healthy pace. Despite the ongoing trade tensions with the US, the PRC grew 6.6% in 2018 and is projected to grow by 6.3% in 2019 and 6.1% in 2020. The 2018, 2019, and 2020 actual and projected figures for the 10 members of the Association of Southeast Asian Nations are 5.1%, 4.8%, and 4.9%, respectively. The Republic of Korea is forecast to grow 2.4% in 2019 and 2.5% in 2020, down from 2.7% in 2018. The 2018, 2019, and 2020 figures for Hong Kong, China are 3.0%, 2.5%, and 2.5%, respectively.

Overall, while the regional economy is also somewhat slowing amid a global slowdown, growth remains rock-solid and the region continues to outperform the rest of the world. Furthermore, the *Asian Development Outlook Supplement 2019* forecasts the region's consumer price inflation to remain subdued, albeit rising modestly from 2.4% in 2018 to 2.6% in both 2019 and 2020.

Global investors' risk appetite soured over the weakening global economic outlook and persistent trade tensions. Between 1 June and August 15, nearly all equity markets in the region slid (**Figure B**). Relatively larger declines were seen in Hong Kong, China, which fell 5.2% as a result of political uncertainties, and the Republic of Korea, which fell 5.1% due to the outbreak of a trade conflict with Japan and the ongoing PRC–US trade dispute.

Bucking this trend, the equity markets of Indonesia, Singapore, and Viet Nam all gained during the review period. Viet Nam's equity market benefited from its possible inclusion in MSCI equity indices by 2020, and Indonesia's was boosted by a sovereign rating upgrade from BBB– to BBB by S&P.

Emerging East Asian currencies largely echoed the trend in the region's equity markets amid risk-off sentiment.

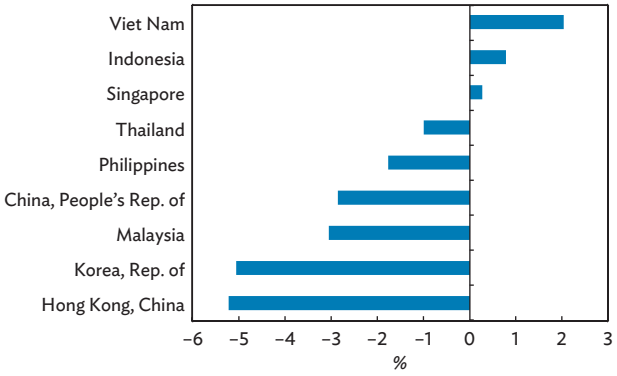
[2] Developing Asia comprises the 46 regional developing member economies of the Asian Development Bank. https://www.adb.org/sites/default/files/publication/513146/ado-supplement-july-2019.pdf.

Between 1 June and 15 August, all regional currencies declined except for those of Thailand and Viet Nam (**Figure C**). The Thai baht gained 2.2% on the back of a strong current account surplus and the Vietnamese dong appreciated 0.9% due to a robust economic outlook. On the other hand, the Republic of Korea and the PRC both experienced currency depreciation of around 2% amid trade disputes with major trading partners and slowing economic growth.

In line with souring risk appetite, risk premiums rose, as reflected in sentiment indicators. Credit default swap spreads in the region rose sharply from the end of July, reversing the earlier downward trend that began in June, when markets benefited from an expected Federal Reserve rate cut. Investor sentiment deteriorated with the reescalation of PRC–US trade tensions in early August. Credit default swap spreads, the Emerging Markets Bond Index Global spread, the Chicago Board Options Exchange Volatility Index, and the stripped spreads of the JP Morgan Emerging Markets Bond Index all surged sharply in early August (**Figures D, E, F**). Such a pattern indicated investor concerns over the impact of persistent PRC–US trade tensions on global economic growth. While shifting investor sentiment and differences in opinion can facilitate trading, it can also exert pressure on asset prices and push them away from fundamentals. Therefore, clear communication from central banks to guide investor expectations can help smooth price dynamics in financial markets. Evidence shows that uncertainty over the direction of the Federal Reserve's monetary policy can increase volatility in the exchange rates of Asian economies (**Box 1**).

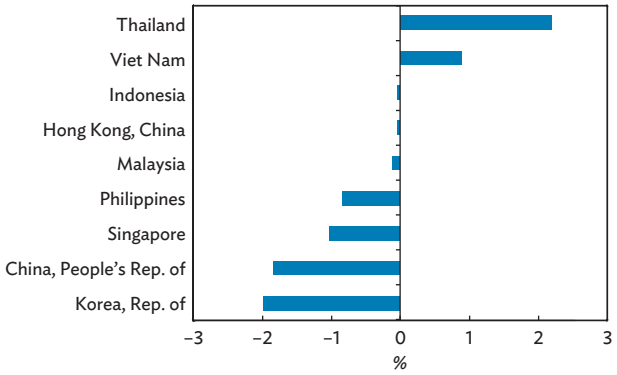
Nevertheless, foreign holdings of LCY government bonds in emerging East Asia were largely stable during the review period as lower global interest rates pushed investors into emerging markets (**Figure G**). Indonesia experienced an increase in foreign holdings in June following the S&P credit rating upgrade. Foreign holdings in the PRC's LCY bond market continued to increase

Figure B: Changes in Equity Indexes in Emerging East Asia



Note: Changes between 1 June 2019 and 15 August 2019.
Source: Bloomberg LP.

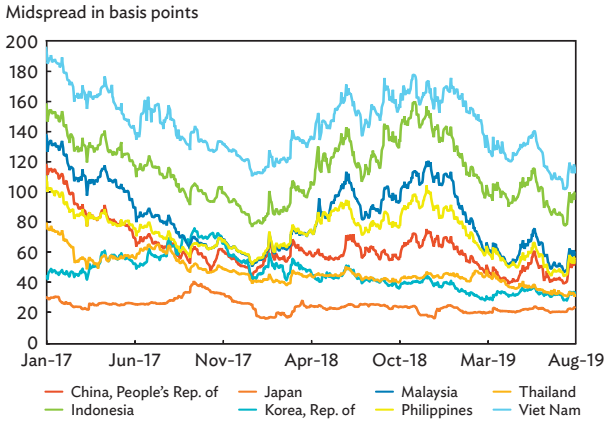
Figure C: Changes in Month-End Spot Exchange Rates vs. the United States Dollar



Notes:
1. Changes between 1 June 2019 and 15 August 2019.
2. A positive (negative) value for the foreign exchange rate indicates the appreciation (depreciation) of the local currency against the United States dollar.

Source: Bloomberg LP.

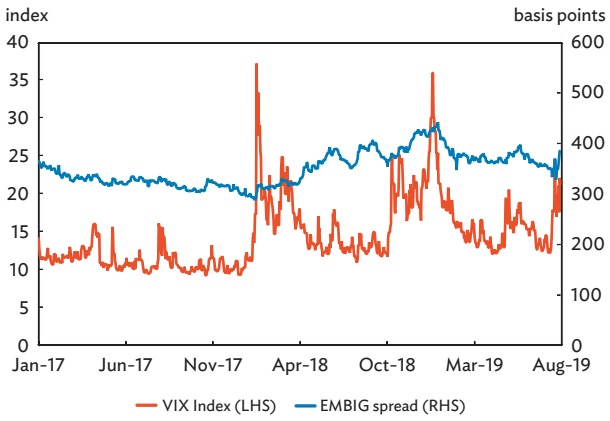
Figure D: Credit Default Swap Spreads in Select Asian Markets (senior 5-year)



Notes:
1. Based on United States dollar-denominated sovereign bonds.
2. Data as of 15 August 2019.

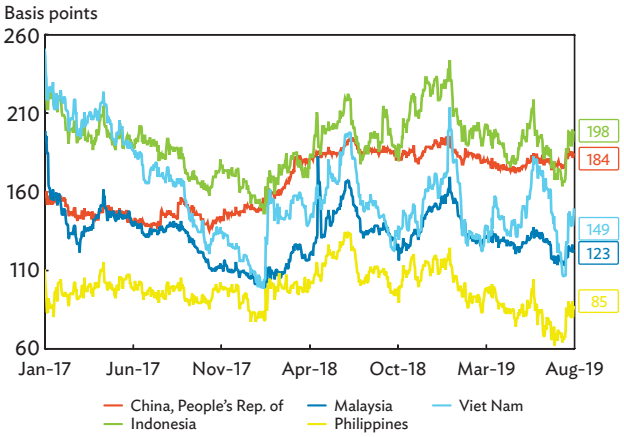
Source: Bloomberg LP.

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



EMBIG = Emerging Markets Bond Index Global, LHS = left-hand side, RHS = right-hand side, VIX = Chicago Board Options Exchange Volatility Index.
Note: Data as of 15 August 2019.
Source: Bloomberg LP.

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



Notes:
1. Based on United States dollar-denominated sovereign bonds.
2. Data as of 15 August 2019.
Source: Bloomberg LP.

Box 1: Impact of United States Monetary Policy Uncertainty on Asian Exchange Rates

Concerted interest rate hikes by the United States (US) Federal Reserve contributed to a general strengthening of the US dollar in 2018. As a result, vulnerable economies such as Argentina and Turkey suffered a sharp depreciation of their currency, triggering concerns about broader financial instability in emerging markets. The sharp depreciations underlined the sizable impact of US monetary policy on exchange rates in emerging markets.

US monetary policy is likely to ease further in 2019, the details of which will be the subject of a lot of uncertainty. The Federal Reserve is widely expected to take a more cautious and gradual approach to monetary policy normalization considering slowing growth momentum. Adding to the uncertainty about the future path of US interest rates, the Federal Reserve reduced interest rates at the Federal Open Market Committee meeting of July 2019, citing less benign global economic conditions. This was a sharp deviation from the interest rate forecast at the beginning of the year.

Since the interest rate is an important price that influences key economic variables, uncertainty about its trajectory matters a lot. For example, heightened uncertainty about future interest rates may discourage firms from making large-scale investments and cause households to postpone purchases of nondurable goods. In Asia, uncertainty about US interest rates can create ambiguity about the relative attractiveness of US assets compared to those of Asian economies. This can influence investor sentiment and behavior, thereby affecting capital flows and exchange rates. Recent research suggests that searching for relevant text in newspaper articles can deliver useful information on uncertainty about monetary policy. In this context, Baker, Bloom, and Davis (2016) constructed a news-based index of monetary policy uncertainty that captures the degree of uncertainty in the public's perception of the Federal Reserve's actions and their effects. Their study associates large spikes in monetary policy uncertainty with major news events, including Black Monday in October 1987, the September 11 attacks in 2001, the March 2003 invasion of Iraq, the collapse of Lehman Brothers in September 2008, Brexit, US elections in November 2016, and other major events. The monetary policy uncertainty index currently remains elevated, most likely reflecting the uncertain effects of global trade tensions and the global growth slowdown on the Federal Reserve's policy calculus (**Figure B1.1**). In simpler terms, recent values of the index suggest that the public remains unclear about the exact trajectory of US monetary policy.

Park et al. (2019) examine the effect of US monetary policy uncertainty on both the level and volatility of changes in the exchange rates of 10 Asian economies between February 2006 and January 2019. The 10 economies are the People's Republic of China; India; Indonesia; Japan;

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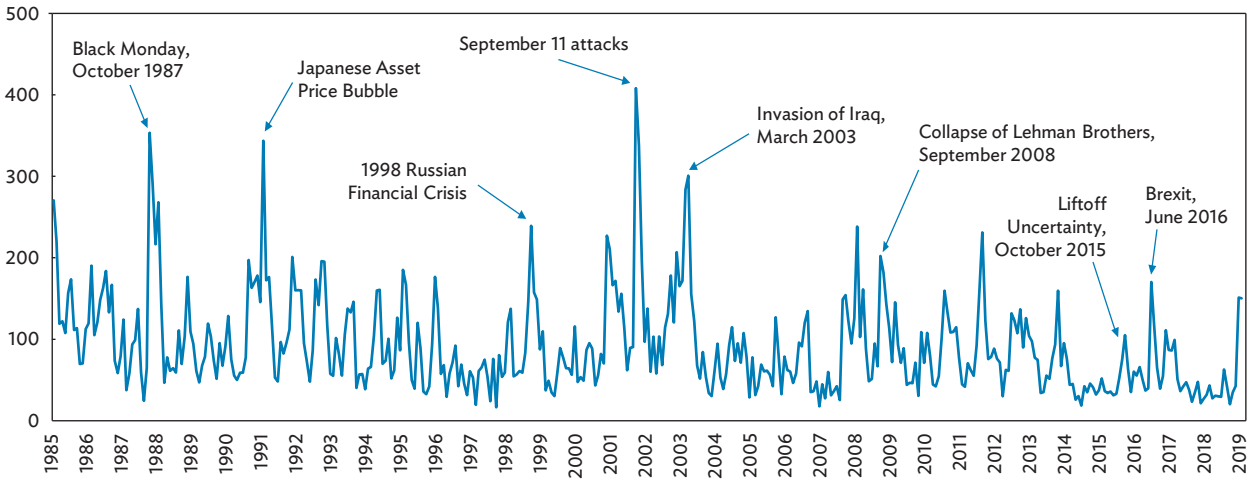
Box 1: Impact of United States Monetary Policy Uncertainty on Asian Exchange Rates *continued*

Figure B1.1: Monetary Policy Uncertainty



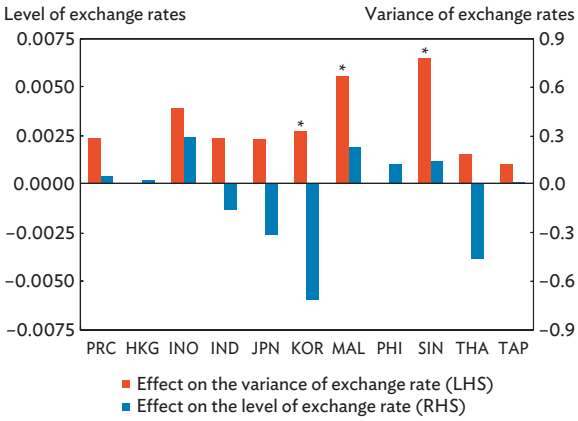
Note: The figure plots data on monetary policy uncertainty based on Baker, Bloom, and Davis (2016).
Sources: ADB estimates; Economic Policy Uncertainty. www.policyuncertainty.com (accessed 1 March 2019).

the Republic of Korea; Malaysia; the Philippines; Singapore; Taipei,China; and Thailand. The analysis disentangles actual monetary policy decisions from news that captures the public's perception of monetary policy uncertainty.

Figure B1.2 summarizes the key empirical results. The first set of results suggests that monetary policy uncertainty does not seem to have any systematic effect on the level of exchange rates. One possible explanation is that the central banks of Asian economies attempt to smooth out fluctuations in their exchange rates. Another is that news about monetary policy uncertainty is fully absorbed by market participants. In addition, the news-based measure of monetary policy uncertainty may fail to fully capture the pure unsystematic portion of monetary policy. Finally, and intuitively, there is no reason why a lack of clarity about US interest rates should systematically strengthen or weaken the US dollar against other currencies.

On the other hand, the empirical results indicate that greater uncertainty about US monetary policy significantly

Figure B1.2: The Effect of Monetary Policy Uncertainty on the Level and Variance of Exchange Rates



PRC = People's Republic of China; HKG = Hong Kong, China; IND = India; INO = Indonesia; JPN = Japan; KOR = Republic of Korea; LHS = left-hand side; MAL = Malaysia; PHI = Philippines; RHS = right-hand side; SIN = Singapore; THA = Thailand; and TAP = Taipei,China.
Note: * denotes statistical significance.
Source: Park et al. (2019).

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Box 1: Impact of United States Monetary Policy Uncertainty on Asian Exchange Rates *continued*

increases the volatility of US dollar exchange rates in some Asian economies. These outcomes vary in both magnitude and direction across economies. It seems that an increase in uncertainty about the path of US interest rates leads to greater diversity of beliefs about exchange rate behavior among market participants. More diverse beliefs mean more diverse trading and, hence, more volatile exchange rates.

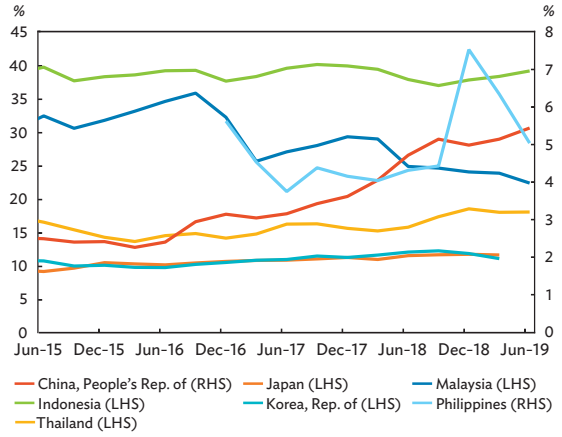
While the above arguments can explain the currency movements of economies with more flexible exchange rate agreements, it is worthwhile to take a closer look at monetary policy arrangements in the region since these may exacerbate or mitigate the effect of US interest rate uncertainty. For example, the Monetary Authority of Singapore manages policy by targeting the exchange rate, allowing the Singapore dollar to appreciate or depreciate depending on economic factors such as global inflation and domestic price pressures. These monetary policy objectives are borne out by the empirical results, which indicate that Singapore's US dollar exchange rate varies significantly in response to US interest rate uncertainty. On the other hand, the Hong Kong Monetary Authority acts to maintain the stability of the Hong Kong dollar, as is evident in the negligible change in the value of the Hong Kong dollar vis-à-vis the US dollar during the review period.

References

Park, D., I. Qureshi, S. Tian, and M. L. Villaruel. 2019. *Impact of US Monetary Policy Uncertainty on Asian Exchange Rates*. Manila: Asian Development Bank.

Baker, S.R., N. Bloom, and S.J. Davis. 2016. Measuring Economic Policy Uncertainty. *The Quarterly Journal of Economics*. 131 (4). pp. 1593–636.

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

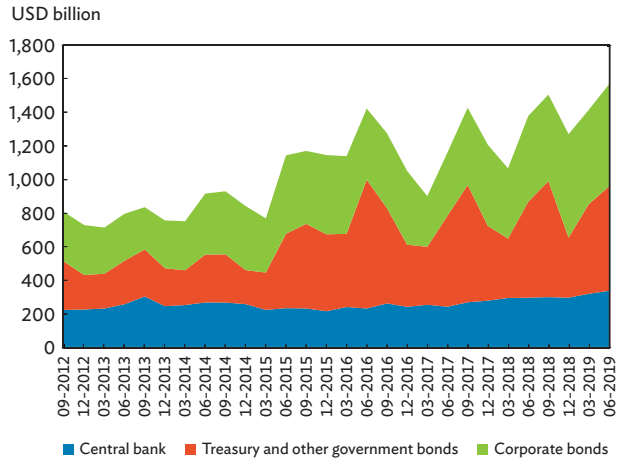


LHS = left-hand side, RHS = right-hand side.
Note: Data as of end-June 2019 except for Japan and the Republic of Korea (end-March 2019).
Source: *AsianBondsOnline*.

moderately on expectations of potential policy easing in response to the slowing economy. On the other hand, Malaysia experienced net outflows as foreign holdings dropped 1.5 percentage points on the back of speculation that Malaysian bonds might be removed from FTSE bond indices. The falling price of oil, a major Malaysian export, also reduced investor demand for Malaysian bonds. The Philippines posted a 1.3-percentage point decline in foreign holdings as foreign investors sold to take profits.

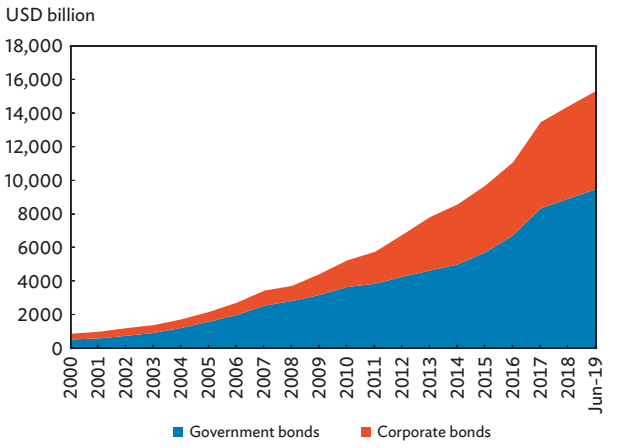
Overall, emerging East Asian LCY bond markets continued to develop despite dim global economic growth prospects and uneasy investor sentiment. New bond issuance grew 12.2% quarter-on-quarter and 16.4% y-o-y to total USD1.6 trillion in Q2 2019, while the LCY bond market's size expanded 3.5% quarter-on-quarter and 14.2% y-o-y to reach USD15.3 trillion at the end of June (**Figures H, I**). The steady growth of bond markets and, more broadly, capital markets in emerging East Asia is a welcome development (**Box 2**). The bond market serves as a stable source of financing, including long-term financing, for both public and private sector participants. However, the global bond market faces a new challenge as the benchmark London Interbank Offered Rate, or LIBOR, is subject to a crisis of trust as governments and the market work to identify potential alternatives (**Box 3**).

Figure H: Local Currency Bond Issuance in Emerging East Asia (gross)



USD = United States dollar.
Source: *AsianBondsOnline*.

Figure I: Size of Local Currency Bond Market in Emerging East Asia



USD = United States dollar.
Source: *AsianBondsOnline*.

Box 2: The Growing Importance of Domestic Capital Markets

Firms from emerging economies have significantly increased the amount of financing raised in capital markets in recent decades (**Figure B2.1**). As a result of financial liberalization and deeper globalization since the 1990s, international issuance activity has been an important driver of this trend (Gozzi, Levine, and Schmukler 2010). The low interest rates in advanced economies that followed the global financial crisis led to a boom in international bond issuances by emerging market firms (Bruno and Shin 2017).

The wider use of international capital markets by emerging market firms could have occurred at the expense of domestic markets: for example, if firms from emerging markets were conducting their investing and capital-raising activities directly in international markets, which are already well established. A new paper (Abraham, Cortina, and Schmukler 2019) examines whether this is the case by studying the performance of domestic capital markets in East Asia since in the 1990s. Focusing on East Asia is important because the region accounts for the bulk (about 70%) of the capital-raising activity in emerging economies. Furthermore, following the 1997–1998 Asian financial crisis, regional policymakers implemented several policies to develop domestic capital markets.

Contrary to predictions, the use of domestic capital markets by firms in East Asia has grown significantly faster than firms' activity in international markets since the 1990s, particularly since the global financial crisis. The share of equity raised domestically per year in the median East Asian economy increased from 85% to 97% between 1990–1999 and 2008–2016; that of domestic bonds rose from 36% to 80% during the review period (**Figure B2.2**).

Not only are domestic capital markets very active, but they also provide firms with several benefits. First, as domestic markets develop, more and smaller firms gain access to equity and corporate bond financing. Driven by the increased participation of firms in domestic markets, the average number of firms issuing equities and bonds per year in the median East Asian economy more than tripled between 1990–1998 and 2008–2016 (**Figure B2.3**). Because domestic markets serve relatively smaller firms than international ones, the size of the typical capital market issuer in East Asia declined 38% during the review period. Despite this decrease in size, issuers in East Asia are primarily still very large corporations.

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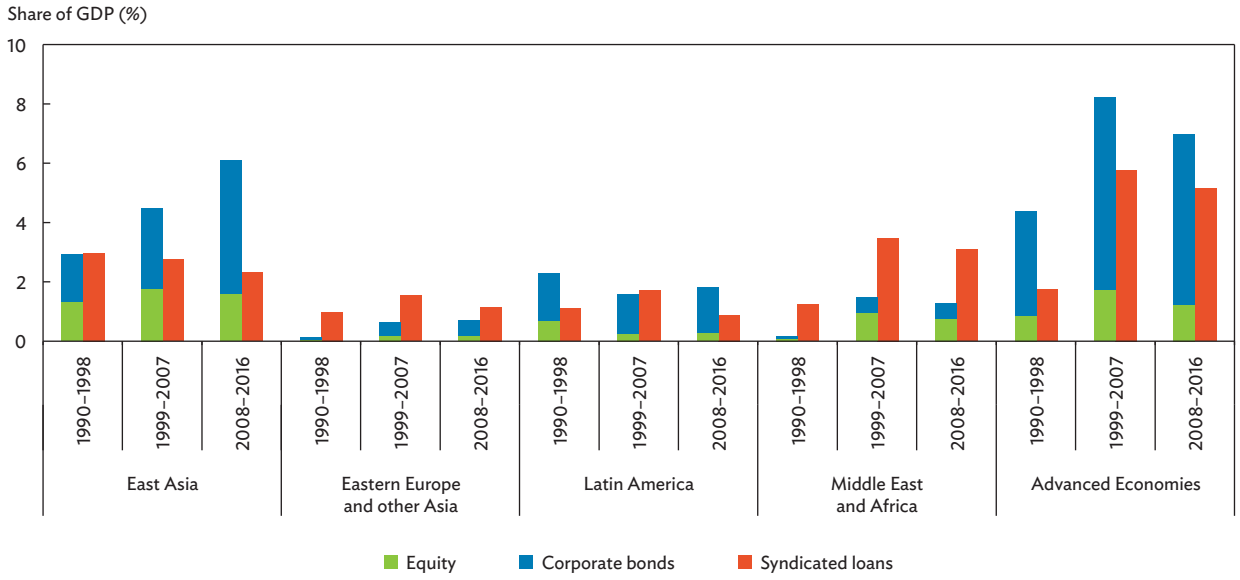
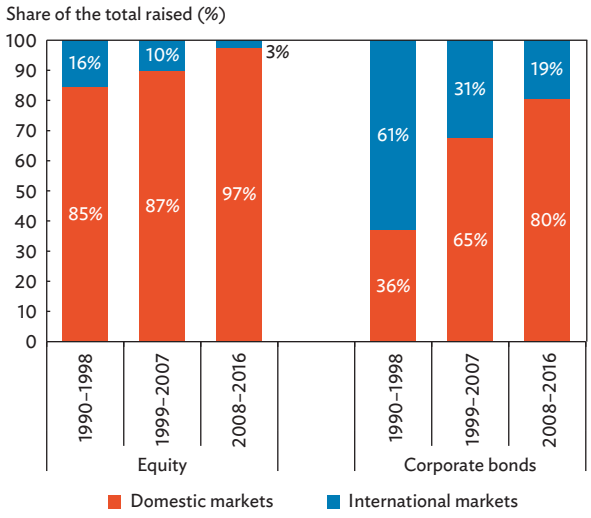
Box 2: The Growing Importance of Domestic Capital Markets *continued*

Figure B2.1: Growth in Capital Market Financing, Median Economy per Region and Period



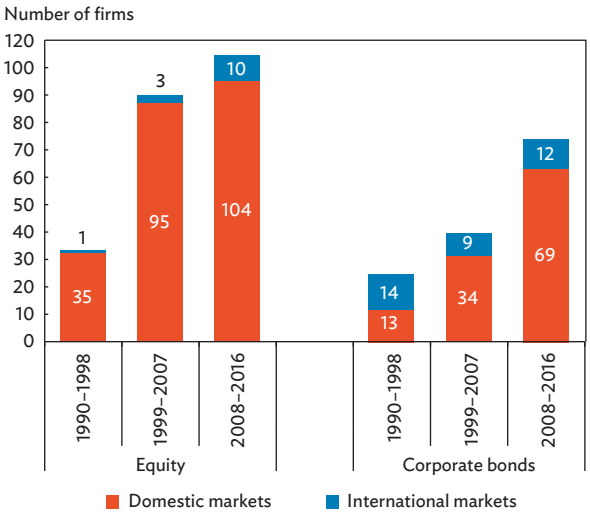
GDP = gross domestic product.
Source: Abraham, Cortina, and Schmukler (2019).

Figure B2.2: Share of Domestic and International Issuances, Median East Asian Economy



Source: Abraham, Cortina, and Schmukler (2019).

Figure B2.3: Average Number of Issuing Firms per Year, Median East Asian Economy



Source: Abraham, Cortina, and Schmukler (2019).

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Box 2: The Growing Importance of Domestic Capital Markets *continued*

Second, domestic capital markets help diversify financing sources for the largest issuers. Whereas the relatively smaller issuers rely almost exclusively on domestic capital markets, the largest firms raise funds in both domestic and international markets. Different markets act as a "spare tire," allowing firms to mitigate negative shocks in one market by raising more funds in another. For example, when international debt markets collapsed during the global financial crisis, firms in East Asia moved from international to domestic bond markets. This spare tire function was not present during the 1997–1998 Asian financial crisis when domestic capital markets were less developed (**Figure B2.4**).

Third, we also observe a high correlation between the currency denomination of bonds and the market of issuance. This evidence implies a shift toward local currency financing in East Asia. This shift could mitigate, at least in part, existing concerns that the corporate sectors of emerging economies are more exposed to currency risk (Chui, Fender, and Sushko 2014; International Monetary Fund 2015).

Even in an increasingly globalized world, domestic capital markets can play an important role in emerging economies. Therefore, it could be worthwhile to replicate the experiences of East Asia in other emerging economies where the relative importance of domestic capital markets is currently much lower. Successfully achieving this goal would require a better understanding of which specific policy reforms helped jump-start this process in East Asia. Another important issue that is relevant for East Asia is how to extend access to capital markets to small- and medium-sized enterprises. Even in well-developed capital markets, as is the case in East Asia, issuing firms are generally confined to relatively large corporations.

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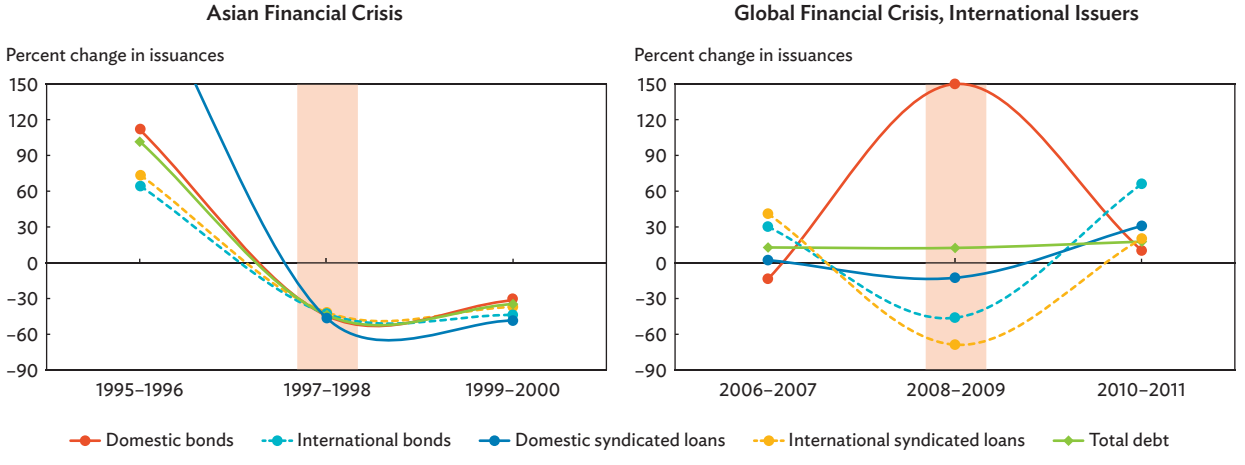
Figure B2.4: Issuance Activity in East Asia around Crises, Percent Change in the Number of Issuances

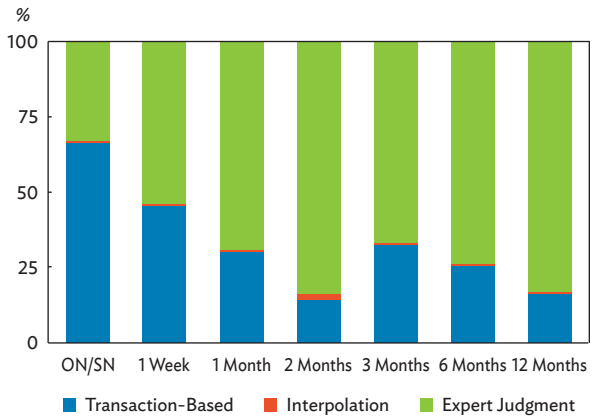


Note: International issuers are those that issued international debt at least once before 2008.
Source: Abraham, Cortina, and Schmukler (2019).

Box 3: Moving On from the London Interbank Offered Rate

The London Interbank Offered Rate (LIBOR) is often referred to as the world's most important number, providing a reference rate for pricing financial contracts worth the equivalent of hundreds of trillions of dollars, serving as a benchmark for measuring performance, and being hardwired into many financial activities such as risk valuation and liquidity management.[a] However, its central role may soon be coming to an end. Since the revelation of its widespread manipulation by panel banks in 2012,[b] and fundamental changes in the wholesale funding of banks following the financial crisis of 2008,[c] LIBOR is now viewed as an unsustainable piece of financial infrastructure giving rise to systemic risks.[d] Regulators globally have responded by making concerted efforts to transition financial markets away from its use and replace LIBOR with more robust risk-free rates (RFRs) and other interbank offered rates. As a first step toward building awareness of these developments, this box discussion seeks to provide the global context for the regulatory push to transition away from LIBOR.

Figure B3: US Dollar LIBOR Submissions, Q1 2018



LIBOR = London Interbank Offered Rate, ON/SN = overnight/spot next, Q1 = first quarter, US = United States.
Source: https://www.theice.com/publicdocs/ICE_Libor_Quarterly_Volume_Report_Q1_2018.pdf.

LIBOR is the rate at which banks do not lend to each other[e]

While LIBOR has undergone many reforms to improve its representativeness and credibility in recent times, an inherent flaw with data sufficiency remains—the underlying interbank lending activity it seeks to measure is insufficient to support its calculation as a dynamic reference rate on a daily basis, with most LIBOR submissions now based on expert judgment and not actual transactions.[f] This flaw is illustrated in **Figure B3**.

This structural weakness exacerbates potential conflicts of interest for panel banks in making submissions; concerned about litigation risks, panel banks have become increasingly less willing to make submissions.[g] Consequently, there

> ***[I]f an active market does not exist, how can even the best benchmark measure it?***
>
> *— Andrew Bailey, chief executive officer, Financial Conduct Authority, 27 July 2017*

is a real risk that a lack of submissions will cause the discontinuation of LIBOR or its regulator, the Financial Conduct Authority (FCA), to determine that LIBOR is no longer representative of its underlying market. With the FCA having recently agreed with panel banks that they will continue to voluntarily make LIBOR submissions until the end of 2021, and giving no assurance it will use its regulatory

[a] LIBOR is the average rate at which banks active in the London interbank market would be charged to borrow from other leading banks on an unsecured basis. LIBOR is currently published for five currencies—euro, Japanese yen, pound sterling, Swiss franc, and United States dollar—across seven maturities, based on the daily submissions of 11–16 contributing banks for each currency. Until very recently, for every business day, each contributor bank submitted its response to the following question:

"At what rate could you borrow funds, were you to do so by asking for and then accepting interbank offers in a reasonable market size just prior to 11 a.m.?"

Once submissions are received, the top and bottom 25% of submissions are removed, and the remaining submissions are averaged to determine the LIBOR. From 1 April 2019, each contributor bank now bases their submissions on eligible transactions, to the extent available using a waterfall methodology of priority: transaction-based, transaction-derived, expert judgment.

[b] Over USD9 billion in fines were paid by global banks involved in the LIBOR scandal.

[c] In response to the global financial crisis, changes were made to market structure and to regulatory capital and liquidity requirements. Banks' appetite for short-term funding was also affected, having contributed to interbank lending no longer being sufficiently active to support LIBOR.

[d] D. Ramsden. 2019. *Last Orders: Calling Time on LIBOR*. London: Bank of England.

[e] LIBOR has been referred to as "the rate at which banks do not lend to each other," reportedly before a Treasury Select Committee by Willem Buiter, a former member of the Bank of England's Monetary Policy Committee, and by Mervyn King, the former Governor of the Bank of England.

[f] For example, the *Wheatley Review of LIBOR: Final Report*, released in September 2012, contained a number of recommendations to reform LIBOR that were subsequently adopted, including the regulation of administration of, and submissions to, LIBOR.

[g] LIBOR calculations based on survey methodology introduce potential conflicts of interest with signaling the creditworthiness of a panel bank and with its proprietary trading positions. Various reference rates employ similar methodologies in their calculations, including Hong Kong Interbank Offered Rate, Mumbai Interbank Offered Rate, Tokyo Interbank Offered Rate, and Singapore Interbank Offered Rate.

continued on next page

Box 3: Moving On from the London Interbank Offered Rate *continued*

powers to compel panel banks to do so beyond then, implementing alternative reference rates is taking on greater urgency.[h]

The global regulatory push toward alternatives

The G20 asked the Financial Stability Board (FSB) to review and reform major interest rate benchmarks in 2013, which in turn established working groups to do so. The Official Sector Steering Group was established by the FSB to oversee efforts to implement financial benchmark reforms and internationally coordinate the transition to the use of alternative RFRs. The steering group is co-chaired by Andrew Bailey, chief executive officer of the FCA, together with John Williams, president of the Federal Reserve Bank of New York. The FSB also established the Market Participants Group to propose alternatives to existing reference rates.

To help organize the transition, authorities in the jurisdictions of the major currencies for which LIBOR is produced also established a series of working groups, which include subgroups involving both market participants and authorities, to implement the FSB's recommendations to strengthen existing interbank offered rates and develop alternative RFRs. These working groups consist of the United States (US) Alternative References Rates Committee, the Working Group on Sterling Risk-Free Reference Rates, the Working Group on Risk-Free Reference Rates for the Euro Area, the National Working Group on Swiss Franc Reference Rates, and the Japanese Study Group on Risk-Free Reference Rates. Many other jurisdictions whose currencies are not used to calculate LIBOR have similarly established working groups to enhance the representativeness and credibility of their own benchmark interest rates and their consistency with international standards, including Australia; Hong Kong, China; the Republic of Korea; and Singapore.

Guidance for reforming interbank offered rates can be found in the International Organization of Securities Commissions Principles for Financial Benchmarks published in 2013. These principles are considered international best practice and are often used by working groups to assess the governance, quality of design, methodology, and accountability of benchmark interest rates and in recommending alternative RFRs.[i] While these principles provide a common framework, the application and implementation of the FSB recommendations (and similar reforms) often differs in approach between jurisdictions. Most noticeably, some recommended RFRs are secured (e.g., the Secured Overnight Financing Rate recommended by the US Alternative References Rates Committee as their preferred RFR), while others are unsecured (e.g., the reformed Sterling Overnight Index Average recommended by the Working Group on Sterling Risk-Free Reference Rates as their preferred RFR). Furthermore, in the United Kingdom and the US there is a clear regulatory desire to replace LIBOR, while regulators in the European Union are more willing to reform interbank offered rates, where their current intention is to replace the Euro Overnight Index Average with the Euro Short-Term rate, and define fallbacks for the Euro Interbank Offered Rate rather than replacing it. These working groups have undertaken extensive consultations and published numerous papers and guidance on different aspects of the transition. They have also sought to caution market participants on the risks of LIBOR discontinuance.

> ***The discontinuance of LIBOR should not be considered a remote probability "black swan" event. Firms should treat it is as something that will happen and which they must be prepared for.***
>
> *— Andrew Bailey, chief executive officer, Financial Conduct Authority, 12 July 2018*

Transition challenges

In each jurisdiction for which LIBOR is published, alternative RFRs have been recommended that are robust, credible, based on very liquid underlying markets, and do not require submissions based on expert judgement for their calculation. But having identified appropriate RFRs, the transition toward their use is far more complicated. Given how pervasive the use of LIBOR is in financial markets, the adoption of

[h] All 20 panels have agreed to support LIBOR, ensuring the sustainability of the rate until 2021. A. Bailey. 2017. *The Future of LIBOR*. London; FCA. 2017. Statement on LIBOR Panels. 24 November 2017. London.

[i] The International Organization of Securities Commissions Principles for Financial Benchmarks set out 19 principles for the operation of financial benchmarks and are broadly divided into four categories: governance, quality of the benchmark, quality of the methodology, and accountability.

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Box 3: Moving On from the London Interbank Offered Rate *continued*

alternative RFRs involves many challenges including their broad acceptance by diverse participants, across a massive product range, in multiple markets. This is a paradigm shift for financial markets that has been likened to surgery on the pumping heart of the financial system.[j]

These challenges begin with recommended alternative RFRs containing different economic characteristics than LIBOR. Being fully transaction-based, mostly from overnight funding operations, they are nearly risk-free (most significantly without a premium for credit risk) and backward-looking overnight rates. Attempts are being made to derive forward-looking term rates from alternative RFRs. But as they do not yet exist and may not exist for some time, what then for cash products that prefer the certainty of known interest amounts in advance for budgeting, cash flow, and risk management purposes? In switching from LIBOR to an alternative RFR, how do you minimize any value transfer? Will adjustment payments or spreads need to be made? Existing contracts often provide for an interruption to LIBOR but not its discontinuance, so contract amendments will almost certainly be necessary to make such a switch, but how best to manage doing so?

Table B3: Summary of Alternative Robust Risk-Free Rates

Jurisdiction	Working Group	Alternative RFR	Rate Administrator	Characteristics		
				Secured vs. Unsecured	Anticipated Publication Date	Description
United Kingdom 	Working Group on Sterling Risk-Free Reference Rates	Reformed Sterling Overnight Index Average (SONIA)	Bank of England	Unsecured	Currently being published	Unsecured rate that covers overnight wholesale deposit transactions
United States 	Alternative Reference Rates Committee	Secured Overnight Financing Rate (SOFR)	Federal Reserve Bank of New York	Secured	Currently being published	Secured rate that covers multiple overnight repo market segments
Europe 	Working Group on Sterling Risk-Free Reference Rates for the Euro Area	European Short-Term Euro Rate (€STER)	European Central Bank	Unsecured	October 2019	Unsecured rate that captures overnight wholesale deposit transactions
Switzerland 	The National Working Group on CHF Reference Rates	Swiss Average Rate Overnight (SARON)	SIX Swiss Exchange	Secured	Currently being published	Schedule rate that reflects interest paid on interbank overnight repo
Japan 	Study Group on Risk-Free Reference Rates	Tokyo Overnight Average Rate (TONA)	Bank of Japan	Unsecured	Currently being published	Unsecured rate that captures overnight call rate text market

CHF = Swiss franc, RFR = risk-free rate.

Source: International Swaps and Derivatives Association. 2018. *IBOR Global Benchmark Survey Transition Roadmap 2018*. https://www.isda.org/a/g2hEE/IBOR-Global-Transition-Roadmap-2018.pdf.

[j] A. Schrimpf and V. Sushko. 2019. *BIS Quarterly Review March*. Basel: Bank for International Settlements.

Risks to Emerging East Asian Bond Markets

Downside risks continue to outweigh upside risks, which means that global growth in 2019 and 2020 may turn out to be weaker than expected. While a number of factors impinge on the region's short-term growth outlook, quite clearly none looms anywhere nearly as large as global trade tensions. In particular, the persistence and intensification of the trade conflict between the PRC and the US poses by far the most significant threat to emerging East Asia's economic growth and financial stability. In fact, the simmering trade conflict between the world's two biggest economies poses a threat not only to the PRC and the region but to the world at large. The conflict adversely affects the world's two most systemically important economies and casts a long, dark shadow of uncertainty over the global economic outlook. Since most emerging East Asian economies have close trade, investment, and other economic linkages with both giants, they are likely to be hit hard if the trade row deepens further.

The PRC–US trade conflict shows no signs of ending any time soon; to the contrary, it has intensified in recent months. The most recent developments have added to the concerns of global investors, and further dented global business sentiment. At the G20 meeting in Osaka on 29 June, the two sides made some concessions and formally agreed to restart talks, raising hopes of an easing of tensions. Specifically, the US agreed to no new tariffs and the relaxation of restrictions on Chinese telecommunications giant Huawei, while the PRC promised unspecified purchases of US farm products. However, any hopes of an easing of tensions were dashed on 1 August, when US President Donald Trump announced that new tariffs of 10% on USD300 billion of Chinese imports would take effect in the last 4 months of 2019. The new tariffs mean that almost all US imports from the PRC would be subject to US tariffs by the end of the year. In response, on 5 August, the PRC halted purchases of US farm products. On the same day, the Chinese renminbi fell below the significant exchange rate of CNY7.00–USD1.00, and the US formally accused the PRC of manipulating its currency. On 23 August, the PRC retaliated to the new US tariffs announced on 1 August by imposing additional tariffs of between 5% and 10% on USD75 billion worth of US products. Separately, the PRC announced plans to reimpose a 25% tariff on US automobiles and a 5% tariff on US auto parts. In response, President Trump announced that the US planned to raise existing tariffs on USD250 billion of Chinese imports from 25% to 30%. He also announced that the new tariffs will now be 15% instead of the previously announced 10%, and ordered US companies to look for alternatives to the PRC. In short, the PRC–US trade conflict seems to be getting worse rather than better.

Many economies around the world, including larger ones such as Japan and Germany, are suffering visibly from the impact of the PRC–US dispute. Japan's exports fell for an eighth consecutive month in July, declining 1.6% on a y-o-y basis. Furthermore, according to a Reuters Tankan survey, business confidence among Japanese manufacturers turned negative in August for the first time since April 2013, reflecting the darkening mood in the heavily export-dependent Japanese economy. Exports to the PRC, Japan's largest trading partner, fell 9.3% y-o-y in July, the fifth consecutive month of contraction. Exports to Asia, which comprise more than half of Japan's total exports, shrank 8.3% y-o-y in July.

On 19 August, Deutsche Bundesbank, Germany's central bank, warned that Europe's largest economy could be heading into a recession. Germany depends heavily on exports to the US, the PRC, and elsewhere for growth, and its world-class, export-oriented manufacturing sector has kept the economy humming in recent years. However, the current gloomy global trade environment is turning what was once a source of strength for the economy into a source of weakness. Deutsche Bundesbank indicated that German GDP, which shrank by 0.1% quarter-on-quarter in Q2 2019, may shrink again in the third quarter of 2019, which would push the economy into a technical recession (GDP decline in two consecutive quarters).

The weakness of large economies such as Japan and Germany, in turn, contributes to the further weakening of the world economy. However, the bigger risk to global growth is the adverse effect of the PRC–US trade conflict on the growth momentum of the two protagonists, which are also the world's only two economic superpowers. Although the US economy is less affected by the conflict than its Chinese counterpart, there are some concerns that a recession may be on the horizon. The US manufacturing sector is already technically in a recession, having contracted in the first two quarters of 2019. One particularly ominous sign is the inversion of the yield curve—i.e., short-term interest rates exceeding long-term

interest rates—in mid-August. Every US recession in the last 60 years has been preceded by an inverted yield curve. At the same time, given moderating-but-still-healthy GDP growth and the robust labor market, it may be premature to predict a recession.

A sharp growth moderation in the PRC will pose a bigger risk to emerging East Asia than a US recession would. Among the two economic giants, the PRC is expected to suffer greater fallout from its trade dispute with the US. Official data indicate that the PRC economy expanded 6.2% y-o-y in Q2 2019, which would mark the slowest y-o-y expansion in at least 27 years. The PRC–US trade conflict has a significant negative impact on the PRC's growth but is by no means the only driver of the slowdown. A large number of domestic factors are also at play. In particular, in recent years the government has embarked on concerted and forceful efforts to rein in the rapid buildup of debt. Specifically, the authorities have tightened regulations in the financial system, encouraged banks to scale back their lending, and clamped down on unregulated lending in the shadow banking sector. Although such deleveraging efforts are required to improve the quality of debt and thus protect financial stability in the medium-term, they will adversely affect investment and growth in the short-term, as these measures make it more difficult for companies, especially more efficient private sector companies, to borrow from banks and obtain financing. In 2018, defaults by Chinese companies hit a record high and the number of defaults is likely to increase this year. While there is no cause for undue concern, a sharper-than-expected slowdown in the PRC due to a combination of external and domestic factors cannot be ruled out. Such a slowdown, in turn, would have large spillovers in the region and beyond.

Regional trade conflict poses a new risk to emerging East Asia. In the face of rising global protectionism, it is in the best interest of emerging East Asian economies to strengthen domestic demand and pursue closer regional economic integration. Perhaps the biggest risk from the current wave of global protectionism is the weakening of the General Agreement on Tariffs and Trade–World Trade Organization multilateral trading system that helped foster the explosive growth of world trade in the postwar period. The weakening of the World Trade Organization system may encourage individual economies to pursue protectionist policies to achieve a wide range of objectives. That is, instead of complying with multilateral rules of the game, economies may arbitrarily use trade policy against each other.

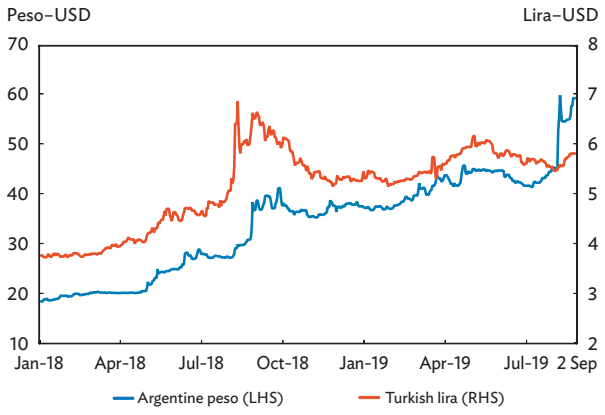
The nascent trade conflict between Japan and the Republic of Korea is a case in point. Against a backdrop of deep-seated historical issues between the two economies, on 4 July, Japan announced that it would tighten control over three chemicals—fluorinated polyimides, photoresists, and hydrogen fluoride. These chemicals are vital for producing semiconductors, which is the Republic of Korea's top export, accounting for about 20% of the economy's total exports. The new restrictions require Japanese companies to obtain a license for exporting the chemicals to the Republic of Korea, while processing the license could take up to 3 months. In addition to the export controls, which were implemented based on national security grounds, Japan announced that it would remove the Republic of Korea from its white list of preferred trade partners on 2 August. The removal came into effect on 28 August. On 12 August, the Republic of Korea responded by announcing that it planned to remove Japan from its own white list of preferred trade partners in September. There has also been a mass boycott of Japanese beer, automobiles, clothing, and other goods by Korean consumers, in addition to a sharp drop in the number of Korean tourists visiting Japan. While the boycott is an unofficial civil movement, it is exacerbating the bilateral conflict, and has already had a tangible effect on Japanese exports to the Republic of Korea, which fell 9.3% y-o-y in July.

At this point, the Japan–Republic of Korea trade conflict, like the PRC–US trade conflict, is not giving much cause for optimism for an early resolution. To the contrary, there are worrying signs that it is spilling over into nontrade areas, and thus widening into a broader conflict. For example, on 22 August, the Republic of Korea withdrew from its intelligence-sharing agreement with Japan, which was a key element of security cooperation between the two governments. Annual bilateral trade between Japan and the Republic of Korea, which are Asia's second- and fourth-largest economies, respectively, amounted to almost USD80 billion in 2018. Therefore, the conflict is bound to have significant adverse economic effects for the two export-dependent economies at a time when both are already under pressure from the PRC–US conflict. That is, the bilateral conflict is likely to exacerbate what is already a gloomy external environment for exports, the main engine of growth for both economies. The weakness of

the two regional heavyweights will also have negative spillover effects for smaller regional economies. Finally, given the central role of Japan and the Republic of Korea in global supply chains of high-tech information technology and electronics products, the dispute may even have global ramifications. Potential disruptions to the production of semiconductors is a particular concern in light of the global importance of the Republic of Korea as a semiconductor producer, and the fact that semiconductors are a vital input in virtually all electronic devices.

Financial turbulence in vulnerable emerging markets continues to pose a risk to regional and global financial stability. The Turkish lira and Argentine peso depreciated sharply during 2018 before strengthening toward the end of the year. However, since the beginning of 2019, both currencies have weakened on country-specific factors (**Figure J**). In this context, the most notable development was the 30% depreciation of the Argentine peso to a record low on 12 August. The plunge was triggered by the unexpectedly poor showing of the current government in an election primary, which was won by the center-left opposition. The result raised the prospect of a return to power of the former government that put into effect the populist policies that lie at the root of Argentina's current macroeconomic problems. Investors were spooked by the increased likelihood of a populist government, which would increase the chances that Argentina would default on its debt. The markets remain unconvinced despite assurances of no-default from the opposition candidate. The government announced plans to restructure the country's huge debts on 28 August and imposed capital controls on 2 September. The effect of the drastic measures on the markets remains to be seen. Although the Turkish lira has not depreciated as sharply as the Argentine peso, the Turkish currency remains vulnerable to external shocks. Perceptions of easy monetary policy, combined with domestic and external political tensions, are fueling investor concerns. The risk from vulnerable emerging markets is that they may give rise to a financial crisis, which could lead to broader risk aversion toward all emerging markets. Although the strong fundamentals of emerging East Asian economies would likely limit such negative spillovers, they would not be completely immune to the loss of risk appetite among global investors.

Figure J: Argentine Peso and Turkish Lira vs. the US Dollar



LHS = left-hand side, RHS = right-hand side, US = United States, USD = United States dollar.
Note: Local currency unit relative to the US dollar. Data are from 1 January 2018 to 2 September 2019.
Source: Bloomberg LP.

One significant bright spot for emerging East Asian markets is the decline in US interest rates. One major contributing factor to the financial instability of vulnerable emerging markets in 2018 was the concerted interest rate hikes by the Federal Reserve. The consequent tightening of global liquidity conditions destabilized some emerging markets, especially vulnerable economies with sizable macroeconomic imbalances, such as Argentina and Turkey. However, there has been no further interest rates hikes by the Federal Reserve so far this year. To the contrary, and in line with recent market expectations, the Federal Reserve clearly signaled its intent to prioritize growth by cutting the federal funds rate, its key benchmark rate, from 2.25%–2.50% to 2.00%–2.25% on 31 July. The rate cut was the first in more than a decade and the first since the end of the global financial crisis. Although the US economy is not suffering from a recession or high unemployment, which is when the Federal Reserve typically eases monetary policy, there are growing concerns over the less-benign global economic outlook. Furthermore, inflation in the US is running below the Federal Reserve's target of 2.0%, which gives the Federal Reserve more room to cut rates. The shift of US monetary policy toward a decidedly more accommodative stance will help ease global liquidity conditions, which will likely benefit financial markets in emerging East Asia and elsewhere.

To sum up, downside risks dominate upside risks in the current global financial and economic environment. Against a backdrop of moderating global growth momentum, a number of factors pose a significant threat

to global growth and financial stability. Most worryingly, the trade conflict between the PRC and US seems to have intensified in recent months. The escalation of protectionist measures in August bode ill for a fundamental settlement or even serious dialogue for such a settlement. Emerging East Asian economies have close trade and other economic linkages with both giants. As such, they stand to suffer sizable negative spillovers from an intensification of the dispute, especially if it leads to sharper-than-expected growth moderation in the PRC. Regional trade conflicts, most notably between Japan and the Republic of Korea, are exacerbating the deterioration of the trade environment. Yet another risk, albeit a modest one, includes spillovers from vulnerable emerging markets outside the region. The Federal Reserve's interest rate cuts will provide some respite for regional financial markets, but this is at best a modest silver lining in a large dark cloud.