

# Foreign participation in the local currency bond markets of emerging market economies: good or bad for market resilience and financial stability?

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## Abstract

This note studies the implications of increased foreign participation in the local-currency (LC) bond markets of emerging market economies (EMEs) from the perspective of market resilience and financial stability. While the rapid growth of LC bond markets might have overcome the “original sin” of EMEs, our findings suggest that foreign investors are sensitive to currency risk (ie the yield spread widens further) during market distress. Volatility spillover for local currency bond funds is significantly larger than that for hard currency bond funds. Two important policy implications can be drawn from the analysis. First, the development of foreign exchange derivatives markets is crucial for market stability. Second, the investor base of EME markets should be diversified by increasing the presence of domestic investors.

JEL classification: G15, F31, F32.

Keywords: local currency bond markets, currency risk, volatility spillover.

## Introduction

Increased participation by foreign investors is an effective way to promote the financial market development of emerging market economies (EMEs).<sup>1</sup> First, these investors bring in new capital and enable better risk-sharing with domestic investors, thus help driving market growth and reducing the cost of capital. Moreover, they prompt EME markets to align with international standards by demanding better corporate governance, which is crucial for long-term market development.

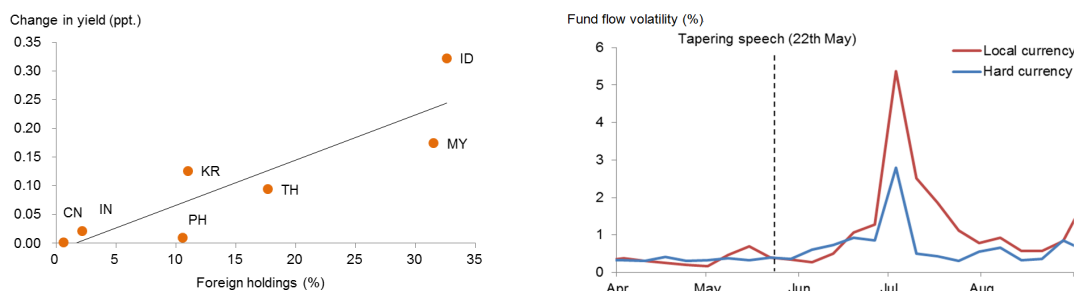
However, foreign participation also implies greater sensitivity to external shocks, notably those associated with currency risk. According to a survey by the Committee on the Global Financial System (CGFS), about a quarter of the market participants in EMEs expected their local securities and foreign exchange markets to experience notable increases in volatility as foreign participation increases (CGFS (2019)). These concerns reflect market developments in recent years. Between April and October 2018, for instance, EME currencies depreciated by 14.9% amid heightened geopolitical tensions.<sup>2</sup> Meanwhile, EME bond funds saw significant outflows, with local currency (LC) bond funds suffering more severe outflows than hard currency (HC) bond funds, suggesting that EME fund flows and EME exchange rate volatility are closely linked.

The role of foreign participation was also noteworthy during the taper tantrum. Amid concerns that the United States would tighten its monetary policy earlier than expected, EME bond and FX markets sold off precipitously in the months after May 2013.<sup>3</sup> The left-hand panel of Graph 1 shows the weekly change in the LC yield spread against the share of foreign holdings. The positive relationship indicates that Asian EMEs with higher exposures to foreign investors experienced a larger increase in yields than those with lower exposures. Meanwhile, fund flows to LC EME bond funds were more volatile than HC EME bond fund flows (Graph 1, right-hand panel).

<sup>1</sup> See CGFS (2019) for more discussion about the promotion of financial market development in EMEs.

<sup>2</sup> EME currencies are measured by the JP Morgan Emerging Market Currency Index. During this period, a much sharper depreciation was seen in some currencies, such as the Argentine peso (45.4%), the Turkish lira (27.7%), South African rand (17.6%), Indian rupee (11.2%) and Indonesian rupiah (9.2%)

<sup>3</sup> On 22 May 2013, the then US Federal Reserve Chairman Ben Bernanke mentioned in his testimony that the Fed would slow the pace of its asset purchase programme.



Note: (1) Change in yield is measured by the difference of five-year generic government bond yield between 21 and 29 May 2013; (2) The R-squared of the simple linear regression is 0.78. (3) Local currency bond funds invest 75% or more in local currency-denominated debt, whereas hard currency bond funds invest 75% or more in hard currency-denominated debt.

Sources: Bloomberg; EPFR Global; HKMA staff estimates.

Against this backdrop, this note presents the role of increased foreign participation in the domestic financial markets of EMEs in general and emerging Asia in particular. Specifically, it answers two questions: (1) does a larger presence of foreign investors in Asian local currency government bond market affect the yield spread? And, if so, which component of the spread does it affect? And (2) does currency denomination of EME bond funds matter for bond fund flow during market distress?

To preview our findings, while high foreign participation generally leads to the tightening of LC government bond yield spreads in emerging Asia, it significantly exacerbates the widening of the currency risk component of the spread when there is strong expectation for currency depreciation. In addition, LC EME bond funds are found to experience significantly larger foreign exchange (FX) volatility spillover than HC bond funds. These findings are likely to reflect the rapid flight of foreign investors from LC bond markets in anticipation of FX-related losses.

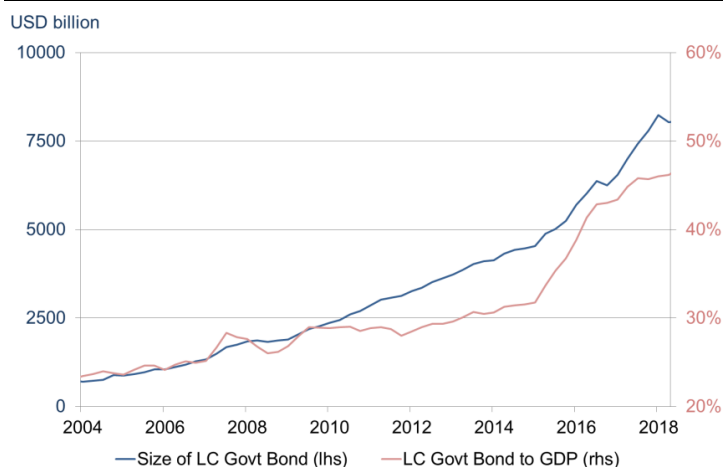
## Local currency bond markets in emerging Asia

Prior to the 2000s, few EMEs could borrow abroad in local currency or for the long term, thus creating a double mismatch (for both currency and maturity). This phenomenon is often dubbed the "original sin" of EMEs (Eichengreen and Hausmann (1999)). In emerging Asia, such mismatches were a major vulnerability that exacerbated the Asian financial crisis (AFC) in 1997–98 (Park et al (2018)). After the AFC, Asian EMEs cooperated to develop LC bond markets, for example through the Asian Bond Markets Initiative (Park (2017)). Between 2004 and mid-2018, the size of LC government bond markets surged more than tenfold and the market size-to-GDP ratio also doubled (Graph 2). The region's robust economic performance has attracted foreign investors in their search for yield (Burger et al (2012)) especially during the low yield environment after the 2007–09 global financial crisis (GFC), accelerating the growth of LC bond markets in Asia.

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## Size of LC government bonds and market size-to-GDP ratio in EME Asia

Graph 2



Note: Includes China, Hong Kong SAR, Indonesia, Korea, Malaysia, the Philippines, Singapore and Thailand.

Source: Asian Bonds Online.

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At first glance, the rise in LC bonds should be good news for EMEs as this would alleviate their currency mismatch. The increase also suggests that these economies might finally overcome their “original sin”. However, it is important to note that denomination in local currencies per se does not eliminate FX risk. It only means that foreign investors now bear more FX risk than previously, making them more responsive to FX movements. Thus, with the increased foreign participation in LC bond markets through bond funds, EME bond fund flows have become more sensitive to FX risk.

## Recent empirical findings

### Impact of foreign holdings on yield spreads

Ho (2019) analysed the impact of foreign holdings on the local currency government yield spread in emerging Asia.<sup>4</sup> In summary, conditional on FX rate expectations, foreign holdings and yield spread are found to display a positive relationship when the level of foreign holdings is larger than about 13%. Graph 3 presents this relationship, focusing on two tail scenarios for FX expectations. With strong expected appreciation (green line), the yield spread could be narrowed by about 43 basis points when foreign holdings are at 40%, as compared with about 10 basis points when foreign holdings is at 13%.<sup>5</sup> By contrast, when there is strong expected depreciation

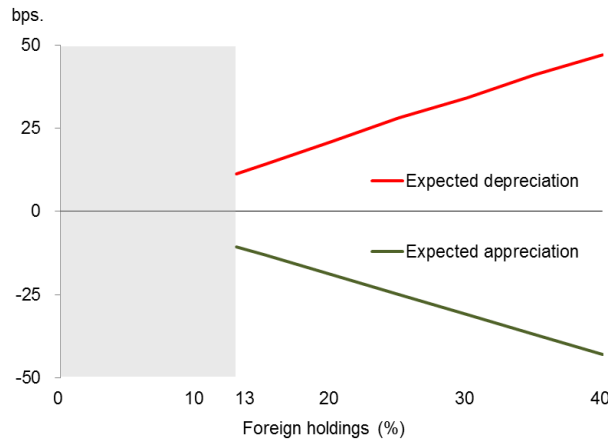
<sup>4</sup> In this study, emerging Asia refers to China, India, Indonesia, Malaysia, the Philippines, South Korea and Thailand.

<sup>5</sup> “Strong expected depreciation” is defined as the case when change in risk reversal is at its cross-economy historical 99th percentile. “Strong expected appreciation” is the case when the risk reversal is at its first percentile.

(red line), the spread would widen more as foreign participation increases, peaking at 47 basis points when foreign holdings are at 40%.

Estimated contribution to nominal LC yield spread (bps)

Graph 3

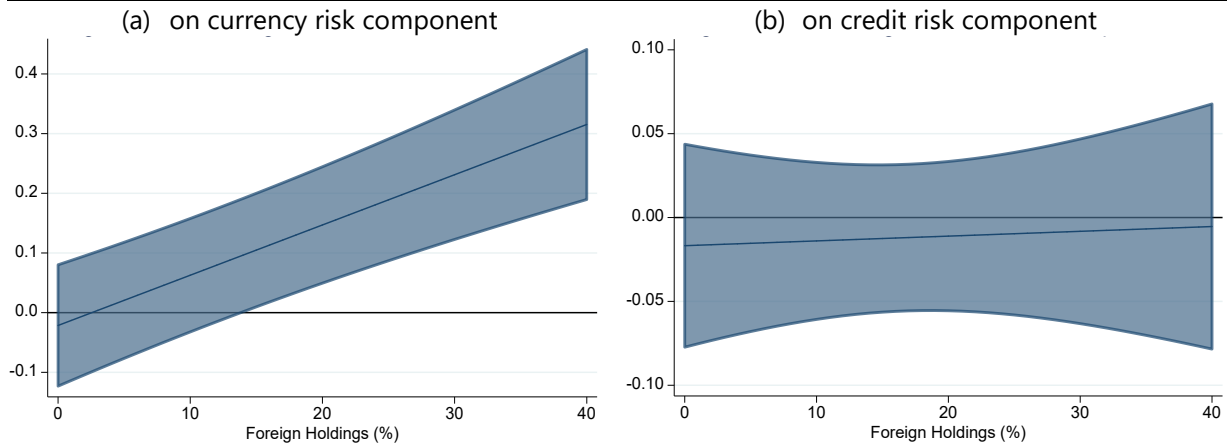


Note: Grey area denotes insignificant estimated change. Expected appreciation and depreciation is represented by cross-economy historical first and 99th percentile of the change in risk reversal, respectively.

Furthermore, the effect of foreign holdings is found to work through the currency risk component of the yield spread. As shown in Graph 4(a), the margin plot of the currency risk component is largely similar to the baseline results, ie foreign holdings start to have an impact on yield spread when they are large enough, possibly because the currency risk premium would increase upon expectations for FX depreciation.

Marginal effect of change in lagged risk reversal (%)

Graph 4



Note: Shaded area represents 95% confidence interval.

However, foreign holdings have no significant impact on the credit risk component of the yield spread (Graph 4(b)). A possible explanation is that both foreign and domestic investors should face a similar potential loss in the case of credit events in the LC bond market. Therefore, the level of foreign holdings does not augment the credit risk sensitivity to FX expectations.

## Impact of exchange rate risk on EME bond fund flows

Leung and Wan (2019) found that EME exchange rates affect the volatility of EME bond fund flows through the volatility spillover channel. In particular, during market distress<sup>6</sup> in the post-GFC period, volatility spillover for LC fund flows is significantly larger than that for HC funds (Table 1). In addition, under normal market conditions, volatility spillover is found to affect only LC fund flows, but not HC fund flows. These findings suggest that LC fund flows are more susceptible to exchange rate volatility than are HC fund flows.

Moreover, a negative volatility effect is found for LC and HC bond funds, ie an increase in EME exchange rate volatility has a negative impact on the level of EME bond fund flows, during market distress. The results suggest that volatile currency movements might discourage foreign investors from holding these bond funds. Lastly, positive mean effects are found, ie FX appreciation (depreciation) leads to more (less) EME bond fund flows, whether or not the market is in considerable distress. These results are consistent with the return-chasing hypothesis<sup>7</sup> (eg Bohn and Tesar (1996), Bekaert et al (2002)). However, statistical test results suggest that the mean effect of LC funds is not significantly different from that of HC bond funds.

Impact of EME exchange rates on EME bond fund flow in the post-GFC period

Table 1

	LC bond fund flow (a)	HC bond fund flow (b)	(a) and (b) significantly different at 5% level?
<b>Market distress</b>			
Mean effect	0.10*	0.12 <sup>^</sup>	No
Volatility effect	-2.31*	-3.01***	No
Volatility spillover	15.10***	6.47***	Yes
<b>Whole sample period</b>			
Mean effect	0.16***	0.12***	No
Volatility effect	0.03	0.05	No
Volatility spillover	0.07*	0.25	Yes

Note: \*\*\*, \* and <sup>^</sup> denote the estimated coefficient is statistically significant at 0.1%, 5% and 10%, respectively.

Source: HKMA staff estimates.

<sup>6</sup> Market distress is defined as the 10th percentile in fund flow or the 90th percentile in fund flow volatility.

<sup>7</sup> The return-chasing hypothesis states that investors tend to move into markets where returns are expected to be high and retreat from markets when predicted returns are low.

## Discussion

The increased participation of foreign investors could be a double-edged sword for EME financial markets. As shown by the analysis of emerging Asia local currency government bonds, these investors help stabilise bond markets in good times by reducing the yield spread by increasing demand and providing liquidity. However, during an episode of market distress with strong depreciation expectations, large foreign holdings tend to further widen the yield spread, raising borrowing costs and eroding liquidity. Furthermore, in response to an increase in FX volatility, fund flow volatility for LC EME bond funds is found to increase significantly, whether or not the market is in distress. In other words, the volatility spillover for LC bond funds is significantly larger than that for HC bond funds.

While the rapid growth of LC bond markets might have overcome the “original sin” of EMEs, it is no panacea in financial stability terms. Even when a large LC bond market is well developed, allowing domestic investors to borrow abroad in local currency, these economies still have to confront reversals of capital flows when FX risk materialises.

Two important policy implications can be drawn from the analysis. First, the development of FX derivative markets is crucial for market stability. If FX hedging tools are available to foreign investors, they can separate exchange rate risks from other risks (eg credit risk, duration risk) and thus be less inclined to stampede out of EME bonds in response to heightened exchange rate risk. Second, the investor base of EME markets should be diversified by increasing the presence of domestic investors. As domestic investors are less sensitive to FX risk, their presence should help contain the impact of FX risk. In particular, institutional investors should be a core part of the domestic investor base as they help create market liquidity and enhance the price discovery process. As many of these investors (eg pension funds, endowment funds, sovereign wealth funds) have long-term investment horizons, they tend to be less responsive to short-term market movements or, indeed, they may adopt a contrarian investment strategy, thus providing a stabilising force for the markets (Fong et al (2018), Timmer (2018), de Haan and Kakes (2011)).

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