What do new forms of finance mean for EM central banks?

An overview

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The size and the structure of financial intermediation influence the cost of credit, the risk exposure of financial institutions and the effectiveness with which monetary policy is transmitted to the economy. Over the past decade, financial intermediation in emerging market economies (EMEs) has undergone important changes: a higher volume of debt financing has gone hand in hand with a growing internationalisation of financial markets and increased lending to households. The 2015 Deputy Governors meeting examined the implications of these trends for EMEs. Participants discussed three distinct but interrelated topics: (i) the role of banks; (ii) the role of debt securities markets; and (iii) the implications of recent changes in financial intermediation for monetary policy.

One of the main conclusions reached by participants is that greater access of households to bank credit and of EME corporations to domestic and external securities debt markets is a double-edged sword. On the one hand, it has helped foster financial development, diversifying funding sources and reducing credit risk concentration. On the other hand, it has also been accompanied by increased risks and vulnerabilities – as the financial market turbulences of 2015 illustrated (BIS (2015)). Domestic bond markets now react more strongly to global forces. Larger foreign currency debt has made many companies more vulnerable to exchange rate shocks. Credit cycles have also become more pronounced. These developments pose challenges to EME monetary authorities in containing monetary and financial stability risks, raising questions about the appropriate instruments required to stabilise the economy (Sobrun and Turner (2015)).

1. The role of banks

Historically, banks have played a central role in the financial systems of EMEs by allocating domestic savings, transforming the maturity of financial claims and intermediating international capital flows. However, a series of banking crises in the 1980s and 1990s raised questions about the merits of bank-based financial intermediation and triggered initiatives aimed at diversifying financial systems. The Global Financial Crisis that erupted in 2008 was a major turning point in many countries for financial intermediation. An important objective of the meeting was to understand how intermediation models had changed over the past decade and what that meant for the role of banks in the economy.

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The paper by Ehlers and Villar (2015) notes five major aspects of EME financial systems.

- First, over the 2004–13 period total credit extended to the non-financial private sector of EMEs by banks and bond markets taken together (including through domestic and international channels) has risen rapidly in many countries as a percentage of GDP. This trend picked up particularly sharply after the onset of the Global Financial Crisis of 2008. The growth in total credit has been faster in economies that are more financially open and that have tied their exchange rates to the currencies of advanced economies than those that are less open and allow greater exchange rate flexibility.
- Second, banks continue to remain the main source of credit in EMEs. That said, changes in financial intermediation appear to be significant in China, Chile, Hungary, India and Korea where the share of bank credit in total credit has generally declined over the past decade.
- Third, there have been important changes in the composition of bank assets. The sharp growth in total bank assets has coincided with a rapid increase in bank lending to households, which has been partially offset by a general decline in banks' debt securities holdings and loans to corporations.
- Fourth, strong lending growth has been accompanied by increased access of EME banks to non-core funding sources such as corporate deposits and debt liabilities. The median contribution of corporate deposits to the growth of total liabilities of EME banks has risen from 24% in 2004–09 to 31% in 2009–13. Debt liabilities contributed to 28% of incremental liabilities in both periods.
- Finally, the role of international bank lending in EMEs has declined as such lending has been increasingly replaced by financing through international debt securities. As a result, international bank credit (cross-border claims plus local claims of international banks) as a percentage of total domestic bank credit to the non-bank sector has shrunk rapidly in Latin America (from 50% in 2004 to 30% in 2013), and central and eastern Europe (from 100% to 75%), while it has remained roughly constant at a low level in Asia (15%).

In assessing the significance of these developments, the underlying factors are likely to be more important than the trends themselves. Clearly, financial deepening plays an important role in the trend increase in credit-to-GDP ratio. Yet a key concern expressed in many central bank papers in this volume is that the recent growth in credit may prove more cyclical than structural. Estimates presented by Ehlers and Villar show that, while the bank credit-to-GDP ratio has been generally above its long term trend in many EMEs, the gap has widened to over 10 percentage points in several countries.

Often, the rising trend in bank credit has been reinforced by credit extended by shadow banking institutions, although estimating precisely the assets held by these institutions remains a challenge in EMEs (as is the case in many advanced economies). The paper from the South African Reserve Bank estimates that in South Africa the share of assets held by shadow financial intermediaries in the total assets of all financial intermediaries increased after the 2008 Global Financial Crisis, reaching 18% by the end of 2014, though this is still a relatively small part of the financial system.

Several forces appear to be at work. In most EMEs, easy domestic monetary conditions have boosted both the demand for, and supply of, credit. In many commodity-exporting countries, these domestic conditions interacted with sustained

improvements in terms of trade. Many country papers nevertheless identified easy global financial conditions as the most common factor behind the recent rapid growth of credit. One direct channel appears to work through bank deposits. Since most capital inflows ultimately end up on the balance sheets of banks, they tend to increase the domestic lending capacity (see the note from Indonesia). Second, in several countries banks also funded a significant part of their credit growth by directly accessing international debt markets. Finally, in some countries capital inflows led banks to lower their lending standards, particularly under a competitive threat as their major corporate clients moved to offshore markets. A case in point is the Czech Republic, where banks responded to large non-financial firms' global search for yield by easing lending terms.

Despite strong credit growth, in several countries banking system leverage declined marginally over the past decade (see Table A8 in Ehlers and Villar (2015)). Rising asset prices tend to boost the value of equity when bank portfolios are marked to market. Banks facing capital or value-at-risk constraints thus tend to lend more without having to raise additional capital (Adrian and Shin (2010)). Asset price booms thus make bank credit highly procyclical even without a rise in the measured leverage ratio.

A number of risk factors were discussed. One was the potential vulnerability of EMEs to future credit market reversals. Several participants argued that although debt service ratios are currently moderate, these could rise rapidly once interest rates start to go up. The rapid growth of credit recently observed in many countries has therefore prompted the authorities to implement macroprudential measures. Some countries have introduced credit registries, though there seems to be disagreement over the scope of information that such registries should collect (only negative credit events or a wide range of information about income and liabilities). In the expectation of possible problems, a few countries have contemplated debt restructuring measures to address consumer overindebtedness and insolvency.

Another issue was the extent to which banks were exposed to higher interest rates. Several participants argued that the direct exposure of banks to interest rate risks remains manageable. However, bank borrowing from the debt and wholesale deposit markets can still lead to potential funding problems for the banking system. Although aggregate loan-to-deposit ratios in some regions (in Asia and Latin America, in particular) have been contained below one, they have risen from previously moderate values. In particular, as banks funded a greater part of their incremental lending from corporate deposits, they could be vulnerable to tighter external funding conditions triggering an outflow of such deposits from the banking system.

The exposure of banks to foreign exchange risk could be sizeable, even though regulations might limit currency mismatches within the banking system. While banks may be hedged against currency risk, their borrowers may not. In some EMEs, borrowers still expect an appreciation of the local currency, increasing incentives for unhedged foreign currency borrowing. To reduce these risks, some countries have introduced stress testing while others have raised reserve requirements on foreign currency deposits and/or required banks to hold additional capital.

One concern in countries with more developed foreign exchange markets seems to be the speculative positions of domestic institutional investors, which can have an influence on the dynamics of exchange rates. Extensive use of hedges against currency appreciation can itself generate appreciation pressures. For instance, buying

FX swaps or forwards raises the expected future price of a currency which feeds back into current market prices. Both investors and borrowers could speculate on currency appreciation, leading to large exposures, and potentially disruptive shocks if currency movements were to reverse. A few countries have therefore introduced reporting requirements relating to the holding of foreign exchange derivative positions by corporates.

There was a general recognition that the shift to a subsidiaries-based model of business increased the resilience of EME banking systems to external shocks. If banks enjoy a measure of protection through access to national deposit insurance schemes, or have a large number of retail customers, subsidiaries would be the preferred model because their capital could be segregated from the parent bank. A few participants expressed the view that in the event of a crisis, host-country taxpayers would have to foot the bill – even for foreign banks. Subsidiaries might therefore be more suitable to ring-fence assets, although this increases vulnerability to local conditions. There was a common view that cross-border banking within a region ("regionalisation") heightens the exposure to regional macroeconomic risks. Cooperation between home and host supervisors is thus essential in reducing these risks as well as in limiting the potentially damaging implications of regulatory arbitrage.

2. The role of debt securities market

A clear trend across many EMEs over the past decade is the expansion of debt securities as a funding vehicle. Thus, the combined issuance of debt securities by entities located in EMEs – governments, financial institutions and non-financial corporations together – has grown more than sixfold over the past decade, from $2.5 trillion in 2002 to $14 trillion in 2014 (Hattori and Takáts ((2015)). Although the issuance of domestic debt securities, which is usually denominated in local currencies, constitutes the largest share of activity (about 80%), the issuance of international debt securities by the non-bank sector has risen significantly following the 2008 Global Financial Crisis. The trend has been driven by non-financial corporations, which increased their issuance of foreign currency debt while governments funded much of their fiscal deficits in local currency debt markets.

That said, within this big picture, cross-country differences remain. In many countries, domestic bond markets still largely consist of government debt securities. With a few exceptions (eg Hong Kong SAR and Malaysia), corporate bond markets remain relatively underdeveloped, constraining the supply of long-term finance. At the same time, cyclical factors, such as very low global interest rates, have attracted EME corporations to international debt markets. The paper from the Central Reserve Bank of Peru argues that the preference for issuing debt in international markets reflects a rational decision by EME corporations to access cheaper funds in deeper international capital markets than in more expensive and less liquid domestic markets.

As discussed in many country papers, debt issuance by EME entities offers major benefits, not least by fostering financial development. Bond markets can also help diversify the sources of financing and avoid credit risk concentration in the banking sector. A number of participants emphasised that bond markets are better suited than banks to supply long-term finance for infrastructure. Moreover, debt issuance by EME borrowers in their own currencies reduces currency mismatches. As the paper from

the Hong Kong Monetary Authority argues, the recent increase in debt issuance by EMEs reflects conscious efforts by the authorities to develop local bond markets and regulations restricting banks' exposure to duration mismatches.

Despite obvious benefits, an important issue is the extent to which increased international debt issuance by corporates creates risks. To the extent that cyclical factors dominate, EME borrowers are exposed to a reversal of easy global financing conditions and hence to higher global interest rates. Not only does such an eventuality increase the risk of a drying-up of dollar bond issuance but also increases corporate vulnerability in terms of higher debt repayment and refinancing risks. The interaction between dollar liabilities and large currency depreciation can contribute to magnifying these risks. While EME corporations have increased non-financial investment in recent years, firm leverage in many countries has risen (Graph 5 in Hattori and Takáts (2015)). Another risk is overinvestment that could lower the rate of return on investment. There is evidence that the return on assets of EME corporations has fallen recently and the price-to-earnings ratio has risen, suggesting a risk to funding conditions should equity valuations suffer from higher interest rates.

A few oil-exporting countries have been under stress because of the recent collapse of oil prices. Given that many oil firms have accumulated substantial dollar debt, they are vulnerable to large currency depreciations. How far domestic funding conditions would be affected depends on the level of firm indebtedness and the stock of foreign reserves of a country. While official assistance to mitigate foreign currency liquidity problems of the corporate sector can reduce some of the risks, there are potential moral hazard issues confronting governments and central banks. In this context, some participants argued that there was a need for a better understanding of large firms' complex funding structures so that the balance sheet risks of such firms could be identified and monitored by the authorities on a regular and systematic basis.

Stresses in corporate balance sheets could spread to the banking system. These systemic connections are likely to be important in countries where banks have obtained a large part of their funding requirements from corporate deposits, exposing them to withdrawal pressures. And, by adversely affecting firms' capacity to repay, weaker corporate balance sheets could also feed into the banking system through higher non-performing loan rates.

Another source of risk discussed in several papers is the potential vulnerability of EMEs to the market volatility resulting from a greater involvement of institutional investors and their asset managers in EME debt markets. Hattori and Takáts (2015) discuss several channels through which the portfolio decisions of asset management companies could amplify market volatility. One example is the return and duration mismatches of the portfolios of long-term institutional investors such as pension funds. The search for yield and duration by these investors under conditions of very low long-term interest rates can lead to excessive risk-taking in relatively illiquid markets, causing large price fluctuations. Similarly, asset management companies (AMCs) are guided by several investment constraints (eg relative performance targets, risk limits and minimum credit ratings) that have the potential to create procyclical market dynamics in EME bond and equity funds. There is evidence that investment flows into and out of EME funds tend to show greater clustering than flows into and out of advanced economy markets. In addition, discretionary sales by EME bond funds managers tend to amplify investor redemptions (Shek et al (2015)).

An additional risk could come from carry trade strategies involving EME local debt markets. To the extent that foreign investors have not adequately hedged the foreign exchange risk of their bond investments, and have instead intended to profit from expected currency appreciation, their response to unexpected exchange rate movements could aggravate market volatility. EME residents could make use of dollar debt issuance to undertake similar carry trade strategies. For instance, a recent BIS study of companies from 47 countries outside the United States found that EME non-financial companies had used US dollar bond issuance to take on financial exposures that shared the attributes of dollar carry trades (Bruno and Shin (2015)). The proceeds of such bond issuance were invested in high-yielding bank deposits as well as in shadow banking products and commercial paper.

The paper from Mexico discusses bond market dynamics that could follow from a US monetary policy shock. The authors' results suggest that not only are bond flows highly correlated across countries but the direction of flows is closely associated with US monetary policy announcements, implying that EMEs remain vulnerable to a potential Federal Reserve tightening.

Many participants felt that the recent adoption of regulatory and market oversight measures by a number of countries could prove helpful in containing some of those risks. These measures include, for instance, tighter standards for firms' external funding eligibility and regulations requiring corporations to hedge foreign exchange risk. Moreover, to the extent that bond issuers in EMEs are typically large and of good credit quality, they could be more resilient to negative interest rate shocks than those with weaker balance sheets and credit ratings.

3. Implications for monetary policy

The final session focused on the potential implications of recent changes in financial intermediation for monetary policy. Kohlscheen and Rungcharoenkitkul (2015) present a simple analytical framework to highlight a number of important issues. The general view is that, by strengthening the transmission of the central bank's policy rate to market interest rates, larger and deeper capital markets can help improve the effectiveness of monetary policy in EMEs. To the extent that greater competition from debt markets leads to narrower bank intermediation spreads, the equilibrium (or neutral) policy interest rate required to stabilise the economy may also have to rise.

At the same time, policy challenges in financially open economies can be more complex. First, greater global integration of domestic debt markets means that domestic long-term interest rates become more sensitive to global interest rates, reducing the effectiveness of monetary policy. Additionally, bank credit may become more volatile as funding conditions of the banking system become more closely linked to the global capital market (Shin and Turner (2015)). Finally, greater global debt market integration implies faster transmission of risk aversion shocks, sharper exchange rate movements and, consequently, larger balance sheet movements. All this leads to a stronger "risk-taking channel" of monetary policy (Borio and Zhu (2012)). Evidence presented by Kohlscheen and Rungcharoenkitkul (2015) indicates that credit flows to EMEs are significantly affected by global risk aversion such as the VIX index of US stock market volatility and the exchange rate. And the real effects of these variables have increased because of a stronger response of investment to credit flows.

That said, challenges vary across countries, depending on the structure of the financial system and the regulatory regime. For instance, in Malaysia, despite higher foreign ownership of domestic debt markets, the pass-through of the policy rate has increased because of improved loan pricing, a higher share of floating rate loans in total loans and a limited amount of external corporate debt (see the paper from Malaysia). In Korea, recent changes in financial intermediation did not affect the transmission of the policy rate partly because regulations limiting the loan-to-deposit ratio and the loan risk premium have reduced the potential divergence of bank lending rates from the policy rate. The paper from the Philippines makes the general point that the pass-through of the policy rate to lending rates tends to be greater when the domestic policy rate moves with rather than diverges from global interest rates.

The paper from Chile discusses the policy challenges resulting from global influences on long-term interest rates. Their analysis illustrates the importance of US term premia in generating correlated yield movements, and the potential for destabilising dynamics resulting from the growing presence of volatile investors such as hedge funds and opaque investment funds in EME debt markets. Likewise, the paper from Turkey argues that lower US long-term rates and cheaper global liquidity not only increase bond market volatility but also encourage banks to reduce investment in securities and expand bank lending.

The paper from Israel discusses a generic issue where the external finance premium charged by banks depends on the degree of competition from debt markets. On the one hand, the introduction of more players in credit markets can reduce the oligopolistic nature of the banking system, leading to a lower spread between the deposit and the lending rates, and stronger transmission of monetary policy. On the other hand, a greater importance of capital markets in financial intermediation may accentuate information asymmetry problems between borrowers and lenders, leading to higher risk premia and a weaker monetary transmission mechanism.

In terms of policy responses, some participants argued that monetary authorities in EMEs could play a market-making role in times of adverse external shocks, assuring investors that there would be liquidity in the market. Others stressed that keeping one's own house in order – containing macroeconomic and external imbalances – is a necessary (if not sufficient) condition for preventing financial stress from materialising in the first place.

Macroprudential policy was seen as critical, especially in countries with heavily managed exchange rate regimes, even though evidence of its effectiveness to date is still rather limited. Many viewed strong supervision as an important pre-condition for the success of micro- and macroprudential tools. Hungary's experience, which is discussed in this volume, shows the usefulness of liability-based macroprudential measures (minimum stable foreign currency liability to foreign currency asset ratio in the banking system) in economies with a high degree of euroisation (or dollarisation). When the non-bank sector outside the supervisory umbrella is a source of systemic risks, the next best response would be to limit funding from the regulated entities to such sectors.

There was a general view that global policy coordination is essential for containing market volatility. Most participants agreed that competitive devaluations – what is inherently a non-cooperative game – damage global growth outlook. Even

where coordination of policy decisions is judged not to be feasible, many saw scope for coordinating the communication of policy actions.

References

Adrian, T and H S Shin (2010): "Liquidity and leverage", *Journal of Financial Intermediation,* vol 9, no 3.

Bank for International Settlements (2015): "EME vulnerabilities take centre stage", *BIS Quarterly Review*, September.

Borio, C and H Zhu (2012): "Capital regulation, risk-taking and monetary policy: a missing link in the transmission mechanism?", *Journal of Financial Stability,* vol 8, no 4.

Bruno, V and H S Shin (2015): "Global dollar credit and carry trades: a firm-level analysis", *BIS Working Papers*, no 510, August.

Ehlers, T and A Villar (2015): "The role of banks", *BIS Papers*, no 83, November.

Hattori, M and E Takáts (2015): "The role of debt securities markets", *BIS Papers*, no 83, November.

Kohlscheen, E and P Rungcharoenkitkul (2015): "Changing financial intermediation: implications for monetary policy transmission", *BIS Papers*, no 83, November.

Shek, J, I Shim and H S Shin (2015): "Investor redemptions and fund managers' sales of emerging market bonds", *BIS Working Papers*, no 509, August.

Shin, H S and P Turner (2015): "What does the new face of international financial intermediation mean for emerging markets?," Bank of France, *Financial Stability Review*, pp 25–30.

Sobrun, J and P Turner (2015): "Bond markets and monetary policy dilemmas for the emerging markets", *BIS Working Papers*, no 508, August.