

JOURNAL

THE CAPCO INSTITUTE JOURNAL OF FINANCIAL TRANSFORMATION 04.2017 N°45

Banking

What do New Forms of Finance
Mean for Emerging Markets?

M. S. Mohanty

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Transformation

FinTech/RegTech

- 8 **Opinion: Open APIs and Open Banking: Assessing the Impact on the European Payments Industry and Seizing the Opportunities**
Thomas Egner
- 14 **Algorithmic Regulation: Automating Financial Compliance Monitoring and Regulation Using AI and Blockchain**
Philip Treleven, Bogdan Batrinca
- 22 **RegTech is the New Black – The Growth of RegTech Demand and Investment**
Kari S. Larsen, Shariq Gilani
- 30 **From “Blockchain Hype” to a Real Business Case for Financial Markets**
Massimo Morini
- 41 **Trade Finance Disrupted: A Blockchain Use Case**
André Brunner, Nourdine Abderrahmane, Arjun Muralidharan, Patrick Halfpap, Oliver Süme, Stephan Zimprich
- 49 **Towards a Standards-Based Technology Architecture for RegTech**
Tom Butler
- 60 **Machine Learning: A Revolution in Risk Management and Compliance?**
Bart van Liebergen
- 68 **Data-centered Dependencies and Opportunities for Robotics Process Automation in Banking**
Sandeep Vishnu, Vipul Agochiya, Ranjit Palkar

Investments

- 78 **John Bull Can’t Stand Two Percent: QE’s Depressing Implications for Investment**
Jason M. Thomas
- 90 **Do Credit Rating Agencies Inflate Their Ratings? A Review**
Kee-Hong Bae, Hamdi Driss, Gordon S. Roberts

- 101 **The Power of “Negative Beta”: Why Every Portfolio Should Include Private Equity**
Andrew Freeman, Iordanis Karagiannidis, D. Sykes Wilford
- 111 **Downside Risk Protection of Retirement Assets: A New Approach**
Atanu Saha, Alex Rinaudo
- 121 **The Asset Management Industry, Systemic Risk, and Macroprudential Policy**
Claude Lopez
- 129 **The Role of Asset Owners in the Market for Investment Research: Where Are the Fiduciary Capitalists?**
Alistair Haig, Neil Scarth
- 136 **Risk, Data, and the Barcodes of Finance**
Allan D. Grody

Banking

- 159 **Opinion: Risk Culture: Risk Prevention Starts With the Individual**
Ulrich Hunziker
- 164 **The Troubled Future of Global Banking**
Brad Hintz, Roy C. Smith
- 177 **Policy Response Asymmetry and the Increasing Risks From Rising Government Debt Level**
Blu Putnam, Erik Norland
- 187 **Public Disclosure and Risk-adjusted Performance at Bank Holding Companies**
Beverly Hirtle
- 207 **What do New Forms of Finance Mean for Emerging Markets?**
M. S. Mohanty

What do New Forms of Finance Mean for Emerging Markets?

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Abstract

The size and the nature of financial intermediation matters not only from the perspective of the risk exposure of financial institutions but also in terms of the cost of credit and the effectiveness with which monetary policy is transmitted to the economy. This paper looks at how the forms of finance have changed in major emerging market economies (EMEs) in recent years and what this means for monetary and financial stability in these economies. It argues that the 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 in EMEs, diversifying funding sources, and reducing credit risk concentration. On the other hand, it has contributed to increasing risks and vulnerabilities – as many recent

financial market turbulences illustrated. These developments pose challenges to EM monetary authorities in containing monetary and financial stability risks as well as designing appropriate response.

¹ I am thankful to Claudio Borio, Torsten Ehlers, Masazumi Hattori, Emanuel Kohlscheen, Phurichai Rungcharoenkitkul, Hyun Song Shin, Elod Takáts, Philip Turner, and Agustín Villar for comments and Agne Subelyte for statistical assistance. The paper is based on “What do new forms of financial mean for EM central banks? An Overview,” published in the BIS Papers no 83. It draws heavily on the proceedings, survey information, and the papers prepared for a meeting of senior central bank officials at the Bank for International Settlements in 2015. The views expressed in this paper are those of the author and do not necessarily reflect the views of the BIS or the central banks represented at the meeting.

INTRODUCTION

The 2008 Global Financial Crisis (GFC) has focused attention of academics and policymakers alike on the optimal model of financial intermediation for an economy. There is no consensus on this issue. Models of financial intermediation are likely to vary across countries and regions, depending, among other things, on their economic history and stages of financial development. That said, the crisis challenged the traditional views about the merits of financial intermediation models where either banks or markets play a dominant role. Instead, it highlighted the key role played by financial intermediaries and their funding models in the causation and the propagation of financial collapses. The size and the nature of financial intermediation matter not only for the risk exposure of financial institutions but also the cost of credit and the effectiveness with which monetary policy is transmitted to the economy.

This paper looks at how the forms of finance have changed in major emerging market economies (EMEs) in recent years and what this means for monetary and financial stability in these economies. One important trend emerging over the past decade is that while the share of credit intermediated by the EME banking systems has fallen, banks have been allocating a larger fraction of that credit to households, often increasing their non-core liabilities to finance such lending. On the other hand, the non-financial corporations – the traditional clients of banks – have increasingly moved to the offshore bond markets. At the same time, there have been major changes to EMEs' local currency bond markets, which have become not only deeper but increasingly internationalized because of greater openness and rising foreign participation.

The 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 in EMEs, diversifying funding sources and reducing credit risk concentration. On the other hand, it has contributed to increasing risks and vulnerabilities – as many recent financial market turbulences illustrated [BIS (2015, 2016)]. 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 EM monetary authorities in containing monetary and financial stability risks, raising questions about the appropriate instruments required to stabilize the economy [Sobrun and Turner (2015)].

THE ROLE OF BANKS AND BOND MARKETS

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 2008 crisis was a major turning point in many countries. To capture this shift, Table 1 provides broad patterns of financial intermediation in EMEs just before the recent financial crisis and five years following it, as well as in the mid-2000s [see Ehlers and Villar (2015) for more details].

Recent rapid credit growth in EMEs

As the first three panels of Table 1 show, over the 2004–13 period as a whole, total credit extended to the non-financial private sector of EMEs by banks and bond markets taken together (through domestic and international channels) has risen markedly in many countries as a percentage of GDP. This trend started in mid-2000 but picked up particularly sharply after the onset of the GFC. 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. This is particularly true in the case of Hong Kong SAR, with its linked exchange rate system and highly open capital accounts (as well as its role as an international financial center), but also in China, even with its relatively closed capital markets. It is not surprising, therefore, that total credit as a percentage of GDP has grown at a much faster rate in Asian economies than that in other EME regions.

The last three panels of the Table 1 show how much of this credit is intermediated by the banking system. It is clear that banks continue to be the main source of credit in EMEs. However, there are significant changes to financial intermediation in many countries. For instance, over the past decade, the share of credit intermediated by banks has fallen significantly in China, Chile, Hong Kong SAR, Hungary, India, and Korea. Again, this trend is most visible in emerging Asia but less so prominent in other regions.

In what appears to be a general trend across EMEs, 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 non-financial corporations. This is in sharp contrast to the experience in the 1980s and 1990s when EME banks

	Total credit to non-financial private sector (as a share of nominal GDP) ¹			Bank credit to non-financial private sector (as a share of total credit to non-financial private sector)		
	2004	2007	2013	2004	2007	2013
Emerging Asia²	97	98	130	91	89	86
China	124	118	181	96	91	75
Hong Kong SAR	164	183	261	90	83	81
India	38	50	59	96	93	92
Indonesia	29	28	41	87	93	89
Korea	139	160	185	74	76	67
Malaysia	131	114	135	96	96	100
Philippines ³	41	34	41			
Singapore	101	97	139	91	84	87
Thailand	109	97	127	97	98	97
Latin America²	34	40	55	64	71	73
Argentina	13	15	16	64	76	94
Brazil	34	45	76	88	93	93
Chile	85	94	123	71	71	63
Colombia ³	26	33	44			
Mexico	23	27	34	34	45	41
Peru ²	20	23	37			
Central and eastern Europe²	64	82	99	49	55	53
Czech Republic	69	78	98	39	52	55
Hungary	81	112	121	48	47	39
Poland	43	57	79	59	65	65
Other EMEs²	49	63	64	81	82	88

¹ BIS calculations of total credit to private non-financial sector.

² Regional aggregates are simple averages.

³ Total credit to the private sector estimate based on domestic bank credit to private sector (IMF, International Financial Statistics, line 22d), plus cross-border loans to the non-bank sector, less government exposure from BIS consolidated banking statistics, plus international debt securities issued by non-financial corporations.

Sources: IMF, International Financial Statistics; national data; BIS international banking statistics; BIS securities statistics.

Table 1 – Private sector credit and domestic bank lending in EMEs

followed what is called “one-way financial intermediation” in which they mobilized household deposits to lend to the private corporate sector or the government [Mohanty and Turner (2008)]. By 2000s, however, this picture had changed substantially. For instance, between 2004 and 2013, the share of credit going to households in total bank credit rose in the range of 10-20 percentage points in Argentina, Brazil, Czech Republic, India, Indonesia, Israel, Poland, Russia, Thailand, and Turkey.

In many of these countries, this share now stands at around 30-50%.

Another important aspect of recent changes in credit intermediation relates to the role of international bank lending in EMEs, which has been a major source of financial stress in many economies, as demonstrated clearly during the Asian financial crisis of 1997-98. In more recent period, however, international bank lending has declined significantly, 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 in Latin America, where it fell from 50% in 2005 to 30% in 2013, as well as in central and eastern Europe, where it went down from 100% in 2008 to 75% in 2013.

Several forces appear to be at work. In most EMEs, an important factor has been easy domestic monetary conditions, which 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 up to 2014. However, the factor that is most common across countries is exceptionally easy global financial conditions. One direct channel appears to work through bank deposits. Since most capital inflows ultimately end up on bank balance sheets, they tend to increase banks’ lending capacity. Second, in several countries banks also funded a significant part of their credit growth by directly accessing international debt markets where terms for borrowing were very easy. Finally, in some countries large capital inflows led banks to lower their lending standards, particularly under the threat of competition as their major corporate clients moved to offshore markets. In other words, banks responded to large non-financial firms’ global search for yield by easing their lending terms.

It is important to note that, despite strong credit growth, in several countries, banking system leverage declined over the past decade (left-hand panel of Figure 1). Interestingly, in many countries the decline in banks measured leverage coincided with an increase in the loan-to-deposit ratio – that is, banks expanded their other liabilities to fund the additional loans. As Adrian and Shin (2010) have shown, monetary policy works through changes in asset prices and the yield curve that affect banks’ profitability and lending behavior (the so-called “risk-taking” channel of monetary policy). To the extent that easy domestic and external financial conditions boost asset prices, they tend to increase the value of equity when bank portfolios are marked-to-market. Banks facing capital or

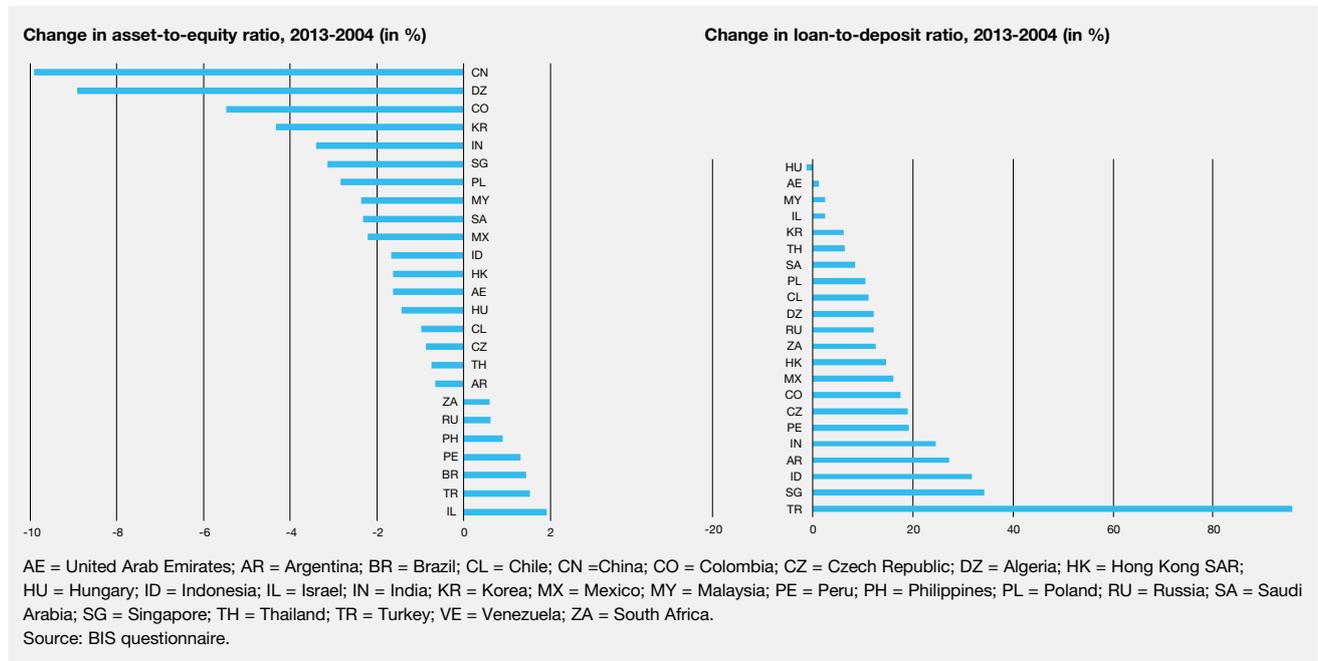


Figure 1 – Banking sector leverage and loan-to-deposit ratio

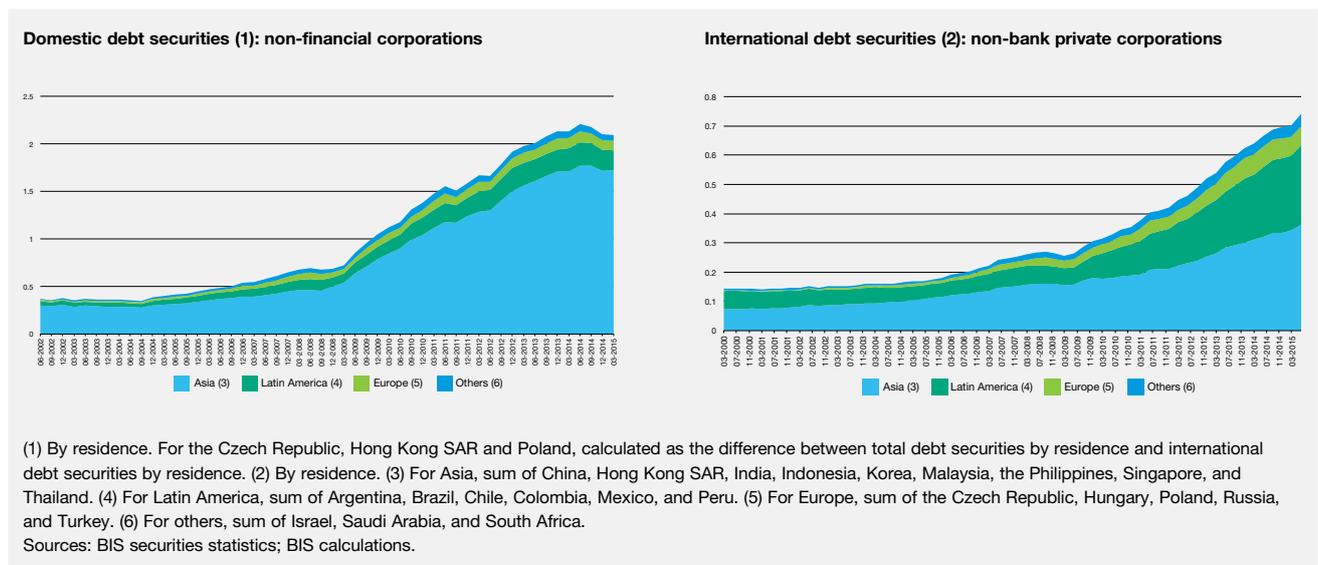


Figure 2 – Domestic and international debt securities (Amounts outstanding, in trillions of U.S.\$)

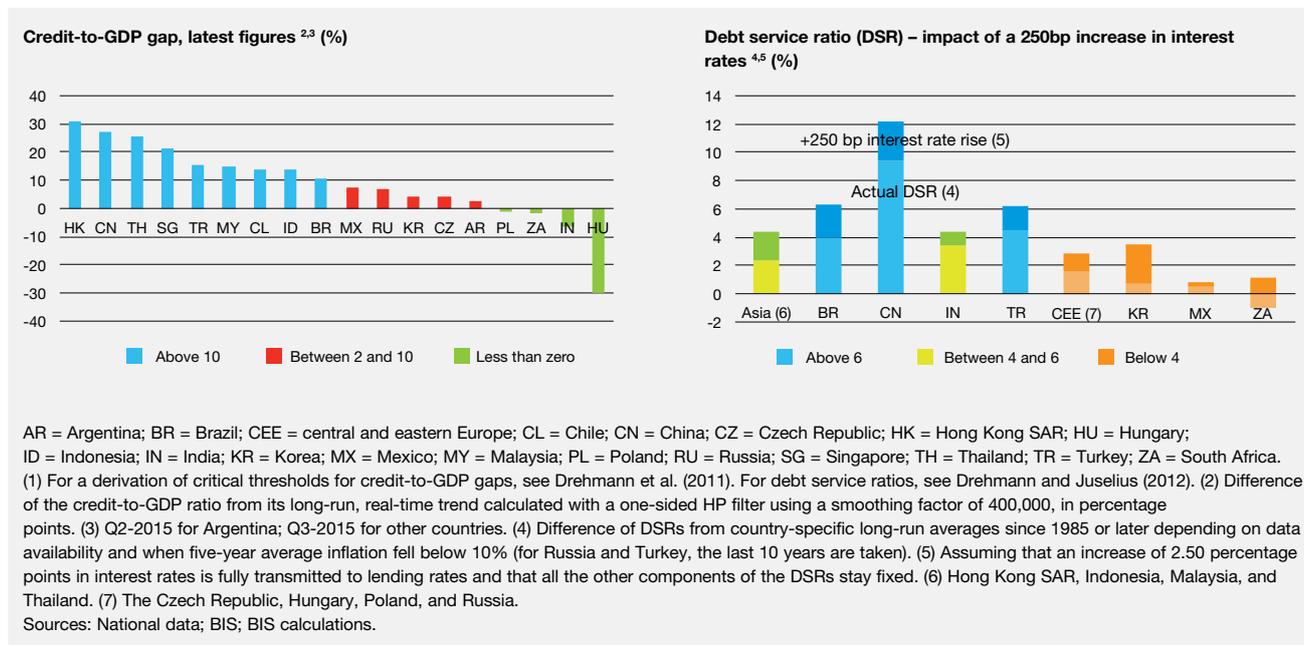


Figure 3 – Early warning indicators for domestic banking crises signal risk ahead¹

value-at-risk (VaR) constraints thus tend to lend more without having to raise additional capital. Asset price booms thus make bank credit highly procyclical even without a rise in the measured leverage ratio.

Rise in debt securities issuance

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 U.S.\$2.5 trillion in 2002 to U.S.\$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 has also risen significantly. Figure 2 provides a snap shot view of debt issuance by EME non-financial corporations in both domestic and international markets. As Figure 2 shows, not only has debt issuance by EME firms risen rapidly after the GFC but a large part of that issuance has moved to offshore markets. Asian and Latin American firms have been very active in issuing debt securities in the international debt markets.

Within this big picture, cross-country differences remain large. In many countries, domestic bond markets still largely consist of government debt securities. With a few exceptions (e.g., 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 preference for issuing debt in international markets may reflect a rational decision by EME corporations to access cheaper funds in deeper international capital markets than in more expensive and less liquid domestic markets.

It is well recognized that larger domestic bond markets offer many benefits to EMEs, not least by fostering financial development. Bond markets help to diversify the sources of funding, avoid credit risk concentration in the banking sector, and enhance opportunities for long-term investment. Moreover, debt issuance by EME borrowers in their own currencies reduces currency mismatches. In many countries, therefore, the recent increase in debt issuance is a direct consequence of EME authorities' concerted efforts to develop local currency bond markets and limit banks' exposure to duration mismatches.

IMPLICATIONS FOR FINANCIAL STABILITY

What do the recent changes in financial intermediation imply for financial stability in EMEs? 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, there is increasing concerns that the recent credit growth in EMEs may prove more cyclical than structural. One measure of this vulnerability is the extent to which credit-to-GDP ratio has deviated from its long term trend. Borio and Low (2002) have shown that the credit gap measures are a fairly reliable indicator of financial vulnerability with a lead time of about two years.

That said, accurately estimating the long term value of the credit-to-GDP ratio remains a difficult task in EMEs because of their rapid structural changes. Hence, estimates of credit gaps tend to be less precise for EMEs than those for the mature economies. Keeping this caveat in mind, estimates of credit gaps suggests that bank credit-to-GDP ratio has been generally above its long term trend in many EMEs (left hand panel of Figure 3). For instance, by the end of 2015, the estimated credit gap had widened to over 10 percentage points in several countries – a threshold at which regulators, under the Basel III framework, would ask the banks to hold counter-cyclical capital buffers at the maximum level.

Risks to the banking system

A key question is how these developments affect risks in the EME banking system. There are two sources of risks: one coming from bank borrowers and the other stemming from banks' own balance sheets. Historically, the quality of bank loans and the potential default rates are closely correlated with the debt servicing costs of bank borrowers. For instance, Drehmann and Juselius (2014) show that debt service ratios tend to peak just before strains materialize in the banking system, and, more often than not, rising interest rates prove to be the turning points. The right hand panel of Figure 3 reports Ehlers and Villar's (2015) estimates of the impact of a cumulative 250 points increase in the interest rate that could be triggered by a possible normalization of U.S. monetary policy on debt servicing burdens in a sample of EMEs. The figure shows that, in a number of economies, such an interest rate shock would push debt servicing costs to high levels, exceeding the long-term 6% ratio at which financial stability concerns become important. In many EMEs, therefore, recent rapid growth of credit has prompted authorities to tighten macro-prudential controls as a preventive measure to contain risks.

The exposure of banks to foreign exchange risk through their customer account could also be sizeable. 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. 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.

As regards banks' own balance sheets, the direct exposure of banks to interest rate risks is probably limited, as banks manage these risks as part of their routine business. However, bank borrowing from the debt and wholesale deposit markets can still lead to potential funding problems. Aggregate loan-to-deposit ratios in some regions (in Asia and Latin America, in particular) have increased from previously moderate values, even though they are generally below one. In particular, as banks funded a greater part of their incremental lending by mobilizing corporate deposits, they could be vulnerable to tighter external funding conditions, triggering an outflow of deposits from the banking system.

Shin (2013) shows that when banks' assets are growing at a faster rate than their core deposits (such as retail deposits), they tend to increase their non-core liabilities to finance the additional lending growth. In other words, banks shift their funding to more volatile wholesale markets (such as corporate deposits) and international debt markets. Borio et al. (2011) have shown that, historically, EME credit cycles have been synchronized with cross-border credit cycles. In typical boom periods, cross-border credit tends to grow faster than overall credit, with banks accessing wholesale dollar funding markets to finance new asset growth. The process reverses itself, as higher U.S. interest rates cause large-scale unwinding of dollar borrowings and a widespread slowdown of credit in EMEs.

The funding pattern of banks in EMEs have undergone changes. For instance, in Asia, the average share of retail deposits in total assets fell from 37% in 2004 to 31% in 2013. Some countries (e.g., the Philippines and Thailand) have witnessed more rapid declines. In Latin America, the average ratio was generally much smaller (23% in 2004) and fell further (20%).

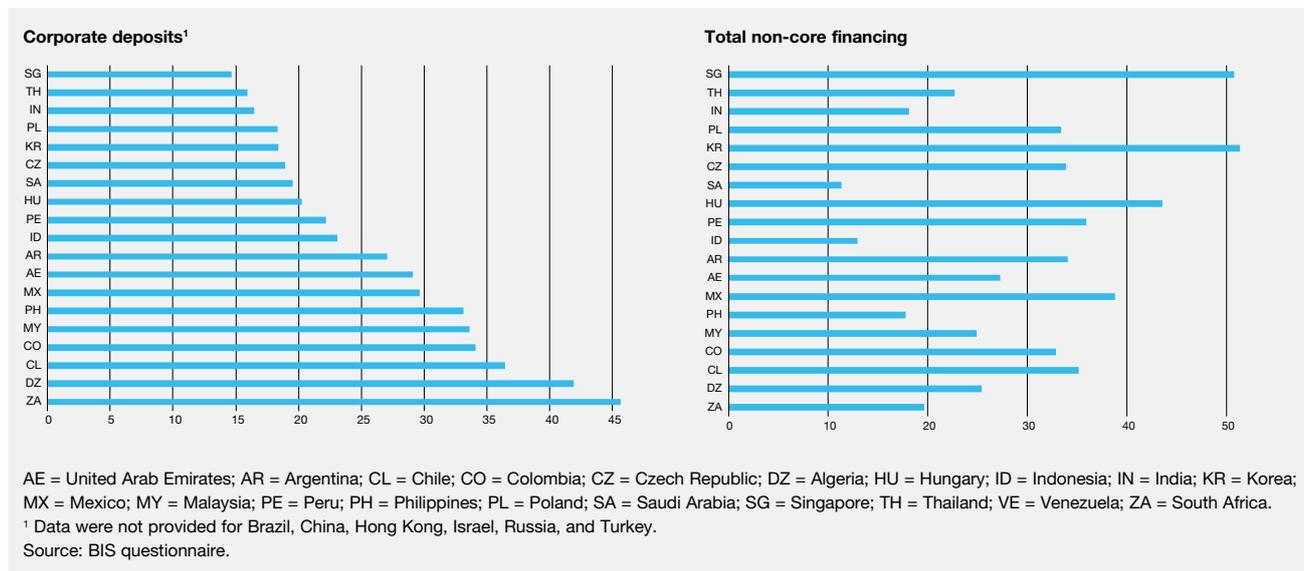


Figure 4 – Sources of funding of banks (end-2013, as a percentage of total assets)

Banks financed a large part of their asset growth by tapping into corporate deposits and increasing debt and other non-equity financing. As the left panel of Figure 4 shows, in a number of countries the share of assets funded by corporate deposits stood at more than 30% in 2013. The median contribution of corporate deposits to total debt liability growth across EMEs as a whole increased from 24% in 2004-2009 (just before the introduction of unconventional monetary policy by advanced economy central banks) to 31% during 2009-13. As the right hand panel of the figure shows, funding of asset growth through non-core liabilities has also been quite strong in EMEs, in some cases exceeding 40% or so.

That said, one notable aspect of EME banking systems has been its increased resilience to external shocks due to the shift by international banks to a subsidiaries-based business model. Because these subsidiaries may tap local deposits for asset growth, they can help reduce currency mismatches in the banking system. If these 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 for the host country because their capital could be segregated from the parent bank. In the event of a crisis, however, host-country taxpayers would have to foot the bill – even for foreign banks – although the very anticipation of this risk can prompt the host country regulator to ring-fence assets of subsidiaries. Cross-border banking within a region

(regionalization) heightens the exposure to regional macroeconomic risks. Cooperation between home and host supervisors will be, therefore, essential in any attempt to reduce risks and limit the potentially damaging implications of regulatory arbitrage.

Vulnerability from bond financing

Despite obvious benefits, increased international debt issuance by corporates also creates risks. To the extent that cyclical factors dominate, EME borrowers are exposed to a reversal of easy global financing conditions. Such an eventuality increases the risk that dollar bond issuance may dry up in future; at the same time, the corporate sector would become vulnerable to higher debt repayment and refinancing risks. The interaction between dollar liabilities and large currency depreciation can contribute to magnifying these risks. The January and February 2016 currency market turmoil illustrated this risk quite well, as international bond markets virtually shut down for many EMEs [BIS (2016)].

Figure 5 shows several key parameters of corporate finance and their relationship with debt issuance. For EME corporates as a whole, the stock of debt has continued to rise since 2008. With stagnant earnings before interest and taxes (EBIT), this has meant a steady increase in leverage (upper lefthand panel). Naturally, firms that have issued debt have witnessed a more rapid rise in leverage than those did not (upper

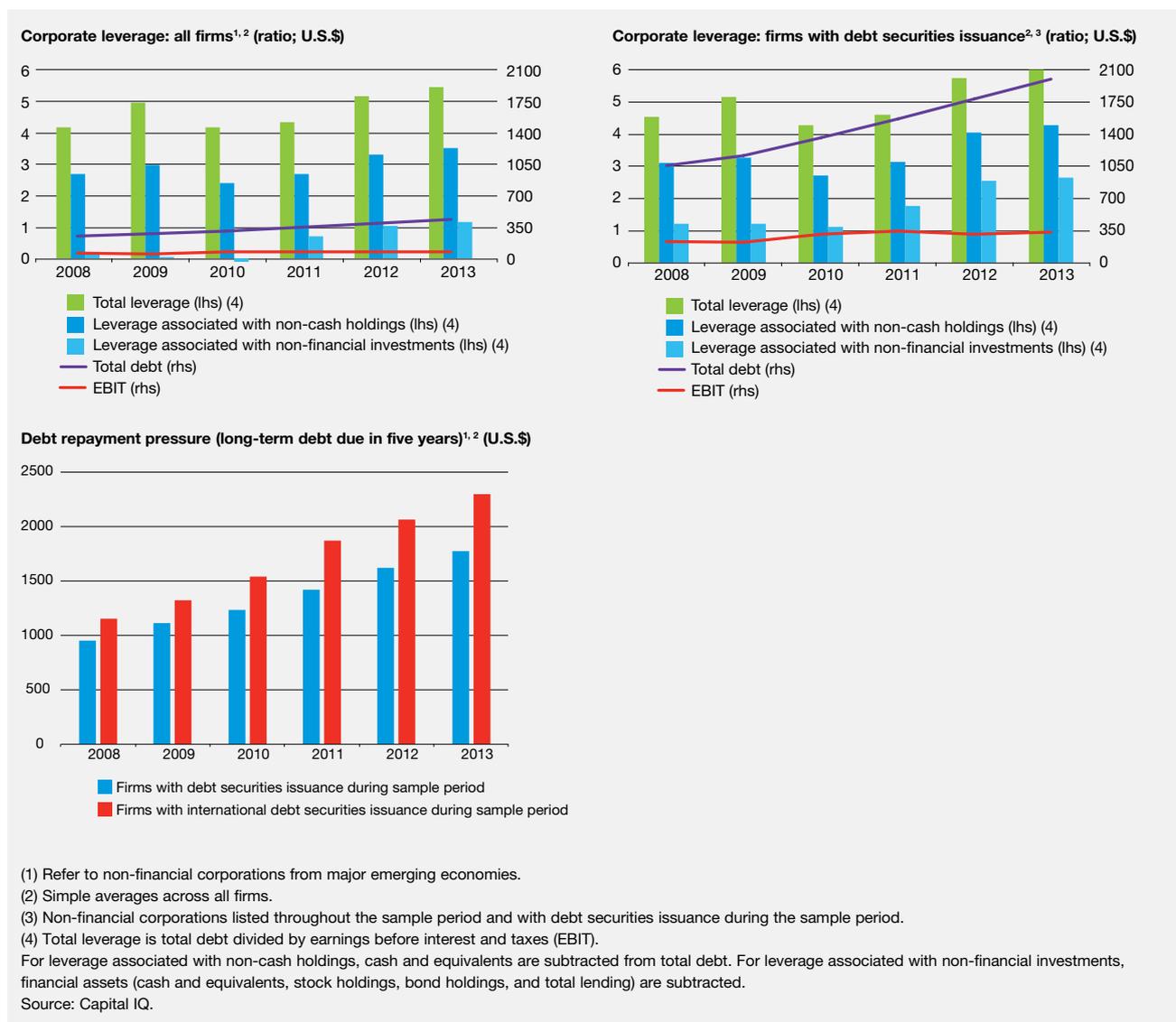


Figure 5 – Corporate leverage and repayment pressure

right-hand panel). However, firms issuing debt have also made larger non-financial investment, implying that they have used these additional resources to build tangible capital stocks.

Risks from higher debt arise from several sources. One is the risk of overinvestment that could lower the rate of return on investment and therefore profitability. 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 [Hattori and Takáts (2015) and Chui et al. (2016)].

Second, higher debt repayment burden could reduce future investment prospects and expose highly leveraged firms to potential funding and debt rollover risks (lower left-hand panel of Figure 5). A few oil-exporting countries have been under severe stress because of the recent collapse of oil prices. Given that many oil firms have accumulated substantial dollar debt, they have become vulnerable to large currency depreciations.

Finally, stresses in corporate balance sheets could spread to the banking system. These systemic connections are especially important in countries where banks have obtained a

large part of their funding requirements from corporate deposits, exposing them to withdrawal pressures. 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 potential source of risk to EMEs relates to the changing investor base in their debt markets. While institutional investors and large asset management companies (AMCs) have a major role to play in deepening EM financial markets, their behavior could also become a source of problem. Hattori and Takáts (2015) discuss several channels through which the portfolio decisions of asset management companies could amplify market volatility. Return and duration mismatches in the portfolios of long-term institutional investors, such as pension funds, could be one source of risk. 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, AMCs are guided by several investment constraints, such as 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 currency 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 also 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 U.S. found that EME non-financial companies had used U.S. 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.

Yet, how far these risk could actually materialize and affect financial systems depends on specific country situations. For instance, 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. Similarly, prudential measures to limit debt build-up in the household sector and building capital buffers in the banking systems could help in containing systemic risks, particularly stemming from external sources.

IMPLICATIONS FOR MONETARY POLICY

Larger and deeper capital markets help to improve the effectiveness of monetary policy, notably by strengthening the transmission of central bank's policy rate to market interest rates. Greater competition from debt markets can also lead to narrower bank intermediation spreads if banks were using their monopoly power to protect high margins, which may affect the equilibrium (or neutral) policy interest rate required to stabilize the economy [Kohlscheen and Rungcharoenkitkul (2015)].

That said, policy challenges in financially open economies can be more complex. Greater global integration of domestic debt markets means that domestic long-term interest rates move more closely with global interest rates than domestic policy rates, which can reduce 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)]. And, 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 U.S. 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.

This suggests that the structure of the financial system and the regulatory regime are likely to play a major role in determining the impact of financial intermediation models on monetary policy. For instance, in Malaysia, despite higher foreign ownership of domestic debt markets, the pass-through of the policy rate has increased partly because the share of floating rate loans in total loans has risen [Bank Negara Malaysia (2015)]. In Korea,

recent changes in financial intermediation did not affect the transmission of the policy rate because regulations limiting loan-to-deposit ratio and the loan risk premium reduced the potential divergence between bank lending rates and the policy rate [Jinho (2015)].

How should monetary authorities respond to these changes in financial intermediation? One view is that in times of adverse market conditions, monetary authorities should act as the market-makers-of-last-resort, underpinning liquidity and investor confidence. This would help to reduce the probability of a sharp unwarranted increase in bond yields and tighter monetary conditions. Others have stressed that keeping one's own house in order – e.g., containing macroeconomic and external imbalances – is a necessary (if not sufficient) condition for preventing financial stress from materializing in the first place.

The recent policy focus has generally been to activate measures that help to prevent build-up of imbalances. In this context, macro-prudential policy tools (e.g., loan-to-value ratios in the property sector, limits on currency mismatches, closer monitoring of derivative positions of financial institutions, and minimum holding period for non-resident debt investment) have been seen as a critical component of policy response in many countries. Strong supervision of the banking system is generally seen as an important precondition for the success of micro- and macro-prudential tools. 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.

The recent debate is converging to the view that global policy coordination is essential for containing market volatility, particularly during periods of exceptionally low interest rates and large-scale intervention in the foreign exchange markets. 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, there is a scope for coordinating the communication of policy actions.

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Layout, production and coordination:

Cypres – Daniel Brandt, Kris Van de Vijver and Pieter Vereertbrugghen

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De Kleetlaan 6, B-1831 Machelen

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