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Emerging markets' reliance on foreign bank credit[1]

This article examines the importance of foreign banks in the provision of credit to emerging market borrowers. It documents this along two dimensions: the share of total credit provided and the concentration of claims from different foreign banking systems. The share of credit from foreign banks in total credit to emerging market economies has fallen since the Great Financial Crisis, but still stands at 15–20% on average, with the remainder provided by domestic banks or non-bank creditors. On the other hand, concentration in the market share of foreign creditor banking systems has risen. The official sector tends to be less reliant on foreign banks for credit, but more concentrated in its foreign banking system creditors than the private sector.

JEL classification: F34, G21.

Internationally active foreign banks are important providers of credit for borrowers in emerging market economies (EMEs). They straddle national borders with their operations and thus may provide a conduit for the transmission of financial conditions to (and from) EMEs (Cetorelli and Goldberg (2011, 2012), Ongena et al (2015), Schnabl (2012)). While foreign banks can provide needed credit to EME borrowers and help boost financial capacity, excessive reliance on them can make EMEs vulnerable to foreign developments, with negative events leading to a contraction in credit and positive events fuelling a domestic credit boom that could potentially result in financial stress as it turns to bust (Avdjiev, Binder and Sousa (2017), Borio et al (2011)).

This article examines the importance of foreign banks in EMEs, explores how the volume and landscape of foreign bank lending have changed over time, and highlights differences by type of claims and borrower sector. It introduces a new measure of foreign bank reliance which captures how much of an EME's total credit is obtained from foreign banks. The first section discusses and documents this measure. Foreign bank reliance has been declining since the Great Financial Crisis (GFC), in favour of credit from domestic banks and non-banks, but with significant differences across countries and sectors. The second section documents the recent evolution of concentration in market share among foreign creditor banking systems in lending to specific EMEs. Concentration is high, especially for local currency lending, and has been increasing since the crisis. The last section explores the correlation of foreign bank concentration with foreign bank reliance. On average, the

Key takeaways

- Emerging market borrowers' reliance on foreign bank credit has been decreasing since the Great Financial Crisis (GFC). The decline was driven by stagnation in foreign bank credit and expansion of credit from domestic banks and non-bank creditors.

- Emerging market borrowers obtain 15–20% of their credit from foreign banks on average, as of the second quarter of 2018, with a little over half of that in the form of local lending in local currency.

- Concentration amongst foreign creditor banking systems is high in emerging market economies. The share of foreign bank credit from a country's top three creditor banking systems has been increasing since the GFC and was over 75% as of Q2 2018.

- There are substantial differences across emerging market economies and sectors in terms of both foreign bank reliance and concentration of foreign creditor banking systems.

reliance on foreign banks moves opposite from the concentration among foreign creditor banking systems over time.

Reliance on foreign bank credit

Credit to non-financial borrowers in EMEs[2] has increased rapidly over the past decade from both bank and non-bank sources. Banks are the main source of credit to the private non-financial sector (77% of the total in the second quarter of 2018; Graph 1, left-hand panel). Credit from non-banks has been expanding, their claims growing at an average annual rate of 4.5% over the past decade.[3] Credit from BIS reporting foreign banks[4] rose in the lead-up to the GFC, but has increased little since.

Credit to EME governments, on the other hand, is largely provided by non-bank creditors (Graph 1, right-hand panel). Credit to governments is typically in the form of debt securities, which may influence the composition of creditors. Banks provide about one third of the credit, largely from domestic banks.

Foreign bank reliance (FBR) in EMEs has varied across countries, sectors and time. FBR denotes the fraction of total credit to non-financial borrowers in a country (or a sector within a country, such as non-financial corporations) that is accounted for by the consolidated claims of foreign banks (box).[5] This measure also includes bond

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[2] EMEs in this article are a subset of countries designated as EMEs in the BIS statistics, selected based on data availability in the total credit series and consolidated banking statistics: Argentina, Brazil, Chile, China, Colombia, Hungary, India, Indonesia, Israel, Malaysia, Mexico, Poland, Russia, South Africa, South Korea, Thailand and Turkey.

[3] For these countries, credit in the form of international debt securities has grown at an average annual rate of 11% over the past decade. See also McCauley et al (2015) and Avdjiev, Gambacorta, Goldberg and Schiaffi (2017) for evidence and discussion on the growing importance of bonds for foreign currency credit to EMEs.

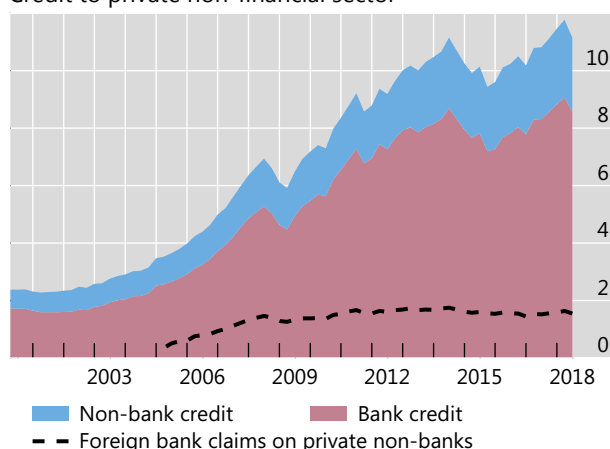[4] Foreign banks are those whose headquarters are located outside the counterparty's country of residence.

[5] Foreign banks in this measure are only those with headquarters in BIS reporting countries. While this probably includes the bulk of foreign claims, some important lenders (eg China) are excluded.
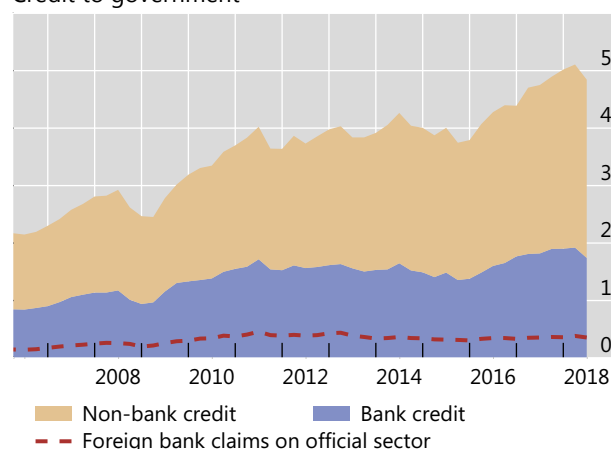
Credit to EMEs has surged

Total credit to EME non-financial borrowers (excluding China), in trillions of US dollars   Graph 1

Credit to private non-financial sector[1,2]

Credit to government[2,3]

Non-bank credit · Bank credit
- - Foreign bank claims on private non-banks

Non-bank credit · Bank credit
- - Foreign bank claims on official sector

[1] AR, BR, CL, CO, HU, ID, IL, IN, KR, MX, MY, PL, RU, TH, TR and ZA. Foreign bank claims (on an ultimate risk basis) are reported beginning in Q4 2004.   [2] Foreign banks are BIS reporting banks headquartered outside the country of residence of the counterparty.   [3] AR, BR, IN, KR, RU, TH and TR. Sample limited to EMEs with data on credit to government from banks. Official sector includes government and central banks.

Sources: BIS consolidated banking statistics (ultimate risk basis); BIS statistics on total credit to the private non-financial and government sectors.

financing and borrowing from non-bank creditors, which has increased and become a substantial source of credit for many EMEs.

The foreign banks do not behave uniformly, with some operating more like domestic banks by setting up locally funded subsidiaries. Thus, a key distinction in the data is that between international claims (IC), ie cross-border claims and local claims in foreign currency, and local claims in local currency (LCLC). While the numerator of the FBR measure sums these two components, they often behave differently: LCLC are usually funded locally and so may be more insulated from foreign developments. Local lending and locally funded banks have been shown to be more stable in the face of external funding shocks (Avdjiev and Wooldridge (2018), Ehlers and McGuire (2017), McCauley et al (2017), Ongena et al (2015), Schnabl (2012)).

Reliance on foreign banks has decreased since the crisis

Across different measures, FBR increased leading up to the GFC, but has been steadily decreasing since (Graph 2, left-hand panel). On average, EME borrowers in the sample received over a quarter of their total credit from foreign banks prior to the GFC (including domestic bank borrowers). Most of that credit went directly to non-bank borrowers rather than indirectly via the local banking system.[6] Within this category,

[6]   As the denominator is total credit to the non-financial sector, including all sectors in the numerator (ie including banks and non-bank financials) carries the implicit assumption that credit to the domestic financial sector is passed through to domestic non-financial borrowers. Thus, the three lines provide a range of possible FBR values. See the box for a discussion.

Measuring reliance on foreign bank credit

Foreign banks (ie those with headquarters outside the borrower's country of residence) have been prominent players in EMEs. Nevertheless, lack of comparable, complete data makes it difficult to measure how important a role they may play. This box discusses how the BIS banking and total credit data can be used to construct measures of foreign bank reliance, and what these measures capture.

Foreign bank participation rates

A first pass at a measure of foreign bank reliance, the foreign bank participation (FBP) rate, looks at the share of total credit from bank creditors provided by foreign banks (Ehlers and McGuire (2017), McGuire and Tarashev (2005)):

$$FBP = \frac{IC^{NB} + \alpha * LCLC}{XB^{NB} + DC}$$

XB^{NB} is cross-border bank credit to non-bank borrowers (from the BIS locational banking statistics). *DC* is domestic bank credit to non-bank borrowers (from the IMF *International Financial Statistics*).① Thus, the denominator captures all credit provided by bank creditors, extended either locally or cross-border. The numerator is total foreign bank credit provided to non-banks in the economy (derived from the BIS consolidated banking statistics (CBS)), which comprises cross-border lending by foreign banks and local lending by the local affiliates of foreign banks. *IC* indicates international claims, which comprise cross-border credit and local credit extended in foreign currencies. *LCLC* is local credit extended in the local currency. The *IC* data are broken down by borrowing sector, allowing one to focus on, for instance, the non-bank sector, but *LCLC* does not include this sectoral counterparty breakdown in the time series. That breakdown is estimated by multiplying *LCLC* by α, the share of credit to non-banks in *IC* (Ehlers and McGuire (2017)).

Foreign bank reliance

The *FBP* measure misses the important increase in bond financing and financing by non-bank creditors to emerging market borrowers in recent years (Aldasoro and Ehlers (2018), Avdjiev, Gambacorta, Goldberg and Schiaffi (2017)). Thus, a more comprehensive measure of credit in the denominator can more accurately capture the role of foreign banks in total credit provision. In 2013, the BIS began publishing series on total credit to the non-financial sector for individual countries (data extending to before 2013). These series capture credit extended in the form of currency and deposits, loans and debt securities from all lenders over a long time horizon (Dembiermont et al (2013), Dembiermont et al (2015)). These series allow us to estimate foreign bank reliance (*FBR*) as:

$$FBR^s = \frac{IC^s + \alpha^s * LCLC}{Total\ Credit^s}$$

The *s* superscript indicates the borrowing sector, as both the CBS and total credit data permit decompositions by the borrowing sector (eg private non-financial sector or official sector). To estimate the sector split of *LCLC*, the ultimate risk (UR) data from the CBS are used, which break down total claims (*IC* + *LCLC*) by the borrowing sector. This may provide a more accurate estimate than applying the shares from *IC*, especially if *LCLC* is large relative to *IC*.②

The inclusion of non-bank credit in the denominator makes a large difference for many EMEs (Graph A, left-hand and centre panels), but some still rely very little on bonds and other non-bank credit (Graph A, right-hand panel).
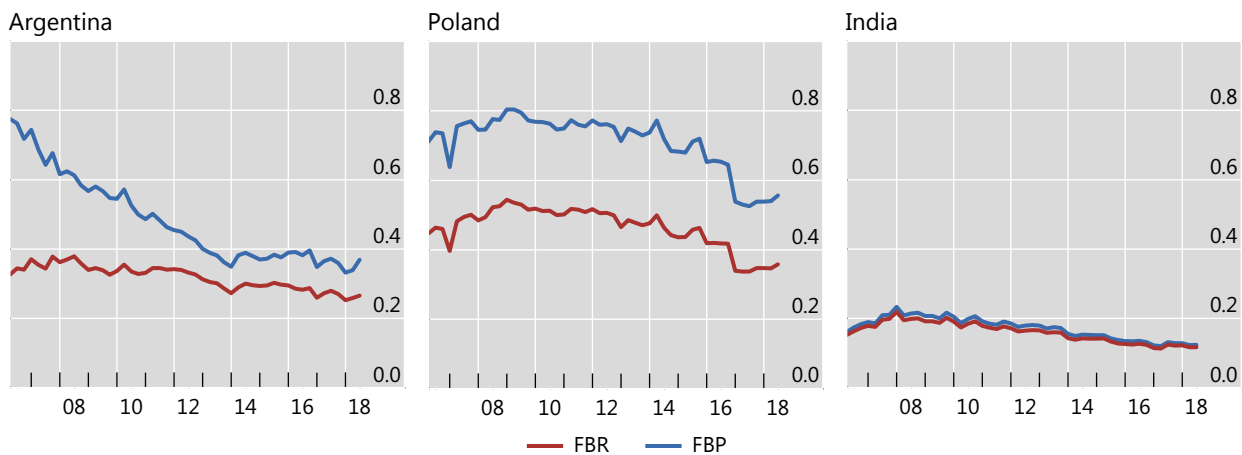
Role of the domestic financial sector

Foreign banks can provide credit *directly* to EME borrowers, either cross-border or via a local affiliate, or they can do so *indirectly* by lending to local banks or non-bank financials. Thus, examining credit from foreign banks directly to non-financial EME borrowers may underestimate the role of foreign banks in credit provision. However, including foreign bank claims on the domestic financial sector may also overstate the role of foreign banks if the financial sector in turn uses those funds to extend credit abroad. Alternative measures for the numerator shed light on the potential range of values for *FBR*: foreign bank claims on all sectors, foreign bank claims on the non-bank sector and foreign bank claims on the non-financial sector (Graph B). As it turns out, while including claims on banks in the numerator increases the *FBR* measure somewhat, non-bank financials do not contribute very much to the measure generally.

Impact of including non-bank credit in total credit

Foreign bank reliance (FBR) vs foreign bank participation (FBP) of the non-bank private sector (ratio)[1]   Graph A

Argentina

Poland

India

FBR   FBP

[1] FBR of the non-bank private sector is the estimated claims by BIS reporting foreign banks on private non-banks in the domestic economy, divided by total credit to the private non-financial sector. FBP of the non-bank private sector is the estimated claims by BIS reporting foreign banks on private non-banks in the domestic economy, divided by total bank credit to the private non-financial sector.
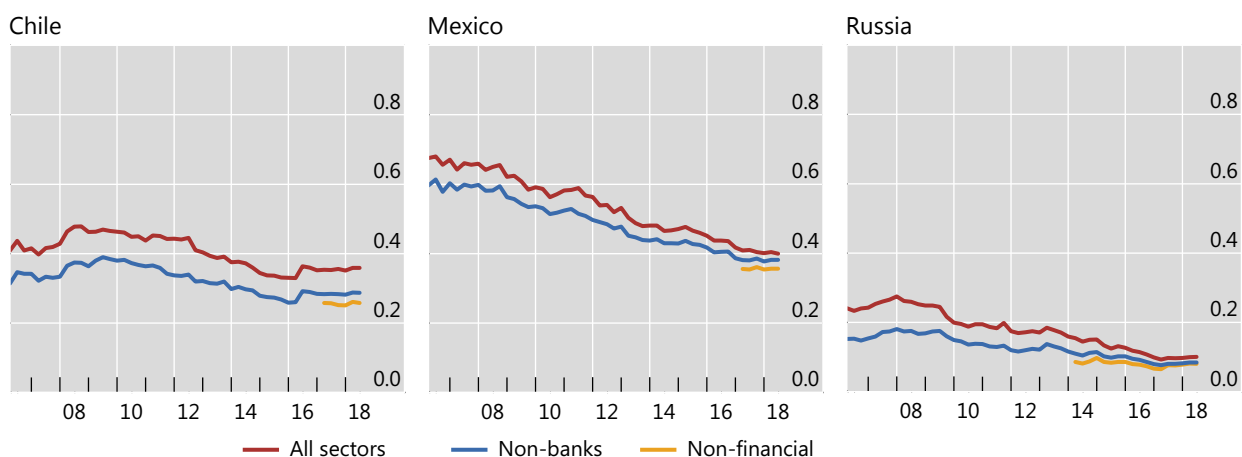
Sources: BIS consolidated banking statistics (immediate counterparty basis); BIS statistics on total credit to the private non-financial sector.

Besides the non-financial sector as a whole, it is useful to consider how reliant individual sectors of the economy (such as the private and official sectors) may be on foreign banks. Data to separate non-banks into financial and non-financial creditors are only available with recent enhancements to the BIS data. When disaggregating the borrower sector further, such as examining the private and official sectors, assumptions about the allocation of foreign bank credit lent indirectly through domestic banks become more tenuous. Thus, for those sectors it is safer to focus on a foreign bank reliance measure which is confined to direct credit provision.③

Foreign bank reliance measures for selected countries

FBR, by counterparty sector of foreign bank claims (ratio)[1]   Graph B

Chile

Mexico

Russia

All sectors   Non-banks   Non-financial

[1] FBR is the estimated claims by BIS reporting foreign banks on the listed borrowing sector of the domestic economy, divided by total credit to the non-financial sector.

Sources: BIS consolidated banking statistics (immediate counterparty basis); BIS statistics on total credit to the private non-financial sector.

non-financial borrowers, for which data are only available at the end of the sample, record a slightly lower FBR.[7]

After the GFC, average reliance on foreign bank credit steadily decreased from 28% of the total in Q3 2008 to 19% by Q2 2018 (15% for direct credit to the non-financial sector). This reduction reflects a stagnation in credit from foreign banks as well as an increase in credit from both domestic banks and non-bank creditors (Graph 1).[8] In general, both IC and LCLC reliance declined following the GFC, but IC

Reliance on foreign banks has fallen[1]

FBR measures (ratio)   Graph 2

Average FBR
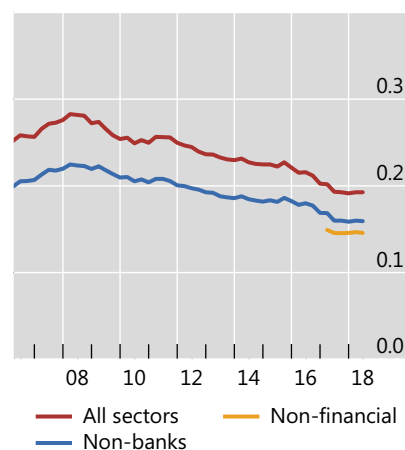
Average FBR by claim type[2]
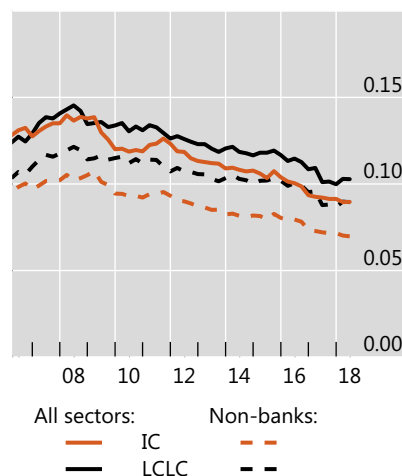
FBR of non-financial borrowers, by claim type (Q1 2018)[2]
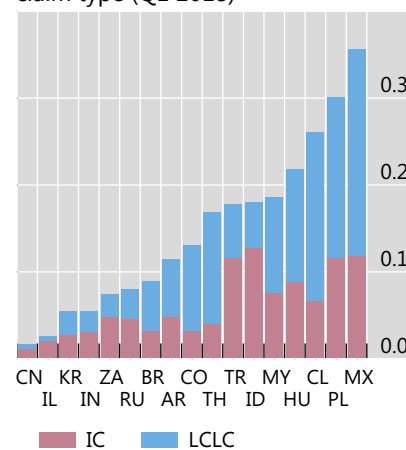
[1] FBR is the estimated claims by BIS reporting foreign banks on the listed borrowing sector of the domestic economy, divided by total credit to the non-financial sector. [2] International claims (IC) consist of cross-border claims of foreign banks plus local claims extended in foreign currency. Local claims in local currency (LCLC) are claims made by foreign banks resident in the domestic economy to domestic borrowers in the domestic currency.

Sources: BIS consolidated banking statistics (immediate counterparty basis); BIS statistics on total credit to the private non-financial sector; author's calculations.

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[7]   This indicates that the time series for non-bank borrowers may be informative about the time series for non-financial borrowers, which captures only direct credit provision from foreign banks.

[8]   FBR could be biased by the exclusion of foreign banks which do not report to the consolidated banking statistics, most notably Chinese banks (Cerutti et al (2018), Cerutti and Zhou (2018), Koch

Reliance on foreign banks is different for public and private borrowers

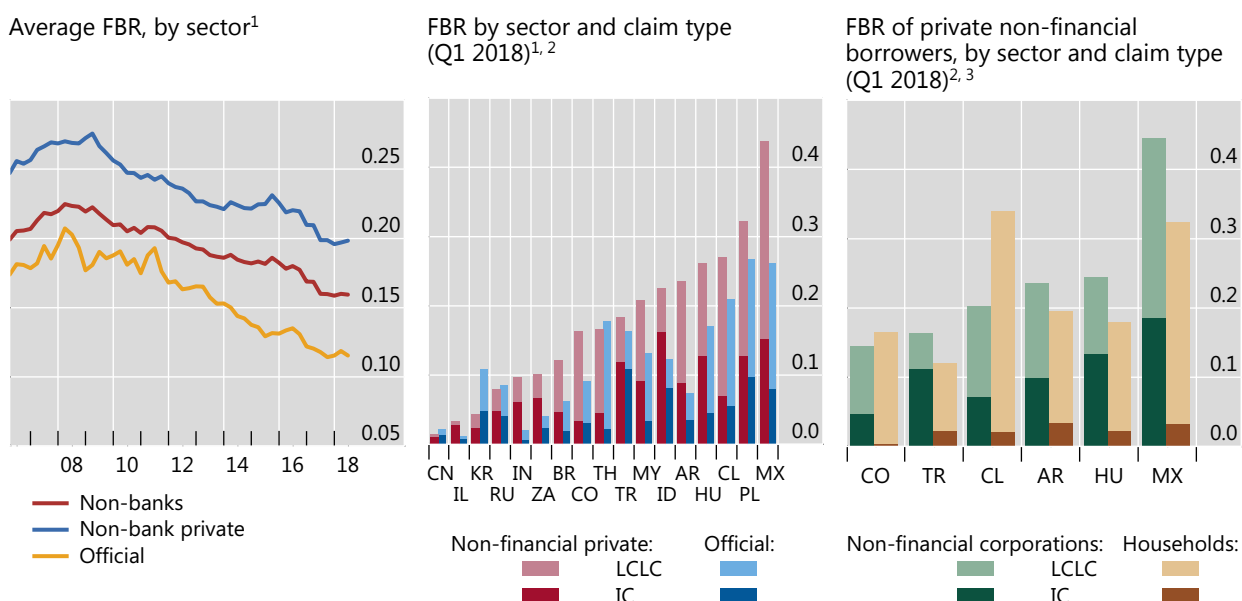FBR measures (ratio)   Graph 3

Average FBR, by sector[1]

FBR by sector and claim type (Q1 2018)[1,2]

FBR of private non-financial borrowers, by sector and claim type (Q1 2018)[2,3]

Non-banks
Non-bank private
Official

Non-financial private:
LCLC
IC

Official:
LCLC
IC

Non-financial corporations:
LCLC
IC

Households:
LCLC
IC

[1] FBR of non-banks is the estimated claims by BIS reporting foreign banks on non-banks in the domestic economy, divided by total credit to the non-financial sector. FBR of the non-bank private sector is the estimated claims by BIS reporting foreign banks on private non-banks in the domestic economy, divided by total credit to the private non-financial sector. FBR of the official sector is the estimated claims by BIS reporting banks on the official sector of the domestic economy (government plus central banks) divided by total credit to the government.   [2] International claims (IC) consist of cross-border claims of foreign banks plus local claims extended in foreign currency. Local claims in local currency (LCLC) are claims made by foreign banks resident in the domestic economy to domestic borrowers in the domestic currency.   [3] FBR of non-financial corporations is the estimated claims by BIS reporting foreign banks on non-financial corporations in the domestic economy, divided by total credit to non-financial corporations. FBR of households is the estimated claims by BIS reporting foreign banks on households in the domestic economy, divided by total credit to households.

Sources: BIS consolidated banking statistics (immediate counterparty basis); BIS statistics on total credit to the non-financial sector; author's calculations.

dropped by more, indicating a relative increase in local currency borrowing from foreign banks (Graph 2, centre panel).

The cross section shows substantial differences in FBR among EMEs (Graph 2, right-hand panel). Mexico (0.36), Poland (0.30) and Chile (0.26) have the highest, while Israel (0.03) and China (0.02) have the lowest. In most cases, countries with a higher FBR are host to foreign banks with large local operations (ie a large amount of LCLC). Indonesia (0.13) and Turkey (0.12) have the highest reliance in the form of IC.

Reliance on foreign banks remains higher for the private sector than the official sector

The decline in FBR following the GFC was common to both the official and private sectors (Graph 3, left-hand panel). The private sector is more reliant on foreign banks on average, with the share averaging around 0.2 in 2018 for private and 0.1 for official sector borrowers.

and Remolona (2018), McGuire and Van Rixtel (2012)). Including data of Chinese nationality banks from the locational banking statistics, covering Chinese banks located in China as well as in other BIS reporting countries, results in very similar FBR estimates.

There are significant differences in FBR for the two sectors in the cross section, even within the same country, both in terms of size and composition (Graph 3, centre panel). Mexico's private sector is the most reliant, receiving nearly 50% of its credit directly from foreign banks (including foreign banks operating locally), and China's is the least. Regarding the official sector, Poland's and Mexico's are the most reliant on foreign bank credit, while Israel's is the least. Within the private sector, households rely less on foreign banks than do non-financial corporations, and borrow overwhelmingly in the form of LCLC (Graph 3, right-hand panel).[9] Firms in Mexico get nearly 20% of their credit in the form of IC, which comprises cross-border credit and local credit in foreign currency and thus may reflect a significant amount of foreign currency borrowing from banks.

While FBR captures the role that foreign banks play in providing credit, it does not capture the full range of ways in which a country's financial system may be exposed to developments in other jurisdictions. For example, credit from domestic banks may be funded with bonds and foreign currency liabilities, which may prove to be more volatile than funding with domestic deposits (McGuire and von Peter (2016)). On the other hand, the credit provided by foreign banks could be largely funded from domestic sources, as is the case in Mexico, making it less vulnerable to foreign developments despite the banks' foreign ownership.

Concentration among foreign bank lenders

Another aspect that may influence the vulnerability of EME credit to foreign developments is the exposure to individual national banking systems (eg French banks, Spanish banks). For instance, if an EME gets all of its foreign bank credit from banks headquartered in just one foreign country, developments in that country may have a significant effect on credit provision. As already noted, the distinction between IC and LCLC is crucial in understanding how these effects play out. To capture the concentration of credit from foreign banking systems, this section examines the share of total foreign bank claims from the top three national banking system creditors, noting the differences between concentration in IC and LCLC credit.[10]

Concentration has increased since the crisis

Concentration was declining leading up to the GFC, but has been increasing since (Graph 4, left-hand panel).[11] This rise was reflected in both the IC and LCLC credit from foreign banks (centre panel). IC tends to be much less concentrated in all countries, as banks from many jurisdictions lend cross-border (right-hand panel). In contrast, LCLC tends to be more concentrated on average. In general, concentration

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[9] The reporting of data breakdowns for non-financial corporations and households in the CBS does not start until the fourth quarter of 2013, and is not uniform across all CBS reporting countries. EMEs which have a major lender that does not report this more granular counterparty breakdown are dropped from the right-hand panel of Graph 3.

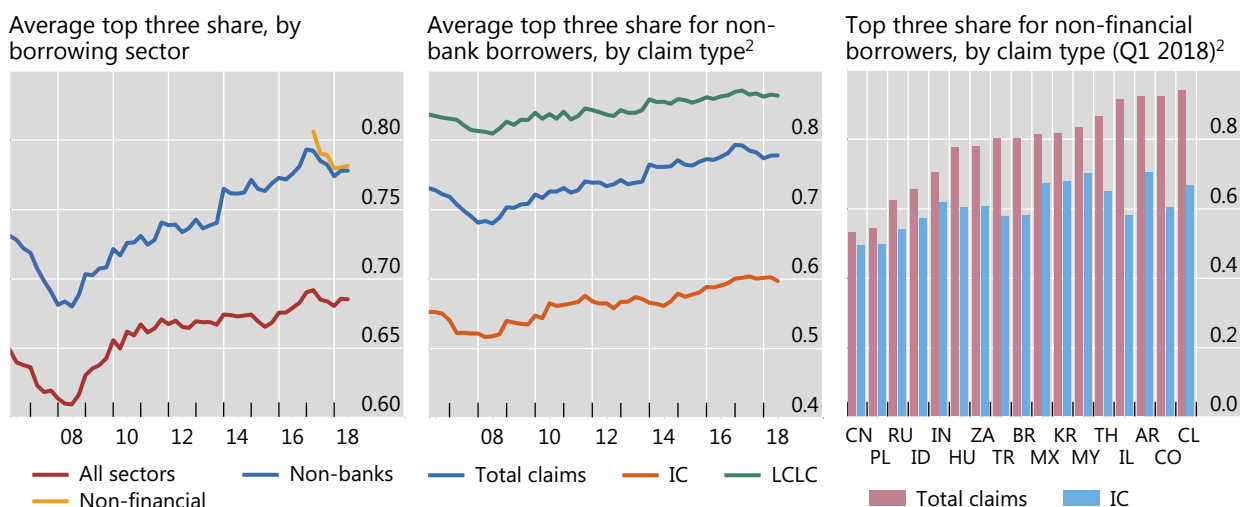[10] Alternative measures of concentration, such as a normalised Herfindahl index, reveal similar patterns.

[11] This indicates that the earlier findings of Ehlers and Wooldridge (2015) of increasing concentration among Asia-Pacific borrowers is a general trend among EMEs and has largely continued.

Concentration among foreign bank creditors has increased

Share of total foreign bank claims from the top three largest creditor banking systems for each EME[1]   Graph 4

Average top three share, by borrowing sector

Average top three share for non-bank borrowers, by claim type[2]

Top three share for non-financial borrowers, by claim type (Q1 2018)[2]

All sectors   Non-banks   Total claims   IC   LCLC
Non-financial

Total claims   IC

[1] Top three share is the foreign bank market share of the three largest creditor banking systems as a share of total consolidated claims of foreign banks for the listed borrowing sector (on an immediate counterparty basis).   [2] International claims (IC) consist of cross-border claims plus local claims extended in foreign currency. Local claims in local currency (LCLC) are claims made by foreign banks resident in the domestic economy to domestic borrowers in the domestic currency.

Sources: BIS consolidated banking statistics (immediate counterparty basis; author's calculations.

is high, with 70–80% of claims on the non-bank sector typically coming from the top three foreign banking systems.

Across EMEs, the share of foreign bank credit from the top creditor foreign banking system is quite high. The top ranked creditors provide 40% of total foreign bank credit for the sampled countries, while the second highest ranked creditors provide around 20% (Graph 5, left-hand panel). The top foreign creditor banking systems tend to have very large local currency claims, reflecting the presence of locally funded affiliates. Banking system creditors with lower rankings tend to have more IC claims.

Even though the foreign bank credit landscape tends to be quite concentrated, the importance of specific lending banking systems can vary over time. Following the GFC, several creditor banking systems, such as those of Belgium, Germany, the Netherlands and Switzerland, became comparatively less important (in terms of their claims volume) across EMEs (Graph 5, centre panel). This reflects in part the failure and restructuring of large internationally active banks in Belgium and the Netherlands, as well as a general deleveraging of the large European banking systems. Banks in Australia, Canada, Japan and Spain, among others, expanded post-crisis (McCauley et al (2017)).

A small number of creditor banking systems tend to be the largest players across all EMEs. The United States and United Kingdom are among the three largest creditor banking systems in more of these EMEs than any other BIS reporting banking system,

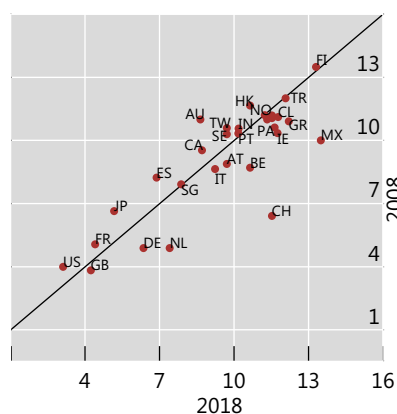## Comparative importance of foreign bank creditors to non-banks in EMEs

Ranking of creditors by volume of total claims on the non-bank sector   Graph 5
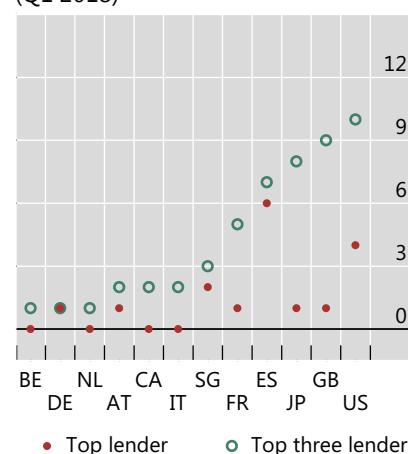
Aggregate claim share by ranking of creditor, by claim type (Q1 2018)[1, 2]
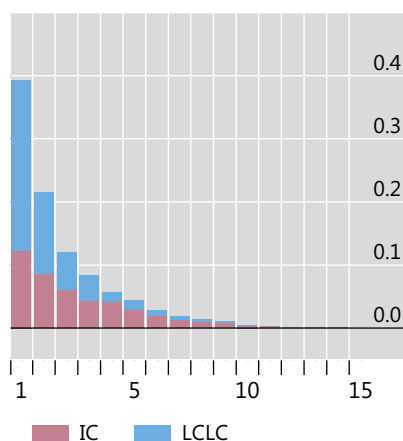
Average creditor banking system rankings, Q1 2008 versus Q1 2018[3]

Frequency of being an EME's top foreign creditor banking system (Q1 2018)[4]

[1] The height of each bar is the aggregate share of credit provided by the creditor banking system with the given ranking (along the horizontal axis) of market share among foreign banking system creditors in each country in the sample. For example, the third bar shows the aggregate credit from the third largest creditor banking system in each EME, divided by aggregate credit across EMEs.   [2] International claims (IC) consist of cross-border claims plus local claims extended in foreign currency. Local claims in local currency (LCLC) are claims made by foreign banks resident in the domestic economy to domestic borrowers in the domestic currency.   [3] The average ranking of creditor banking systems across the EME sample, based on the share of foreign banking system creditors in lending to each EME. Ranking is based on total claims on the non-bank sector. Banking systems that do not lend to a country are given the same ranking (one below the smallest creditor). Countries above the 45 degree line rose in ranking from 2008 to 2018.   [4] The red dot indicates the number of countries in sample for which the given banking system has the largest market share of foreign bank credit. The green circle indicates the number of countries in sample for which the given banking system has one of the three largest market shares of foreign bank credit.

Sources: BIS consolidated banking statistics (immediate counterparty basis); author's calculations.

followed by Japan, Spain and France. However, the Spanish banking system is most often the top lender in an EME (Graph 5, right-hand panel).[12]

Concentration rose for both the private and official sectors

Patterns of concentration among foreign bank lenders differ by borrowing sector. Credit to the official sector tends to be more concentrated than its private sector counterpart, but with heterogeneity across countries (Graph 6, left-hand panel). For example, credit to the South African official sector tends to be concentrated in just its top three creditor banking systems, while credit to the private sector in China is much more dispersed. Households are especially concentrated, with essentially 100% of their foreign bank borrowing from just three banking systems (centre panel). This fits with the previous facts: namely, that households tend to borrow from foreign banks mainly in local currency; and local currency operations are more concentrated (with relatively few foreign banking systems setting up local currency operations).

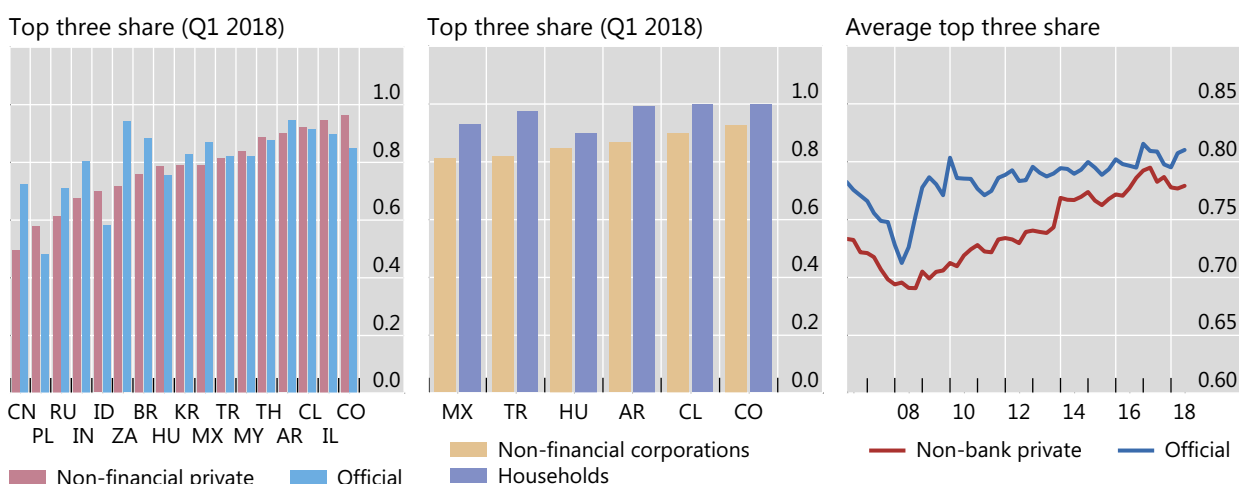There has been some convergence in concentration in private sector and official sector borrowing over time. For both sectors, the low point of concentration across

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[12]   China does not report data to the CBS, but anecdotal evidence indicates that the Chinese banking system would be a highly ranked creditor for several EMEs. See Cerutti et al (2018) and Koch and Remolona (2018) for a discussion.

Concentration among foreign bank creditors by borrowing sector

Share of total foreign bank claims from the top three largest creditor banking systems for each EME[1]   Graph 6

Top three share (Q1 2018)   Top three share (Q1 2018)   Average top three share

CN RU ID BR KR TR TH CL CO
PL IN ZA HU MX MY AR IL

Non-financial private   Official

MX TR HU AR CL CO

Non-financial corporations   Households

08 10 12 14 16 18

Non-bank private   Official

[1] Top three share is the foreign bank market share of the three largest creditor banking systems as a share of total consolidated claims of foreign banks for the listed borrowing sector (on an immediate counterparty basis).

Sources: BIS consolidated banking statistics (immediate counterparty basis); author's calculations.

creditor banking systems was at the onset of the GFC, since which concentration ratios in both private and official sector lending have steadily increased and drawn closer (Graph 6, right-hand panel).

Correlation between FBR and concentration

Having considered the reliance on foreign banks and the concentration among foreign lenders, this section examines these measures jointly to get a more complete picture of the activity of foreign banks in EMEs.

The cross section shows a mildly positive correlation between FBR and concentration (Graph 7, left-hand panel). For instance, a few countries, such as Mexico and Chile, exhibit both a relatively high reliance on foreign banks and a fairly high concentration across national creditor banking systems. Excluding Poland, which is a major exception to this pattern, the correlation is 0.31.

Over time, however, concentration and FBR tend to move in opposite directions (Graph 7, centre and right-hand panels). This is especially stark for the private non-bank sector (corr = –0.94). The negative correlation is striking, with reliance increasing and concentration decreasing leading up to the GFC, while following the GFC these trends reversed. Credit to the official sector shows the same negative correlation (– 0.64).

This strong negative correlation in the time series reveals much about the landscape of credit provision by foreign banks in EMEs. Leading up to the GFC, banks from many foreign countries lent to EMEs, contributing to an increase in the FBR measure and a fall in concentration. After the crisis, domestic banks and non-bank creditors expanded into EME lending. Aggregate credit from foreign banks remained about the same, but the composition of lenders became more concentrated, as some creditors retreated from EME lending and others expanded.

Foreign bank reliance and concentration move opposite to each other

FBR and top three creditor foreign banking system share[1]   Graph 7
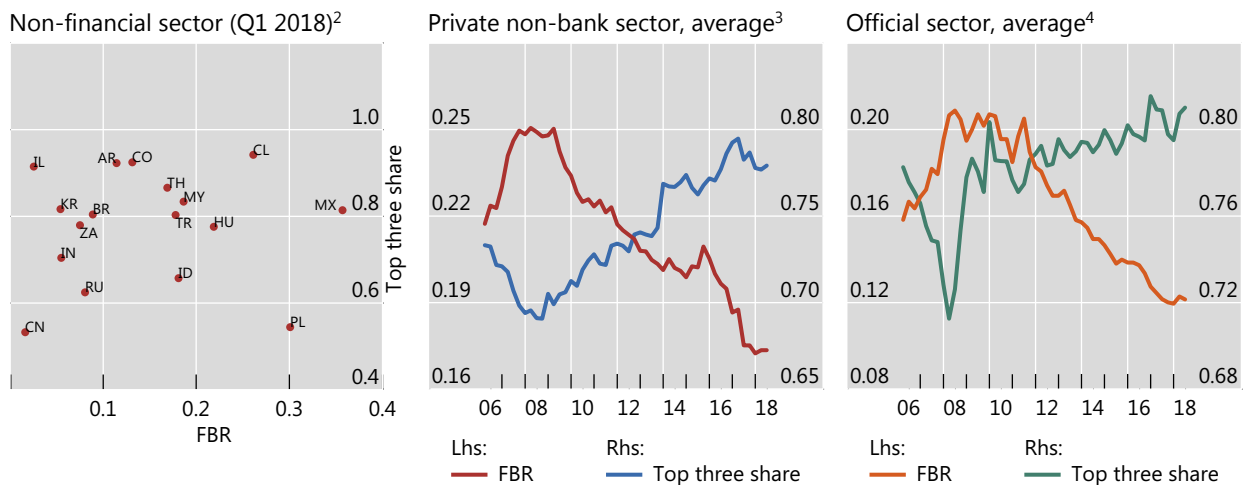
Non-financial sector (Q1 2018)[2]   Private non-bank sector, average[3]   Official sector, average[4]

[1] Top three share is the foreign bank market share of the three largest creditor banking systems as a share of total consolidated claims of foreign banks for the listed borrowing sector (on an immediate counterparty basis).   [2] FBR of the non-financial sector is the estimated claims by BIS reporting foreign banks on non-financial borrowers in the domestic economy, divided by total credit to the non-financial sector.   [3] FBR of the non-bank private sector is the estimated claims by BIS reporting foreign banks on private non-banks in the domestic economy, divided by total credit to the private non-financial sector.   [4] FBR of the official sector is the estimated claims by BIS reporting banks on the official sector of the domestic economy (government plus central banks) divided by total credit to the government.

Sources: BIS consolidated banking statistics (immediate counterparty basis); BIS total credit series; author's calculations.

Looking ahead, the diversity of funding sources may be important for EMEs to monitor. Diversifying funding sources can reduce the risk of sudden reversals of credit from foreign developments in a single creditor country. Moreover, the type of funding provided by creditors is important in determining the risk of credit reversals. Local funding has proven to be more stable through financial crises, while cross-border and foreign currency funding has been less so (Ehlers and McGuire (2017)). Bond credit and credit from non-banks are growing sources, but may bring new risks and financial stability concerns (Shin (2013)). Recent developments highlighted in this article have proven mixed in terms of funding diversity: LCLC lending plays an increasingly prominent role for foreign bank creditors to EMEs, but concentration across creditor banking systems has increased and credit from non-banks has risen.

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