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Credit and resource allocation in EMEs:
taking stock of two decades of falling
interest rates

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Credit and resource allocation in EMEs: taking stock of two decades of falling interest rates

Key takeaways

- *Since interest rates declined in the early 2000s, credit expanded strongly and its allocation changed significantly in emerging market economies (EMEs).*
- *Being largely spared by the Great Financial Crisis (GFC), EMEs have seen credit increasingly flowing to the construction and real estate sectors at the expense of manufacturing. Due to lower productivity growth in the housing sector, this shift has coincided with decreasing growth rates.*
- *Strong credit growth concentrated in a few sectors has also been associated with greater dispersion of productivity across firms, suggesting less efficient resource allocation.*

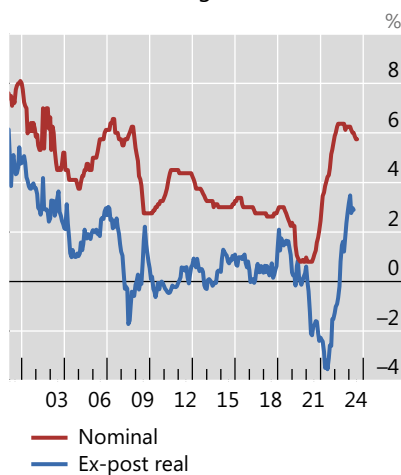
The end of “low for long” – the extended period of low global interest rates – has shone a spotlight on the macroeconomic implications of the significant rise in private non-financial debt-to-GDP ratios as well as the larger share of credit allocated to the housing sector since the early 2000s.

This Bulletin highlights three growth implications of these developments for EMEs, consistent with previous research. First, there is evidence that private sector credit has a diminishing effect on growth once it reaches a high level. While most EMEs are still in the region where further expansion of private credit would boost growth, others could already be at a turning point where additional credit may become a drag on growth. Second, although the reallocation of credit towards real estate is consistent with a greater demand for housing services as EMEs have grown richer, it weighs on growth because productivity gains are smaller in this sector. Third, where credit growth has been strong and concentrated in a few sectors, resources appear to have been allocated less efficiently across firms, as measured by an increase in productivity dispersion.

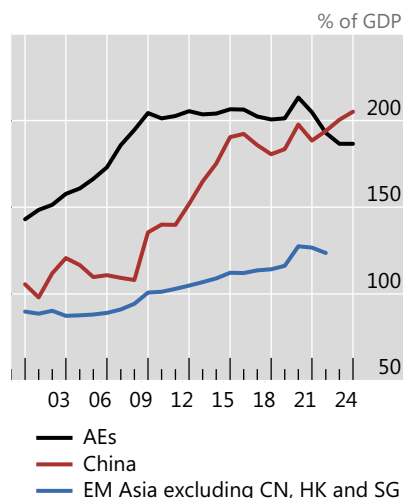
Credit and financial access expand during low for long

The early 2000s ushered in a period of declining inflation and much more accommodative financial conditions in EMEs. Nominal and real interest rates fell to historical lows (Graph 1.A), at least until the recent post-Covid-19 inflation flare-up. Several countries further opened up their financial systems to international finance. And EMEs strengthened their banking sectors following the crises of the previous decades (Hardy et al (2024)). Most EMEs did not experience any episodes of major financial stress despite major global shocks such as the GFC and the Covid-19 pandemic.

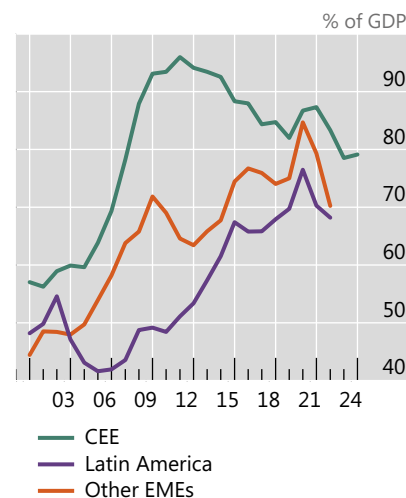
A. Policy rates in EMEs fell until the latest inflation surge...¹



B. ...while credit to the private sector rose...²



C. ...across the different EME regions²



¹ Simple average across 22 EMEs. ² Simple average of credit to non-financial private sector as a share of GDP across countries in the region. EM Asia excluding CN, HK and SG = ID, IN, KR, MY, PH, TH and VN; Latin America = AR, BR, CL, CO, MX and PE; CEE = CZ, HU and PL; other EMEs = AE, DZ, IL, SA, TR and ZA; AEs = AT, AU, BE, CA, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, JP, LU, NL, NO, NZ, PT, SE and US. For AE, DZ, PE, PH and VN, it corresponds to total private debt (loans and debt securities).

Sources: IMF; national data; BIS.

These conditions provided fertile ground for the sustained expansion of credit from both domestic and international lenders. In most EME regions credit to the private non-financial sector as share of gross domestic product (GDP) steadily trended up during the “low for long” era (Graphs 1.B and 1.C). This expansion persisted and even accelerated through the GFC, except in Central and Eastern Europe (CEE), where a downturn followed. Since 2000, credit in relation to GDP has almost doubled in China, and it has risen by more than a third in the rest of emerging Asia and in Latin America. What are the potential growth implications of this credit expansion?

Inverted U shape between credit and growth

The increase in credit may have both positive and negative effects on economic activity. On the positive side, the deepening of financial systems increases access to finance and overall financial inclusion. For example, as private non-financial credit increases, the share of firms reporting that access to finance is a major constraint declines (Graph 2.A). The benefits of greater financial inclusion for growth, including through greater investment in physical assets and education, have been well established (Levine (2005)).

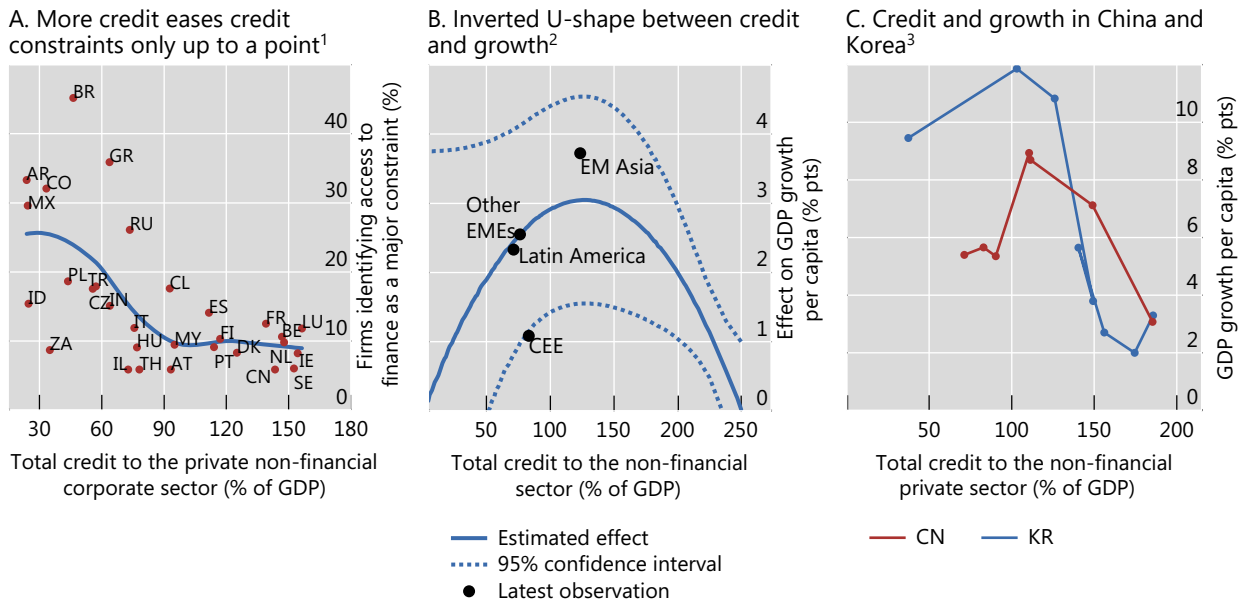
On the negative side, there are limits to how much credit alone can benefit growth. For one, not all borrowing finances productive investment. Borrowing that only brings spending forward will boost growth in the short term but weaken it in the future because of debt amortisation and interest payments (Lombardi et al (2022), Drehmann et al (2023)). Furthermore, not all borrowing flows to the most productive sectors or firms, especially when easy financial conditions relax the incentives to screen investment projects (Kharroubi et al (2023), Gopinath et al (2017)). Finally, too large a financial system may compete for highly skilled workers, diverting them from more productive sectors (Cecchetti and Kharroubi (2012)).

The confluence of the positive and negative effects results in an inverted U-shaped relationship between private non-financial credit and average GDP per capita growth (Graph 2.B, blue line). At low levels, more credit is associated with higher growth. But, as credit increases, its contribution to growth

tends to decline, and beyond a certain point, it turns negative, detracting from growth. This finding is robust to controlling for other factors, including catching-up effects, trade openness, inflation, government size and the incidence of financial crises. It has also been established in several recent studies (Arcand et al (2015), Cecchetti and Kharroubi (2012), and Mian et al (2021)). An inflection point is also evident in firm survey results (Graph 2.A), where the relationship between credit and access to finance flattens as credit approaches 100% of GDP. It seems that additional finance tends to go to firms that are already flush with credit rather than to the final 10% of firms that are credit constrained.

The two-sided nature of private credit

Graph 2



¹ Points show 2009–21 averages. Fitted line = locally estimated scatterplot smoothing regression. ² Blue line shows the estimated fitted relationship between total credit to the non-financial sector and GDP per capita based on a panel regression, regressing non-overlapping five-year averages of GDP growth per capita on the five-year averages of the ratio of credit to the private non-financial sector to GDP and its square, the ratio of equity market capitalisation to GDP and its square, trade openness (sum of imports and exports to GDP), government consumption to GDP and GDP deflator inflation. The lagged level of real GDP per capita is also included. See Annex B in BIS (2024) for more details. Points show simple averages by region of 2019 credit to GDP on the x-axis and fitted values for latest available data on the y-axis. ³ Points show non-overlapping five-year averages of credit to the private non-financial sector and GDP per capita growth.

Sources: IMF; Penn World Tables; World Bank; BIS.

What does the inverted U-shape imply for EME growth today? Currently, most EMEs are still in the region where further deepening of private credit would help boost growth (Graph 2.B, dots). The estimates suggest that if Latin America reached the credit depth of emerging Asia, growth could be around 0.5 percentage points higher, all else equal. By contrast, emerging Asia appears to be at the estimated turning point, where further financial deepening through credit may start to be a drag on growth. The historical experiences of Korea and more recently China are consistent with such inverted U-shaped relationships, as their GDP growth rates peaked when credit reached just over 100% of GDP (Graph 2.C).

Credit shifts from manufacturing to construction and real estate

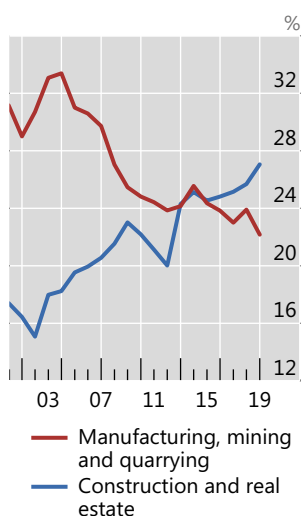
The growth in aggregate credit in EMEs has coincided with a significant shift in its allocation towards funding construction and real estate projects at the expense of manufacturing and other industries (Graph 3.A). This shift closely mirrors the expansion of household credit, which typically boosts demand for housing.

The reallocation of credit towards the real estate sector can weigh on growth because productivity gains are generally smaller in this sector. As illustrated in Graphs 3.B and 3.C, productivity growth tends to be lower in EMEs with a greater share of construction and real estate loans, and higher in countries with a greater share of loans to the manufacturing sector. Moreover, the larger the increase in the share, the bigger the drop in labour and total factor productivity (TFP) growth relative to other countries (Graph 3.D). Greater availability of collateral in construction and real estate has facilitated the increase in credit, compared with sectors where intangible assets and investment are more important (Bleck and Liu (2018), Doerr (2020), Müller and Verner (2023)).¹

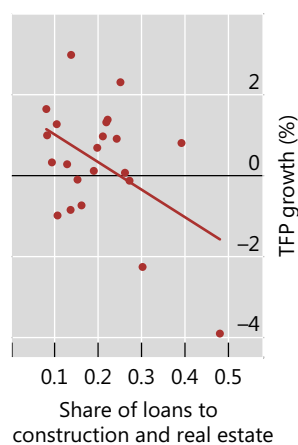
Shift in credit to real estate coincides with drop in EME productivity growth

Graph 3

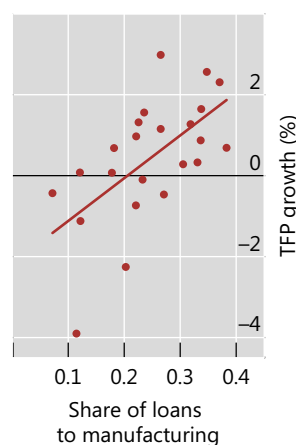
A. Sectoral credit shares shift^{1,2}



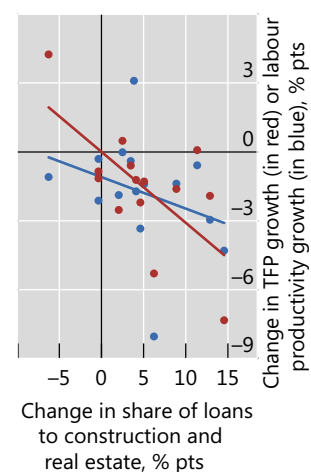
B. TFP and loans to construction and real estate^{1,3}



C. TFP and loans to manufacturing^{1,3}



D. Changes over time^{1,4}



¹ Share of loans refers to share of corporate credit. ² Median sectoral credit shares, based on a balanced panel of 13 EMEs. ³ Averages over the period 2000–18 for 25 EMEs, depending on data availability. ⁴ Changes between 2000–7 and 2008–18.

Sources: Müller and Verner (2023); World Bank.

To be sure, the sectoral shift in credit towards housing – and towards non-tradable sectors more broadly – does not necessarily imply resource misallocation. It also reflects the process of economic development, as demand for non-tradables – including housing – naturally increases with per capita income. In some EMEs, governments have pursued explicit programmes to increase the available housing supply. Relatedly, where housing markets are less developed, credit allocation to these sectors may have positive effects on growth over time, stemming from the build-up of housing equity. Nevertheless, the shift might reflect – to some extent – overinvestment in construction and services, which could have adverse and persistent effects on aggregate labour productivity and income growth long after the credit impulse towards housing subsidies (eg Lombardi et al (2022), Müller and Verner (2023)).

Credit growth and resource misallocation

An indication that strong credit growth or sectoral credit shifts might have led to resource misallocation is an increased dispersion of productivity across firms within the same sector. Indeed, if productivity differs between firms, transferring one unit of capital or labour from lower-productivity firms to higher

¹ The sectoral reallocation tends to reduce aggregate labour productivity growth in OECD countries during credit booms (Kharroubi et al (2023)).

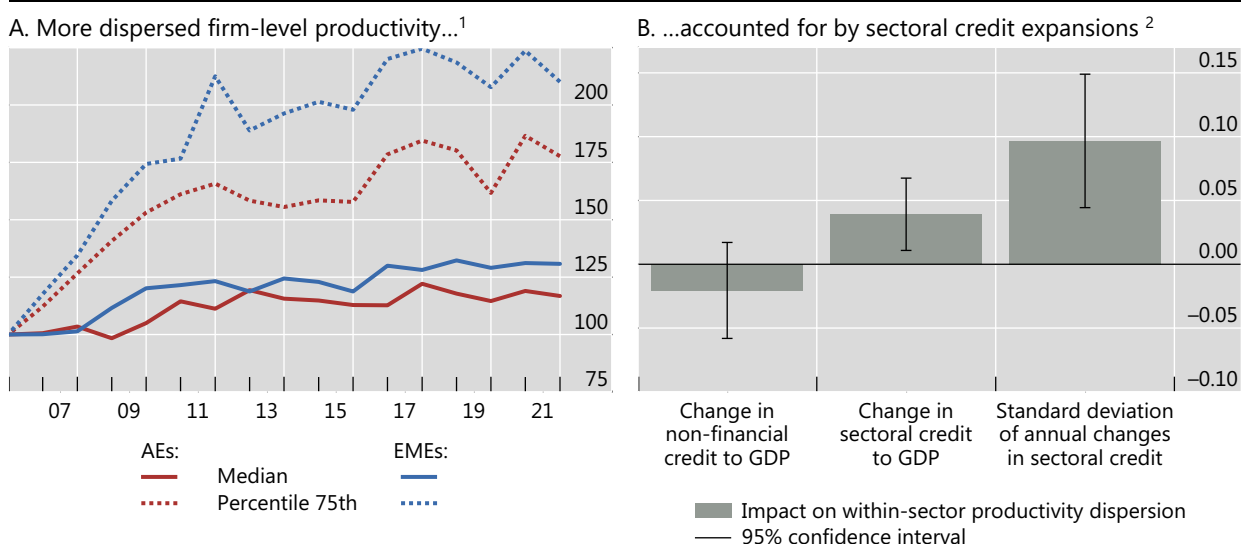
productivity firms would increase the overall output of the sector without using additional resources (Hsieh and Klenow (2009)). Thus, there are gains from transferring capital or labour to the more productive firm until productivity is equalised and hence dispersion is eliminated.

Empirical evidence shows that productivity dispersion has risen in EMEs since the mid-2000s, which suggests a potential reduction in the efficiency of resource allocation (Graph 4.A).

Credit expansions contribute to less efficient resource allocation in EMEs

Standard deviations

Graph 4



¹ Dispersion of firm-level productivity within a sector. Based on a sample of 629,247 firm-year productivity observations in 15 sectors across 55 countries. Series rebased at 100 in 2005. ² Estimated effect of credit on within-sector productivity dispersion. Impact of a two standard deviation increase in the variable shown on the x-axis, in standard deviations of sectoral productivity dispersion. Variables on the x-axis correspond to annual changes as a share of GDP.

Sources: Müller and Verner (2023); IMF; Capital IQ; national data; BIS.

Additionally, credit growth appears to have been a contributor. Estimates show that sectors in EMEs with stronger credit growth experienced larger increases in within-sector productivity dispersion (Graph 4.B, second bar). Furthermore, EMEs with a wider dispersion in credit growth across sectors – ie those experiencing greater sectoral reallocations – also saw a larger rise in within-sector productivity dispersion (third bar). By contrast, the strength of aggregate credit expansions at a country level does not seem to have a significant impact (first bar).

Overall, the evidence suggests that when lending has been strong and concentrated in a few sectors, resources might have been allocated less efficiently across firms.

Conclusion

The multi-decade increase in credit-to-GDP ratios in EMEs has been associated with significant changes in credit allocation. Some of these changes have potentially dampened overall growth and efficiency. In addition, in some EMEs, most prominently in emerging Asia, countries have reached a point where further increases in the ratio may have started to detract from growth.

That said, the estimated relationships highlighted in this Bulletin, including the inverted U-shape between credit and GDP growth, are not set in stone. Credit misallocations can be mitigated by using tools that dampen unbalanced credit growth (BIS (2018)). In addition, technological advances in financial intermediation, including by fintechs and big techs, and leveraging artificial intelligence could further

increase productive firms' access to credit, for example by facilitating credit risk screening (Frost et al (2019, 2021)). Moreover, credit is not the only way to finance growth. Many EMEs also have scope to increase the role of equity markets. Here, further strengthening of the relevant institutions are key (CGFS (2019)). EME central banks are involved in various policy initiatives to promote such developments, as discussed in a recent volume from a meeting of EME Deputy Governors at the BIS (BIS (2024)).

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