

Box 4

IMPACT ON BANK LENDING OF MONETARY POLICIES IN THE REGION AND WORLDWIDE

This box examines the extent to which bank lending in Latin America is affected by shifts in monetary policies in the region and worldwide. This issue is particularly relevant at present because the differences in monetary policy conduct worldwide can have a heterogeneous impact on the region's banking systems, which are highly internationalised.

- Since mid-2023 monetary policy has been easing, in general, in Latin America. Meanwhile in the United States, both the markets and the Federal Reserve System **expect a policy rate cut only in the second half of this year**. As for the European Central Bank (ECB), although it cut its policy rate by 25 basis points in June, compared with a few months ago the financial markets are now factoring in fewer such cuts for the coming quarters.
- In countries such as Mexico, Peru and Chile, foreign banks account for more than 35% of total loans and deposits (see Chart 1). Even in Brazil, where legislation on foreign participation in domestic banking is more restrictive, they hold around 14% of total loans and deposits.
- This increased internationalisation is the result of the efforts made in recent decades by several countries of the region to deregulate their domestic financial systems and attract foreign capital, following the major financial crisis episodes experienced during the 1990s when foreign bank participation in domestic lending was essentially symbolic.¹ Spanish banks currently have the highest market share of all the international private banks present in Latin America, with Banco Santander in Mexico, Brazil and Chile and BBVA in Mexico and Peru.^{2,3}

According to the economic literature, the monetary policy of the central banks of the world's main economies can affect lending by domestic banks in various ways.

- First, it affects the cost of banks' external financing. This is particularly important for foreign banks that operate in the region through branches that may rely on funding from their parent banks.⁴ It is less important for foreign banks that operate through independent subsidiaries that obtain their funding on the domestic market, which is the case of banks with Spanish capital.⁵ In addition, banks operating in countries that have banking systems with some degree of dollarisation are also heavily reliant on external financing to provide credit at the local level.⁶
- Second, it can affect demand for local credit, by impacting financial asset prices, exchange rates and capital inflows into emerging countries.
- Moreover, in small, open economies, central banks generally adjust their interest rates in response to the Federal Reserve's monetary policy, to mitigate capital outflows and prevent currency depreciation and its pass-through to domestic inflation.⁷
- Conversely there is also evidence that, in the event of a monetary contraction in the United States, central banks in certain emerging countries may respond by cutting their policy rates to address the possible recessionary effects of a tightening of international financial conditions.⁸

To measure the quantitative impact on lending in some of the major Latin American economies of monetary policies in the main global economies (set by the Federal Reserve and the ECB) and in the domestic economies (set by the region's central banks), the following exercise is proposed.

- 1 In 1990, the percentage of loans extended by foreign banks was 0% in Peru, 0.7% in Mexico, 14.3% in Chile and 3.8% in Brazil. See Monetary and Economic Department. (2007). "Evolving banking systems in Latin America and the Caribbean: challenges and implications for monetary policy and financial stability". BIS Papers No 33, Bank for International Settlements.
- 2 See the notes to the **macro-financial indicators**, where the banking structure of these countries is described in more detail.
- 3 Although Colombia is not included in the group of countries analysed in this box, BBVA also holds a significant market share in Colombia (the fourth largest in 2023).
- 4 F. Bräuning and V. Ivashina. (2020). "U.S. monetary policy and emerging market credit cycles". *Journal of Monetary Economics*, Vol. 112, pp. 57-76. Also B. Morais, J.-L. Peydró, J. Roldán-Peña and C. Ruiz-Ortega. (2019). "The International Bank Lending Channel of Monetary Policy Rates and QE: Credit Supply, Reach-for-Yield, and Real Effects". *The Journal of Finance*, Vol. 74(1), pp. 55-90.
- 5 I. Argimón, C. Bonner, R. Correa, P. Duijm, J. Frost, J. de Haan, L. de Haan and V. Stebuovs. (2019). "Financial institutions' business models and the global transmission of monetary policy". *Journal of International Money and Finance*, Vol. 90, pp. 99-117.
- 6 Miguel Acosta-Henao, María A. Amado, Montserrat Martí and David Pérez-Reyna. (2024). "Heterogeneous UIP Deviations Across Firms: Spillovers from U.S. Monetary Policy Shocks". Banco de España, mimeo. Also C. Giraldo, I. Giraldo and J. Gómez-González. (2024). "U.S. monetary policy shocks and bank lending in Latin America: evidence of an international bank lending channel". *Applied Economics Letters*, pp. 1-5.
- 7 G. Huertas. (2022). "Why Follow the Fed? Monetary Policy in Times of U.S. Tightening". IMF Working Papers, 243, International Monetary Fund.
- 8 P. De Leo, G. Gopinath and S. Kalemli-Özcan. (2023). "Monetary policy cyclicality in emerging economies". NBER Working Paper Series No 30458, National Bureau of Economic Research.

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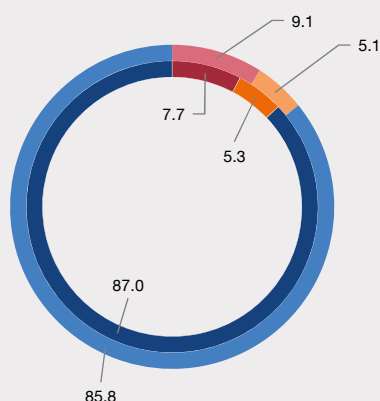
IMPACT ON BANK LENDING OF MONETARY POLICIES IN THE REGION AND WORLDWIDE (cont'd)

- An econometric model⁹ is estimated to determine the extent to which monetary policies affect loan stock dynamics.
- Bank data published by the monetary and supervisory authorities of Brazil, Mexico, Chile and Peru are used.¹⁰

Chart 1
Composition of loans and deposits by home country of bank (a)

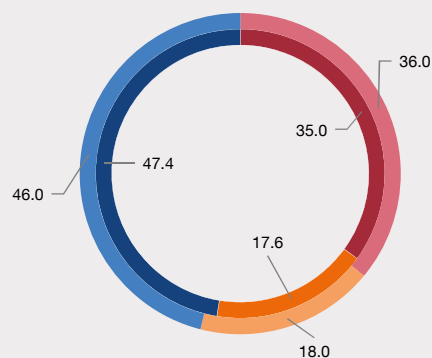
1.a Brazil

% of total



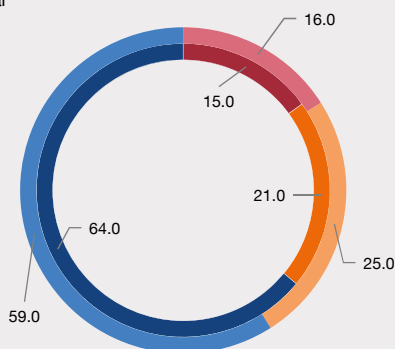
1.b Mexico

% of total



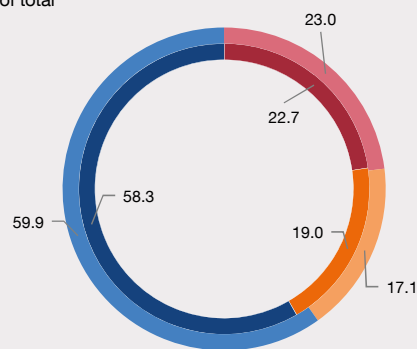
1.c Chile

% of total



1.d Peru

% of total



■ Spanish banks ■ Other foreign capital private banks ■ Local banks

SOURCES: Monetary and supervisory authorities and Banco de España.

a The inner circle denotes the composition of loans and the outer circle the composition of deposits.

⁹ This model comprises a dynamic panel, in which the volume of the stock of loans granted by a given bank in a given quarter and operating in a given country of the region is explained by lending in the previous period and by domestic and external (whether in the United States (Federal Reserve) or the euro area (ECB)) monetary policy shocks, as well as by domestic and external macroeconomic fundamentals, by bank-specific characteristics of the lending bank and by other technical factors such as unobservable effects at bank, country and period level.

¹⁰ The analysis starts in 2000 Q1 for Brazil, in 2004 Q1 for Peru and in 2008 Q1 for Mexico and Chile. The sample covers the period up to 2023 Q4. It includes most of the banks operating in these countries in each period, specifically a total of 105 banks: 16 in Peru, 25 in Chile and 44 in Mexico. In the case of Brazil, for the sake of simplicity and given the large number of financial institutions, the 21 banks with the highest level of participation were chosen, excluding small financial institutions with a low share of total lending.

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IMPACT ON BANK LENDING OF MONETARY POLICIES IN THE REGION AND WORLDWIDE (cont'd)

- Monetary policy shocks (domestic and foreign) are proxied by Taylor rule residuals.¹¹
- For domestic monetary policy shocks in the four countries analysed, the official monetary policy rates are used. Foreign monetary policy shocks are calculated drawing on “shadow rates”,¹² which capture the effect on the monetary policy stance of the unconventional measures adopted when policy rates reached their effective lower bound.
- The analysis draws a distinction between banks according to the origin of their capital,¹³ that is, whether they are domestic or foreign capital banks, and within the latter group according to whether or not the capital is Spanish. This distinction is important because banks with Spanish capital, generally unlike other foreign capital banks, operate with a multinational banking business model predominated by independent subsidiaries¹⁴ which, in consequence, are funded in a similar way to local capital banks. This makes it possible to assess whether monetary policy surprises have a different impact on lending by these groups of banks.

The main results of this exercise, shown in Chart 2, are set out below.

- An unexpected increase of 1 percentage point (pp) in the policy rates of the national central banks of the Latin American countries considered reduces the volume of lending by banks operating in the region by 0.42% on average. This effect is irrespective of the origin of the capital of the commercial lending bank.
- A 1 pp increase in the Federal Reserve’s policy rate also reduces the volume of lending, but much more so, by 1.8% rather than 0.42%. Given that US monetary policy has a significant impact on the global financial cycle, this may be because financial conditions in Latin American economies may tighten further, for several reasons: (a) because the cost of borrowing for banks and the wider economy may rise;¹⁵ b) because local banking systems’ exposure to the global financial cycle limits the pass-through of domestic monetary policy in the short term;^{16, 17} and (c) because there are credit segments, such as export credit lines, whose interest rates are indexed to international benchmark rates and which thus respond almost immediately to changes in financing conditions worldwide.¹⁸
- Moreover, in the event of a monetary policy surprise on the part of the Federal Reserve, the drop in lending by non-Spanish foreign capital banks (mostly US banks) is 0.5 pp higher than for all the others (their volume of lending falls by 2.3% compared with 1.8%). This greater exposure to Federal Reserve monetary surprises may be explained by their higher dependence on cross-border borrowing. This finding is consistent with those contained in other published works.¹⁹

11 For domestic monetary surprises, the Taylor rule responds to domestic variables such as annual real GDP growth and the annual change in the consumer price index, and the same variables for the United States. The residuals for the Federal Reserve and the ECB are built on a Taylor rule that responds only to domestic variables. See B. Morais, J.-L. Peydró, J. Roldán-Peña and C. Ruiz-Ortega. (2019). “The International Bank Lending Channel of Monetary Policy Rates and QE: Credit Supply, Reach-for-Yield, and Real Effects”. *The Journal of Finance*, Vol. 74(1), pp. 55-90.

12 J. Wu and F. D. Xia. (2016). “Measuring the Macroeconomic Impact of Monetary Policy at the Zero Lower Bound”. *Journal of Money, Credit and Banking*, Vol. 48(2-3), pp. 253-291.

13 In the econometric model, the distinction is drawn by interacting dummy variables capturing the origin of the capital with monetary policy shocks. This makes it possible to assess whether the latter have a different effect on lending according to the origin of the bank’s capital.

14 Isabel Argimón. (2019). “Spanish banks’ internationalisation strategy: characteristics and comparison”. *Economic Bulletin - Banco de España*, 1/2019, Analytical Articles.

15 In periods of monetary tightening by the Federal Reserve there is also an increase in risk premia, which drives up the cost of borrowing for banks and other economic agents in emerging economies.

16 P. De Leo, G. Gopinath and S. Kalemli-Özcan. (2023). “Monetary policy cyclicality in emerging economies”. NBER Working Paper Series No 30458. The paper presents evidence of this disconnect between market rates and domestic policy rates using data for emerging economies.

17 In this exercise the estimated effects are three months hence, whereas the evidence shows that, in emerging economies, monetary policy generally achieves its optimal impact in terms of real variables, on average, after eight quarters. See Pragyant Deb, Julia Estefania-Flores, Melih Firat, Davide Furceri and Siddharth Kothari. (2023). “Monetary Policy Transmission Heterogeneity: Cross-Country Evidence”. IMF Working Papers, 204, International Monetary Fund.

18 The Brazilian central bank documents this high correlation between export credit lines and international benchmark rates such as Libor (see *Financial Stability Report*, April 2024, Edition 23, Banco Central do Brasil).

19 An increase in a standard deviation of the VIX index (which is highly correlated with the Federal Reserve’s monetary policy rate) reduces lending by 2%; see A. Galindo, A. Izquierdo and L. Rojas-Suárez. (2010). “Financial Integration and Foreign Banks in Latin America. How do they Impact the Transmission of External Financial Shocks?”. IDB Working Paper Series No 116, Inter-American Development Bank.

Box 4

IMPACT ON BANK LENDING OF MONETARY POLICIES IN THE REGION AND WORLDWIDE (cont'd)

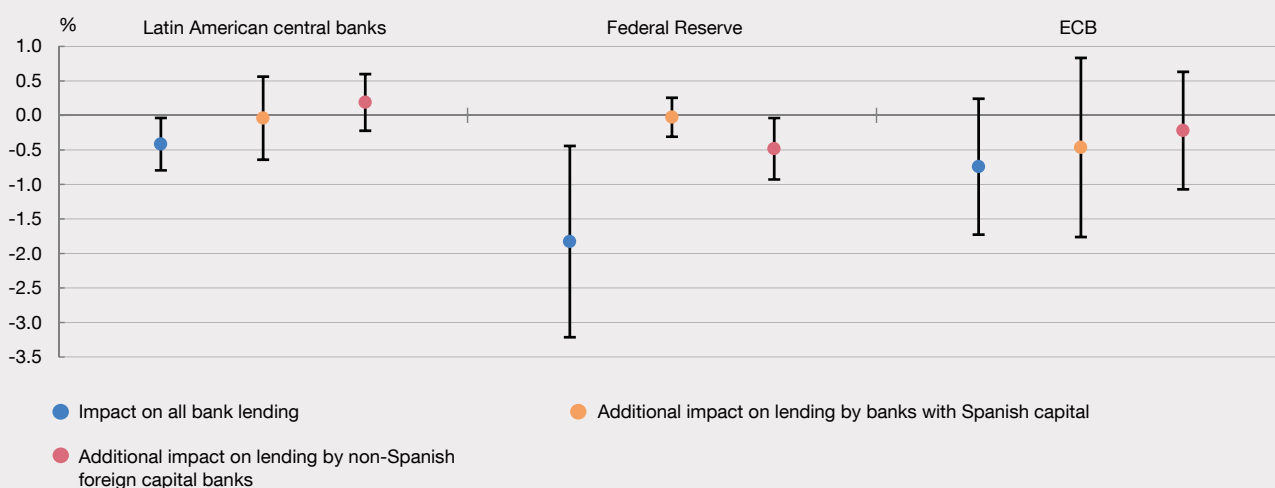
— Lastly, an ECB rate hike also has a negative impact on lending, but in this case it is not statistically significant. In other words, from the estimates made it cannot be inferred that the volume of lending by banks operating in Latin America is significantly affected by shifts in ECB monetary policy.

To sum up, this box estimates the contractionary effect that monetary policy tightening by the region's central banks has on bank lending in Latin America: a 1 pp interest rate rise reduces lending by 0.42%. It then shows

that the contractionary effect of the Federal Reserve's monetary policy is even greater, reducing lending by 1.8%, and even more so for non-Spanish foreign capital banks, reducing lending by 2.3%. It goes on to demonstrate that there is no such amplifying effect for banks with Spanish capital; this is consistent with their business model based on independent subsidiaries, which enables them to respond to such external shocks in a similar way to local capital banks. Lastly, it finds no robust evidence that ECB monetary policy tightening has a significant impact on bank lending in Latin America.

Chart 2

Impact on the stock of bank loans of an increase of 1 pp in policy rates (a)



SOURCE: Banco de España estimates, drawing on monetary and supervisory authorities' data.

a The coloured dots denote the estimated impact on bank lending in Latin America of increases of 1 pp in the policy rates of the region's central banks, the Federal Reserve and the ECB. The chart also shows the additional effects on foreign capital banks, drawing a distinction between Spanish and other foreign capital banks. The lines denote a 90% confidence interval.

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