

The pass-through of policy interest rate movements to bank interest rates in Latin America

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Rationale

This article reviews the empirical evidence on the pass-through of changes in the policy interest rates of the region's central banks to bank interest rates (distinguishing between consumer, corporate and mortgage loans, and deposits), using two complementary approaches: one with aggregate data and one with bank-level data.

Takeaways

- In the five largest inflation-targeting Latin American economies, the pass-through of policy interest rates to bank interest rates in recent years appears to be in line with historical experience, based on both aggregate data and bank-level data.
- The pass-through of policy interest rates to consumer credit rates (100%) is higher than that for corporate loans (80%) and that for mortgages (20%), while the pass-through to deposit rates is 90%. However, it is heterogeneous by country and segment.
- The pass-through of monetary policy to bank lending interest rates is symmetrical throughout the cycle, while the pass-through to deposit interest rates is slightly lower during periods of interest rate cuts.

Keywords

Monetary policy interest rates, bank interest rates, monetary policy transmission.

JEL classification

E44, E52, E65.

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Introduction

After mid-2021, amid the sharp increase in inflation and the gradual decline that ensued, the largest Latin American countries experienced a cycle of monetary policy tightening and subsequent easing that was unprecedented since the establishment of the current monetary management framework, characterised by independent central banks and inflation targeting (see Chart 1.a).

This article analyses the pass-through of movements in the policy interest rates of the region's central banks to interest rates on new bank lending (distinguishing between corporate, consumer and mortgage loans)¹ and deposits. The empirical evidence presented focuses on the five largest inflation-targeting economies in the region (Brazil, Chile, Colombia, Mexico and Peru) and takes two complementary approaches: one based on aggregate data and one using bank-level granular data. The transmission of monetary policy to bank interest rates on both assets and liabilities in the Central American countries and the Dominican Republic is also analysed using macroeconomic data.

Aggregate evidence

As shown in Chart 1.b, policy rate movements during this last monetary policy cycle have passed through to interest rates on new loans and deposits to varying degrees, depending on the country and the type of loan. Thus, in Brazil interest rates on consumer credit increased more strongly than those on corporate loans, owing to the higher risk associated with consumer credit (80% of which is in the form of credit cards or bank overdrafts) than with corporate loans (40% of which are earmarked loans, which have a lower interest rate than similar non-earmarked loans and are less closely linked to the policy rate). In Mexico, by contrast, the change in policy rates seemed to have a greater impact on corporate loans – characterised by shorter maturities – than on consumer loans, the main component of which are payroll loans, which are granted at a fixed rate and therefore react more slowly to policy rate movements. Meanwhile, the behaviour of deposit interest rates was more homogeneous and followed the policy rate far more closely, except in Peru.²

In order to analyse the pass-through of policy interest rates to lending rates from a historical perspective, a series of regressions have been estimated using monthly data on policy interest

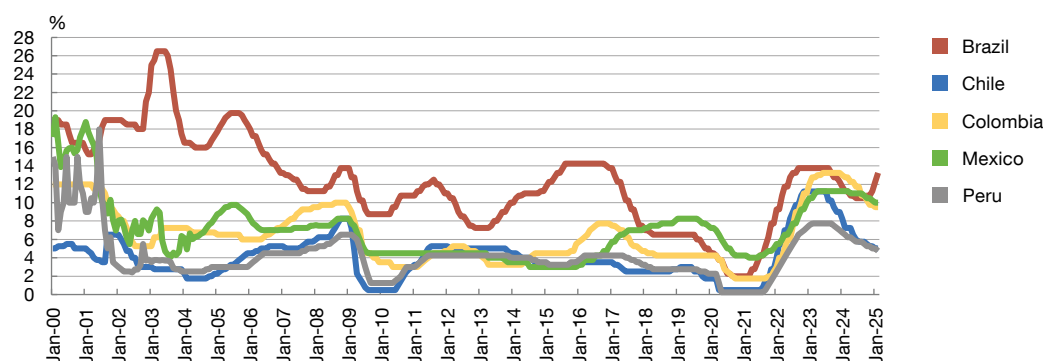
1 This analysis complements the exercises examining how monetary policy influenced the amount of credit granted, which were presented in the Banco de España's reports on the Latin American Economy for 2024 H1 and H2 (Banco de España, 2024; Banco de España, 2025).

2 The chart shows the interest rates on domestic currency transactions. Dollarisation of loans is highly variable by segment, ranging from 53% for loans to large corporations to 6% for consumer credit and 7.5% for mortgages. In the case of deposits, this percentage is around 60%. This causes the aggregate results for Peru presented in this article to be inaccurate in many cases.

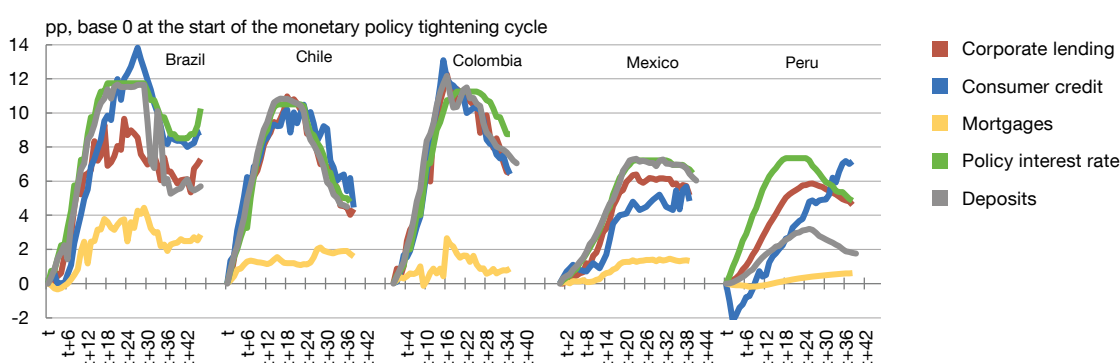
Chart 1

Policy interest rates and bank interest rates

1.a Monetary policy rates



1.b Monetary policy rates and interest rates on new lending (a)



SOURCES: Banco de España, national statistics and LSEG.

a Base zero in February 2021 (Brazil), August 2021 (Chile), October 2021 (Colombia), June 2021 (Mexico) and August 2021 (Peru).



rates and rates on new loans in the period January 2011 to October 2024 for the five large inflation-targeting economies in the region mentioned in the introduction (Brazil, Chile, Colombia, Mexico and Peru), distinguishing between consumer, corporate and mortgage loans.^{3, 4} The estimations are recursive over four-year windows. This makes it possible to compare the transmission in the most recent cycle with that observed for the sample as a whole. Moreover, past-due loans in each market segment, the rate of change in activity or the unemployment rate, and the US short-term interest rate are included as control variables. In the case of deposits, linear regressions are estimated over four-year windows using the interest rate on deposits, the policy interest rate and a variable that measures the strength of activity.

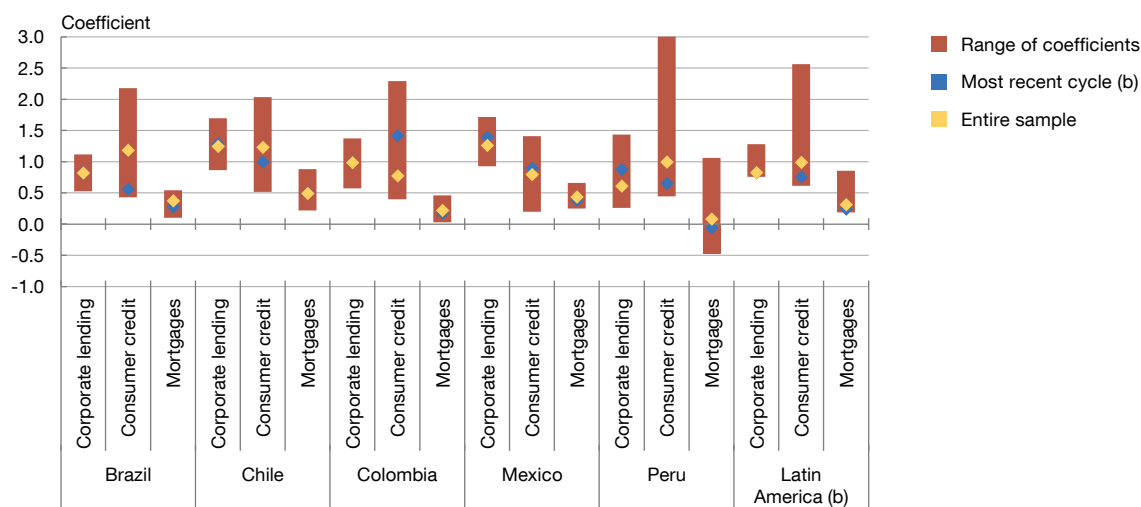
3 For most of the above-mentioned countries no interest rate information on new loans is available prior to January 2011.

4 Specifically, the following equation $i_{s,t} = \beta_0 + \beta_1 iof_t + \beta_2 npl_{s,t} + \beta_3 act_t + \beta_4 ius_t + e_{s,t}$ is estimated, where $i_{s,t}$ is the interest rate on new loans in each market segment s , iof_t is the policy interest rate, $npl_{s,t}$ is the percentage of non-performing loans in each segment, act_t is a variable that captures the business cycle (which is either the growth rate of the monthly activity indicator or the unemployment rate) and ius_t is the short-term interest rate in the United States.

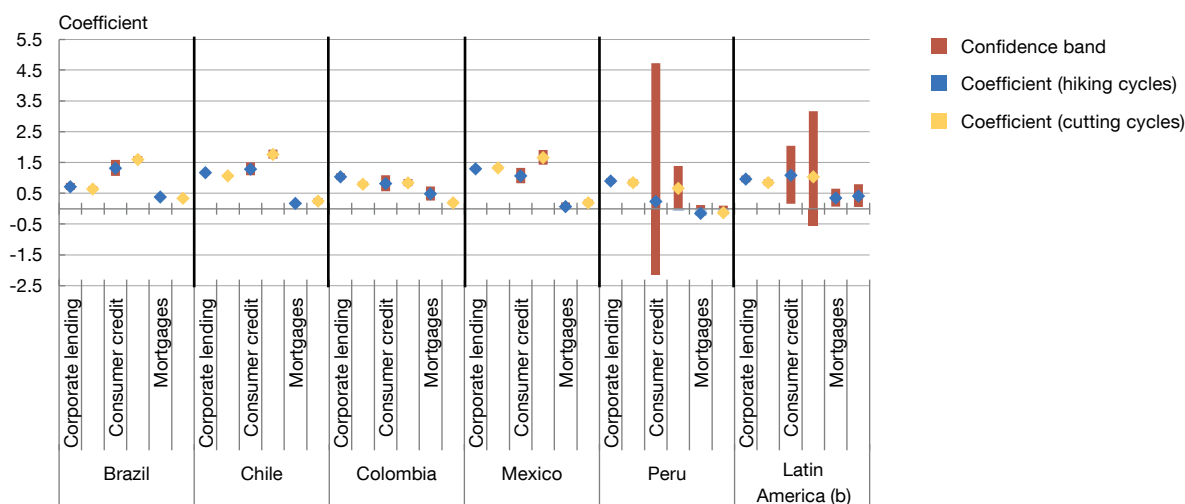
Chart 2

Policy interest rates and bank lending rates

2.a Pass-through of monetary policy rates to rates on new lending (a)



2.b Pass-through of monetary policy rates to rates on new lending (c)



SOURCES: Banco de España, national statistics and LSEG.

- a Recursive estimates over four-year windows with past-due loans in each market segment, the rate of change in activity or the unemployment rate, and the US short-term interest rate as control variables.
- b Panel data for the region's five largest inflation-targeting economies (Brazil, Chile, Colombia, Mexico and Peru).
- c The sample is divided into periods when policy interest rates are rising and periods when they are falling, and two linear regressions are estimated for each country and segment, with past-due loans in each market segment, the rate of change in activity or the unemployment rate, and the US short-term interest rate as control variables.



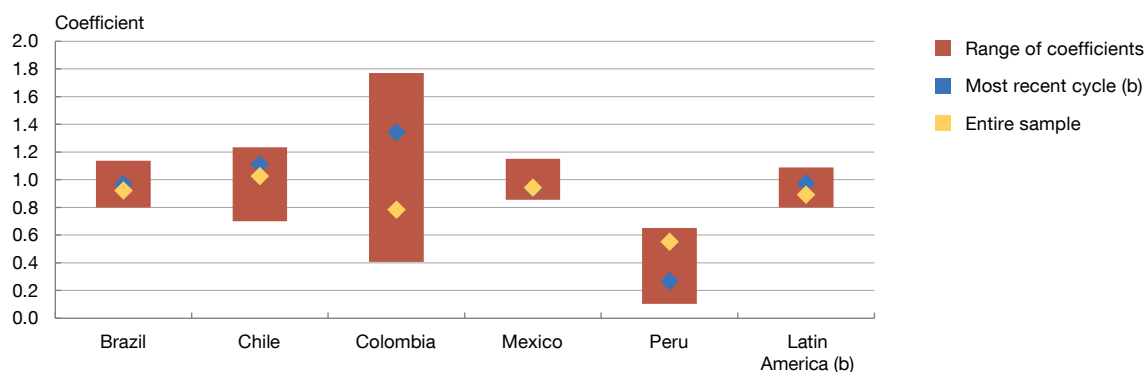
As shown in Chart 2.a, in the most recent monetary policy cycle initiated in mid-2021 policy interest rates have passed through to corporate lending rates in line with historical experience, standing at close to 80% for the region as a whole.⁵ The pass-through to consumer loans, which is around 100% (higher than for corporate loans), was slightly below the historical average, especially in

⁵ For the regional aggregate, a panel was estimated with the data for the five above-mentioned countries using the same methodology and control variables.

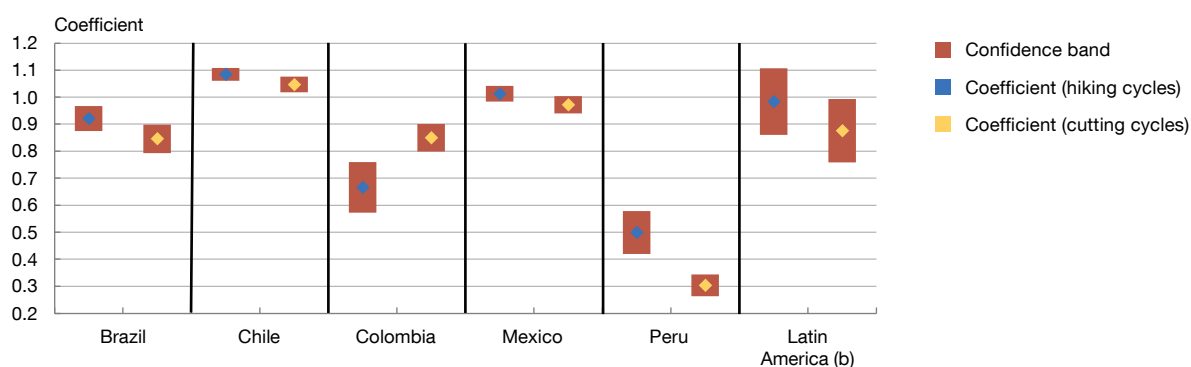
Chart 3

Policy interest rates and bank deposit rates

3.a Pass-through of monetary policy rates to deposit rates (a)



3.b Pass-through of monetary policy rates to deposit rates (c)



SOURCES: Banco de España, national statistics and LSEG.

a Recursive estimates over four-year windows with the rate of change in activity or the unemployment rate, and the US short-term interest rate as control variables.

b Panel data for the region's five largest inflation-targeting economies (Brazil, Chile, Colombia, Mexico and Peru).

c The sample is divided into periods when policy interest rates are rising and periods when they are falling, and two linear regressions are estimated for each country and segment, with the rate of change in activity or the unemployment rate, and the US short-term interest rate as control variables.



Brazil, Chile and Peru. Lastly, the impact of monetary policy on mortgage rates, which is normally much smaller than that estimated for the other two segments, has been consistent with its historical pattern, with the pass-through standing at around 20%. Regarding potential asymmetries between policy rate hiking and cutting cycles, using the same model and dividing the samples into periods of monetary policy tightening and easing, no significant differences were found overall in the degree of pass-through across the various segments analysed (see Chart 2.b).

Chart 3.a presents the analogous results for deposit interest rates. As with the different credit segments, the pass-through to bank deposit rates has been in line with past experience (except in Colombia and Peru), with coefficients very close to 100% (except in Peru where the pass-through is estimated at 50%). As for asymmetries between hiking and cutting cycles, the pass-through was found to be lower when policy rates decrease, although the differences are not statistically significant (see Chart 3.b).

To complete the macroeconomic analysis, we conducted an exercise for the Central American countries and the Dominican Republic. In this case, due to data availability issues, we considered each country's aggregate lending and deposit rates. We estimated a panel structural vector autoregression model – following the methodology presented in Pedroni (2013) and based on the studies conducted by Castillo, Mora and Torres (2008) and Pérez-Forero (2016) – for Costa Rica, Guatemala, Honduras and the Dominican Republic.⁶ The model includes six endogenous variables: bank lending⁷ to the private sector, bank deposits, the nominal exchange rate of the local currency against the US dollar, the interest rate on new loans, the interest rate on new deposits and, as the variable representing domestic monetary policy, the interest rate on short-term savings/investment instruments (31 to 90 days) issued by the region's central banks.⁸ Lastly, as an exogenous variable, the US Federal Reserve's policy rate is included in the model estimation to capture the effects of external monetary policy.

Chart 4 shows the results of the estimation: a 1 percentage point (pp) increase in the domestic policy rate has a significant impact on bank lending and deposit rates, with this impact peaking after two months (between 15% and 20% on average) and being somewhat larger for deposit rates than for lending rates. The model results also indicate that monetary policy rates have a significant impact on exchange rates, reflecting the relevance of the exchange rate channel of monetary policy transmission in these countries.⁹

Evidence based on granular bank data

The evidence presented in the above section using data for loans extended by the overall banking system is consistent with the results obtained based on granular data, specifically using quarterly bank-level data for the region's five largest inflation-targeting economies: Brazil, Chile, Colombia, Mexico and Peru.¹⁰ This exercise analyses the impact of domestic monetary policy shocks on bank lending rates in each of the three segments considered: consumer, corporate and mortgage

6 This model is used due to the lack of sufficient interest rate data by loan segment to repeat the analysis presented for the region's five largest economies. El Salvador is not included in this analysis since it is a dollarised economy, while Nicaragua is excluded because its policy interest rate was set in April 2020 and it lacks monetary instruments such as securities with terms of 30 to 90 days.

7 A more general sector, "Other Deposit-Taking Corporations", is considered, which is defined as deposit institutions, excluding the central bank, that issue liabilities included in the national definition of broad money. These include commercial banks, savings and credit cooperatives and money market funds, among others.

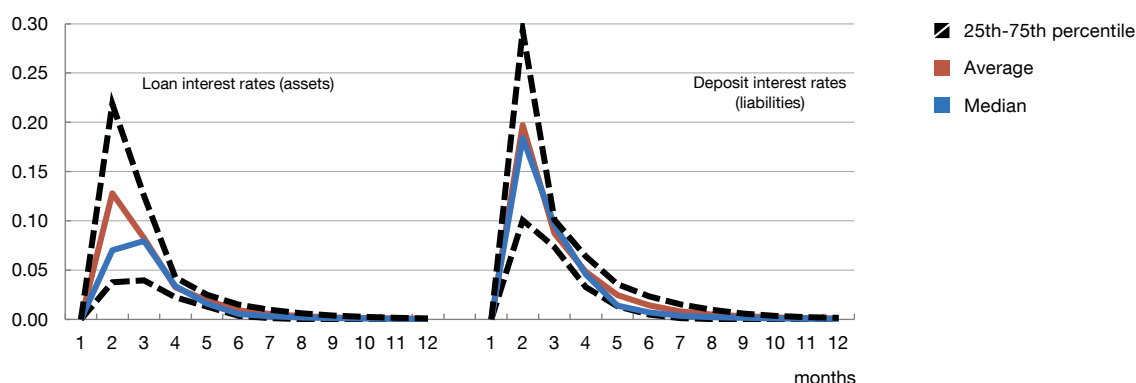
8 The official reference rates for these instruments are used rather than the central bank's policy rates, given that: (i) longer series are available than for policy rates; (ii) they are closely correlated with policy rates; and, (iii) they fluctuate more smoothly compared with the sharper changes in policy rates. For Costa Rica, the instruments considered are electronic time deposits (DEPs by their Spanish acronym); for Guatemala, they are tendered securities; for Honduras they are Standing Investment Facilities (FPIs); and, lastly, for the Dominican Republic they are zero-coupon and Treasury bill tenders by the central bank. The data are obtained from the Harmonised Monetary and Financial Statistics II (Estadísticas Monetarias y Financieras Armonizadas II). The variables are ordered using the Cholesky approach.

9 On average, an increase of 1 pp in short-term interest rates generates, with a lag of one or two months, an initial exchange rate appreciation of 0.4%, which builds up to 1.3% over six months.

10 The sample includes a total of 53 banks with observations available for the following periods: Brazil: 2012 Q1-2023 Q2; Chile: 2014 Q1-2023 Q2; Colombia: 2016 Q1-2023 Q2; Mexico: 2011 Q1-2023 Q2; Peru: 2010 Q1-2023 Q2. In Brazil and Colombia, the interest rate is the average for loans extended in the last week; for Peru it is the average for loans granted in the last 30 days; and for Chile and Mexico it is the average for loans extended in the last year. The data are available on the institutional central bank websites of each analysed country.

Chart 4

Reaction function of bank interest rates to domestic monetary policy shocks (a)



SOURCE: SECMCA.

a Vector autoregressive model with panel data (SVAR panel) for Costa Rica, Guatemala, Honduras and the Dominican Republic. The model includes six endogenous variables ordered using the Cholesky approach: bank lending to the private sector, bank deposits, the local currency exchange rate against the US dollar, the interest rate on new loans, the interest rate on new deposits and, to represent domestic monetary policy, the interest rate on short-term savings/investment instruments (31 to 90 days) issued by the region's central banks.



lending. Monetary policy shocks are proxied using Taylor rule residuals, following the methodology in Moraes, Peydró, Roldán-Peña and Ruiz-Ortega.¹¹ These shocks are used as determinants in the following dynamic panel to explain bank lending rates.¹²

$$i_{b,c,t}^s = \alpha_0 i_{b,c,t-1}^s + \alpha_1 \text{LocalIMP}_{c,t-1} + \alpha_2 \text{USMP}_{t-1} + X_{b,t-1} + Z_{c,t-1} + Q1_{t-1} + D_t \\ + \text{BankFE} + \text{countryFE} + \epsilon_{b,t}$$

where $i_{b,c,t}^s$ is the average interest rate on loans extended by bank b , in quarter t , in country c and for loan segment s . α_0 is the first-order autoregressive coefficient and $\text{LocalIMP}_{c,t-1}$ is the domestic monetary policy shock in country c , lagged by one quarter. Included as control variables, lagged by one quarter, are Federal Reserve monetary policy shocks, USMP_{t-1} , estimated using a Taylor rule residual,¹³ as this variable may also be relevant in explaining bank interest rate dynamics in small and open economies.¹⁴ Also included are bank-level control variables, $X_{b,c,t-1}$,¹⁵ macroeconomic variables for country c , $Z_{c,t-1}$; macroeconomic variables for the United States, I_{t-1} ; and a dummy

11 Based on a Taylor rule that responds to domestic economic fundamentals such as annual real GDP growth and the annual change in the consumer price index, and to the same variables for the United States.

12 By construction, the lagged dependent variables are correlated with unobserved panel-level effects, resulting in inconsistent standard estimators. This makes it necessary to use the GMM systems estimator in Arellano and Bover (1995) and Blundell and Bond (1998).

13 “Shadow” interest rates (Wu and Xia, 2016) are considered, which capture the effect on the monetary policy stance of non-standard measures adopted in the period in which policy rates reached their effective lower bound. The Taylor rule used in this case responds to annual real GDP growth and the annual change in the US consumer price index.

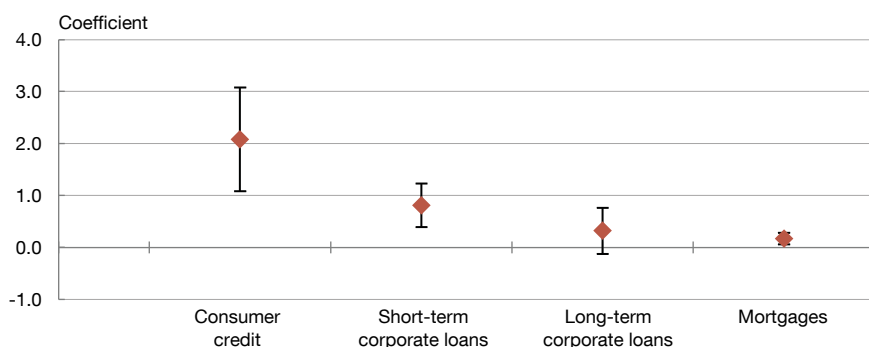
14 See, for example, Kalemli-Özcan (2019), Di Giovanni, Kalemli-Özcan, Ulu and Bascaya (2022) and Acosta-Henao, Amado, Martí and Pérez-Reyna (2024).

15 In particular, capitalisation and liquidity ratios; a dummy variable indicating whether the bank is among the top five in terms of assets in the country where it operates; a dummy variable indicating whether the bank is foreign-capital (non-Spanish) owned and fixed effects by loan dollarisation quartile.

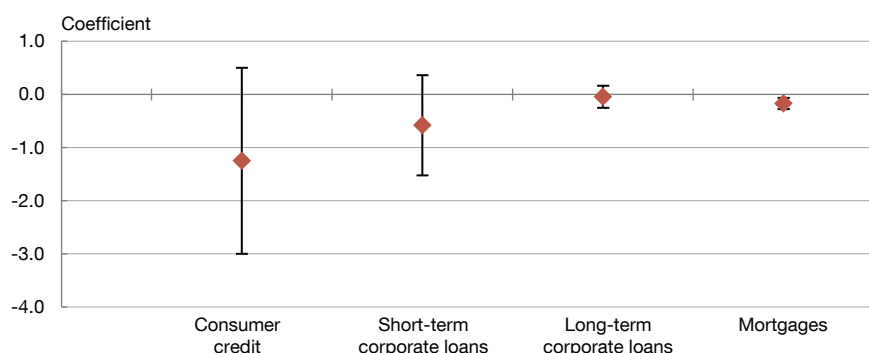
Chart 5

Response of bank lending rates to domestic monetary policy

5.a Interest rates: response to domestic monetary policy shocks (a)



5.b Differential pass-through of domestic monetary policy to bank lending rates: expansions vs contractions (b)



SOURCE: Banco de España, drawing on monetary and supervisory authority data.

a The diamonds show the estimated impact on the interest rates on loans extended by Latin American banks of a 1 pp increase in the policy rates of the region's central banks. The lines denote a 90% confidence interval. The interest rates for the consumer and mortgage loan segments are available for banks in Brazil, Chile, Colombia, Mexico and Peru. The breakdown of corporate lending into short and long-term loans is available only for Brazil, Chile and Colombia.

b The diamonds show the difference in the pass-through of monetary policy shocks of 1 pp from the region's central banks to bank loan rates in Latin America between episodes of monetary expansion and of monetary contraction. The lines denote a 90% confidence interval.



variable, D_t , indicating whether the period is regarded as one of high global turbulence or not.¹⁶ Bank and country-level fixed effects are also included. The coefficient of interest is α_1 , which captures the pass-through of domestic monetary policy shocks to bank lending rates.

The results of the analysis show that domestic monetary policy has a significant impact on consumer lending rates and a more moderate impact on short-term corporate loan rates, while the pass-through to mortgage rates is far weaker (see Chart 5.a).¹⁷ Specifically, the high pass-

¹⁶ Including the following two episodes of heightened global uncertainty during the period under review: 2020 (COVID-19 pandemic) and 2022-2023 (Ukraine war and inflation crisis).

¹⁷ As an additional exercise, the model includes the interaction between the variable $LocalMP_{c,t-1}$ and a dummy variable with the value 1 in periods corresponding to the most recent cycle of monetary tightening and easing in each country. The findings indicate that the pass-through of monetary policy to loan rates has been the same as during the monetary policy cycles of the previous decade. Although the pass-through has been slightly higher in the mortgage segment, it was still lower than the pass-through to consumer and corporate lending rates in the latest cycle.

through to consumer loans is likely attributable to these typically being short-term, variable-rate and unsecured loans. When faced with monetary tightening, this prompts banks to adjust rates on new loans more quickly to mitigate their higher risk. The result for corporate lending suggests a more moderate pass-through, albeit somewhat stronger in the short-term loans segment.¹⁸ Lastly, the pass-through to mortgage rates is the weakest, consistent with the aggregate-level evidence presented above and other studies for the region.¹⁹

To identify whether this pass-through is symmetric in periods of expansionary and contractionary monetary policy, the above exercise is replicated including in the estimated model the interaction between the variable $LocalMP_{c,t-1}$ and a dummy variable that takes the value 1 in periods of monetary expansion and 0 otherwise. As Chart 5.b shows, although the interaction coefficients are negative, they are not statistically significant for consumer and corporate lending, suggesting that the pass-through is symmetric in these segments. By contrast, the coefficient associated with the mortgage lending segment is negative and statistically significant, indicating that the pass-through is weaker during monetary expansions than during monetary contractions. This may be attributable to the challenges of quickly refinancing mortgage loans due to frictions and prepayment penalties, which temper the pass-through of policy rate cuts during such episodes of monetary easing. By contrast, the pass-through is typically more symmetric in the consumer and corporate credit segments, which are characterised by shorter maturities and more competitive pricing.²⁰

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¹⁸ Available only for Brazil, Chile and Colombia.

¹⁹ For example, for Chile, De Gregorio (2009) documents that mortgage rates exhibit a weaker response to monetary easing than consumer and corporate lending rates. Lahura (2017) provides evidence for Peru of a greater pass-through effect for shorter-term loans. Lastly, in Mexico the central bank identifies mortgage lending as the segment with the least pass-through (Banco de México, 2024).

²⁰ In the relevant literature, evidence of asymmetric effects in the pass-through of monetary policy in the region is mixed and largely depends on the methodology used. For example, using data from Peru, Lahura (2017) finds evidence of some asymmetry in the pass-through to corporate loan rates, with higher pass-through during monetary contractions than during expansions. Conversely, for Chile, Pedersen (2016) finds a symmetric and full pass-through to consumer and corporate loan rates.

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