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A Kinked Pipe: Uruguay's Banking Intermediation Puzzle

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Inter-American Development Bank
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Abstract¹

Financial development is central to growth because it mobilizes savings, allocates capital, and supports investment and productivity. This paper asks why Uruguay combines an ample deposit base with unusually low private credit, and whether the constraint lies in deposit mobilization or in transforming those deposits into lending. Using cross-country data for 154 countries over 2011–2023, we estimate the macroeconomic, volatility, institutional, and banking-structure determinants of the deposits-to-GDP, credit-to-GDP, and credit-to-deposits ratios. We find that Uruguay’s credit-to-GDP gap is largely explained by historical macroeconomic instability, banking crises, institutional factors, and banking-sector characteristics, whereas deposits are larger than predicted by the model, and the credit-to-deposits ratio remains mostly unexplained. The results imply that policy should focus less on expanding deposits than on deepening local-currency credit markets, reducing dollarization and intermediation costs, and improving the conditions under which savings are transformed into productive credit.

JEL Codes: G21, G28

Keywords: Financial intermediation; Banking; Private credit; Deposit mobilization; Uruguay.

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1. Introduction

A well-functioning financial system is central to economic development. Extensive evidence shows that deeper financial systems are associated with faster economic growth, even after accounting for initial conditions and other determinants of growth (King & Levine, 1993a, 1993b; Levine et al., 2000). Banks play a key role in this process by mobilizing savings, allocating capital, monitoring firms, facilitating risk diversification, and lowering transaction costs (Levine, 2005). Where capital markets are shallow, as is the case in much of Latin America, bank credit is the main channel linking financial development to real economic activity. Accordingly, private credit to GDP is widely used as a measure of financial depth: higher credit is associated with stronger investment and productivity, and, in some studies, with lower inequality and poverty (Rajan & Zingales, 1998; Beck et al., 2007; Djankov et al., 2007). Conversely, low private credit often signals financing constraints that may limit investment, entrepreneurship, and growth.

These considerations make the study of banking intermediation particularly relevant for Uruguay. Despite its high-income status, strong institutions, and comparatively low levels of poverty and inequality, its financial system remains shallow on the lending side. The puzzle is not a lack of savings: bank deposits are high, indicating a trusted system capable of mobilizing funds. Rather, the gap lies in the limited transformation of those deposits into private credit. In 2024, domestic credit to the private sector stood at only 29.9% of GDP, placing Uruguay 103rd among 152 economies, far below its 58th-place ranking in terms of GDP per capita and roughly half the Latin American and the Caribbean benchmark. This disconnect suggests that banks mobilize substantial savings but channel only a limited share into financing for firms and households, potentially constraining investment and economic growth. Explaining why credit remains low despite high deposits, strong institutions, and high income is therefore central to understanding Uruguay's development prospects.

This paper aims to identify the main factors behind the persistent shallowness of Uruguay's banking system and to draw policy implications for strengthening financial intermediation.² Using macroeconomic, institutional, and banking-sector data for 154 countries over 2011–2023, we exploit cross-country variation in the determinants of bank liabilities and credit to explain Uruguay's low level of intermediation.

² We will concentrate on the development of the banking system, without tackling other relevant issues, such as financial inclusion, new lending technologies or the promotion of deeper capital markets. This decision is guided not only by the need to narrow the scope but also by the reasonable presumption that financial markets' development is preceded by a large and robust banking industry. Carvajal and Bebczuk (2019) analyze this financial sequencing.

We find that Uruguay's financial intermediation puzzle lies less in deposit mobilization than in the limited conversion of deposits into credit. In the baseline specification, Uruguay's deposits-to-GDP ratio is only 3.8 percentage points (pp) below its predicted value, whereas private credit is 26.7 pp lower, and the credit-to-deposits ratio is 39.1 pp below the level implied by macroeconomic fundamentals. Accounting for historical inflation and banking crises nearly eliminates the credit-to-GDP gap, reducing the Uruguay dummy to -1.2 pp and rendering it statistically insignificant, while turning the deposits dummy positive, at 26.9 pp. Institutional variables, especially creditor-rights measures, explain part of the credit shortfall, while banking-sector characteristics—most notably net interest margins and bank stability—further narrow the estimated credit gap. We then bring these three sets of controls together in a single specification, combining the macroeconomic and historic variables with the institutional and banking-sector regressors identified above. In this integrated specification, Uruguay's deposit ratio is 32 pp above the model prediction, while its credit-to-GDP gap is close to 10 pp and no longer statistically significant. However, the credit-to-deposits gap remains large and significant, at almost 32 pp. These results indicate that Uruguay's banking system mobilizes ample deposits but intermediates a persistently low share of them into domestic credit (see Section 4).

This paper contributes to the literature on the determinants of financial development. Early work links financial depth to the legal environment, showing that countries with weaker protection and enforcement of creditor and shareholder rights have shallower capital markets, largely reflecting legal origin (common versus civil law). Financial intermediaries also develop more where legal systems protect creditors and mandate accurate financial reporting—a component of finance that also predicts long-run growth (La Porta et al., 1997; Levine, 1999). This view has been contested. Beck et al. (2003) find that historical endowments, proxied by settler mortality, explain cross-country differences better than legal origin. However, La Porta et al. (2013) show that legal origin still accounts for much of the variation and shapes bank ownership and regulation, with civil law associated with shallower private credit. A political economy view stresses that financial depth varies within countries over time, as incumbents resist competition-enhancing financial development—resistance that weakens under countries' openness to trade and capital flows (Rajan & Zingales, 2003). Most directly, Djankov et al. (2007), using data from 129 countries, identify creditor rights and credit-registry coverage as robust predictors of private credit to GDP. A complementary strand of research links financial depth to macroeconomic stability, and particularly to inflation. Boyd et al. (2001) find that inflation has a large, nonlinear negative effect on banking-sector development and stock market activity. While its marginal impact fades as inflation rises, a clear threshold emerges, with a discrete drop in financial-sector performance once inflation exceeds roughly 15%.

Relatedly, this paper also speaks to the literature studying the link between banking structure and credit provision, which spans several dimensions, from market concentration and ownership to the currency composition of bank balance sheets. On bank concentration, the evidence remains scarce, but the limited work available points to a weakly negative effect of bank market share on private credit to GDP (Bannister et al., 2018). Financial dollarization has received comparatively more attention, with the evidence pointing to an unfavorable relationship with financial development. Dollarized economies are more prone to banking crises and experience slower and more volatile output growth without any offsetting gain in financial depth (Levy Yeyati, 2006). Similarly, deposit dollarization has been found to reduce financial deepening on average, an effect that is dampened where past inflation has been high (Bannister et al., 2018). The evidence further points to a link between ownership and currency structure, as foreign-owned banks tend to be associated with higher credit dollarization, reflecting their comparative advantage in intermediating foreign-currency funding (Basso et al., 2011). Taken together, this literature suggests that credit implications of dollarization are ambiguous a priori, hinging on the interaction between currency composition, macroeconomic conditions, and bank ownership.

This paper also contributes to a body of local and international research documenting the features of Uruguay's financial system that set it apart from the broader Latin American pattern. Uruguay's banking sector exhibits scale economies and uneven competition across products, with notably weaker competition in household credit—in both local and foreign currency—than in local-currency firm credit (Mello & Ponce, 2019). Consistent with this, margins are persistently high relative to those in peer economies, within a market characterized by high concentration, a heavy public-bank footprint, and substantial foreign-bank participation (Fernández de Lis et al., 2012; Lluberas, 2025). Weak competition and a small domestic market constrain long-term financing, which falls to a large degree on public banks (Lurner & Rodríguez Salvo, 2019). At the firm level, Uruguayan firms rely heavily on internal funds (De Brun et al., 2001), though more recent evidence concentrates these constraints among micro, small, and especially informal firms, with medium and large firms generally accessing bank credit without major restrictions (Caumont, 2010).

A second, closely related strand of research focuses on Uruguay's financial dollarization as a structural determinant of credit depth and composition. Uruguay has historically been ranked among the world's most dollarized economies in both deposits and loans, which deepened the 2002 banking and currency crisis amid limited monetary policy space (De Brun & Licandro, 2005; De la Plaza & Sirtaine, 2005). Households continue to exhibit both cultural and financial dollarization even after years of stability, reflecting dollar preferences that are only partly explained by inflation risk (Licandro & Mello, 2017). At the same time, the absence of a deep local-currency capital market reinforces bank dollarization by

constraining both the demand for and supply of local-currency instruments (Labat & Licandro, 2021). Policy changes—including inflation targeting and better local-currency instruments—have partially reduced dollarization (Vargas & Sánchez, 2023).

Our contribution is twofold. First, we benchmark Uruguay against a broad set of countries and a comprehensive range of macroeconomic, institutional, and banking-structure determinants, allowing us to pinpoint what makes its financial development anomalous rather than merely describing it. Second, we move beyond the literature’s near-exclusive focus on credit aggregates by analyzing deposits and the credit-to-deposits ratio. This distinction is central to the Uruguayan puzzle: it isolates whether shallow intermediation originates in the mobilization of savings or in their transformation into credit—an important distinction with direct policy implications.

The remainder of the paper is structured as follows. Section 2 outlines the empirical framework and the main hypotheses guiding the analysis. Section 3 presents a descriptive exploration of the key variables using a broad cross-country dataset. Section 4 reports the results of the econometric estimations. Section 5 presents the results of simulations. The final section concludes with a discussion of the main findings and their policy implications.

2. Empirical Strategy

To identify the factors behind Uruguay’s shallow banking intermediation, we exploit cross-country variation in the determinants of bank deposits and bank credit across a sample of 154 countries from 2011 to 2023.³ We estimate the macroeconomic, institutional, and financial-structure determinants of both deposits and private credit as shares of GDP and complement these measures with the credit-to-deposits ratio to understand the capacity of Uruguay’s banking system to convert savings into lending.

A cross-country design is well suited to this question because several key regressors—particularly those capturing institutional quality—vary little over time, reflecting deep historical and political roots that evolve only gradually. Since financial development is in itself a long-run phenomenon, cross-sectional variation offers a meaningful source of identification. Because the set of candidate determinants is large, and to limit collinearity, which would reduce the accuracy of the estimated coefficients, we proceed sequentially, analyzing one block of variables at a time. In each step, we discard those whose effects are small, statistically insignificant, or that reduce the sample size without adding explanatory value.

³ Appendix Table A.4 describes the variables and data sources and Table A.6 lists the countries in the sample.

We begin by examining the macroeconomic determinants of deposits and credit, estimating the following specification via OLS, with all continuous variables averaged over 2011–2023:

$$Y_i = \alpha + \beta_1^M \ln(GDPpc_i) + \beta_2^M Growth_i + \beta_3^M Saving_i + \beta_4^M Debt_i + \beta_5^M CAB_i + \beta^{UY} Uruguay_i + \varepsilon_i \quad (1)$$

Where i indexes countries, Y_i is the dependent variable (bank deposits as a share of GDP, bank credit as a share of GDP, or the ratio of bank credit to bank deposits), M stands for macroeconomic determinants, $\ln(GDPpc_i)$ is the natural logarithm of PPP-adjusted GDP per capita at 2021 prices, $Growth_i$ is the average growth rate of GDP, $Saving_i$ is gross national saving as a share of GDP, $Debt_i$ is the public debt of the general government as a share of GDP,⁴ CAB_i is the current account balance, and $Uruguay_i$ is a binary indicator equal to one if the country is Uruguay and zero, otherwise.

We expect higher income per capita, faster real GDP growth, and higher saving rates to support intermediation by enlarging the pool of loanable funds and strengthening confidence in repayment capacity. The role of fiscal variables is theoretically ambiguous: government securities may crowd out private lending, while deeper sovereign debt markets may instead foster financial deepening through better price discovery and anchored yield curves. The current account balance is similarly ambiguous, potentially reflecting either reliance on foreign financing that substitutes for domestic bank funding or external vulnerability associated with banking-sector stress. The coefficient of central interest is the one on the Uruguay dummy: a positive value indicates that the country holds more deposits or credit than its macroeconomic fundamentals would predict, and a negative value indicates the opposite. We next extend Equation 1 to capture the long-run influence of macroeconomic volatility and past episodes of financial distress on deposits and credit, estimating:

$$Y_i = \alpha + \mathbf{Macro}_i' \beta^M + \beta_1^V SD(Growth_i) + \beta_2^V Inflation_i + \beta_3^V SD(Inflation_i) + \beta_4^V HighInflation_i + \beta_5^V BankCrisis_i + \beta^{UY} Uruguay_i + \varepsilon_i \quad (2)$$

Where V stands for macroeconomic volatility determinants, $\mathbf{Macro}_i'$ is a vector of macroeconomic determinants (see Equation 1), $SD(Growth_i)$ is the standard deviation of the GDP growth rate, $SD(Inflation_i)$ is the standard deviation of the inflation rate, $HighInflation_i$ is the number of years between 1970 and 2010 with annual inflation above 40%, and $BankCrisis_i$ is the number of bank crises between 1970 and 2010.

⁴ The IMF's definition of gross government debt includes all financial liabilities of the general government, including those of the Central Bank, net of intra-government debt.

Macroeconomic volatility is likely to discourage participation in the banking system, so we proxy economic uncertainty with the volatility of GDP growth and of inflation. To capture the legacy effects of past systemic stress, we add the number of years with annual inflation above 40% and the number of banking crises, both measured between 1970 and 2010. We expect these volatility and historic stress variables to enter with negative coefficients.

We also assess the role of institutional quality in shaping financial depth by considering indicators that capture the legal and informational environment in which firms and financial institutions operate, including creditor protection and the availability of credit information. Stronger legal rights and broader credit-information systems can reduce information asymmetries, mitigate agency problems, and thereby support lending activity. Because these indicators may be highly correlated with economic development and with one another, we estimate separate specifications for each institutional measure and exclude macroeconomic controls.

To further examine Uruguay's banking structure, we incorporate variables that are especially relevant in the Uruguayan context and prominent in policy debates. Their expected effects are theoretically ambiguous. Dollarization may support deposit mobilization when confidence in the local currency is weak, but it can also generate currency mismatches and constrain lending. Banking concentration may reduce competition, increase spreads, and weaken service quality, although contestable markets can mitigate these effects. High operating costs may raise the minimum lending rate at which borrowers can be served profitably, thereby restricting credit access, although they may also reflect investments in branch networks, technology, compliance, or other services that support financial intermediation. Regulatory requirements may strengthen resilience, but they can also restrict credit expansion or signal underlying fragility.

Finally, we estimate a comprehensive specification that combines the macroeconomic, volatility, institutional, and banking-structure variables:

$$Y_i = \alpha + \mathbf{Macro}_i' \beta^M + \mathbf{Volat}_i' \beta^V + \mathbf{Instit}_i' \beta^I + \mathbf{Banking}_i' \beta^B + \beta^{UY} Uruguay_i + \varepsilon_i \quad (3)$$

The final set of regressors is selected based on statistical significance, sample coverage, and consistency with the theoretical priors discussed above. This specification provides an integrated framework for assessing the drivers of financial intermediation, with particular attention to the structural features of Uruguay's banking system.

3. Descriptive Evidence

Comparing the ratios of private deposits and credit to GDP for Uruguay with those of a broad international sample of 154 countries over the period 2011–2023 (see Appendix Table A.1), we see that Uruguay’s deposit base appears comparatively strong: at 57.5% of GDP, Uruguay exceeds the international median of 50.1%.⁵ In contrast, the level of private credit, at around 27% of GDP, remains below the global median of 39.5%, revealing the relatively shallow nature of lending activity. Therefore, the ratio of private credit to deposits stands at 46.9%, well below the global benchmark of 77.8%. This gap points to a structural feature of the Uruguayan financial system: the constraint does not lie primarily in the generation of deposits, but rather in the relatively weak conversion of those resources into domestic lending.

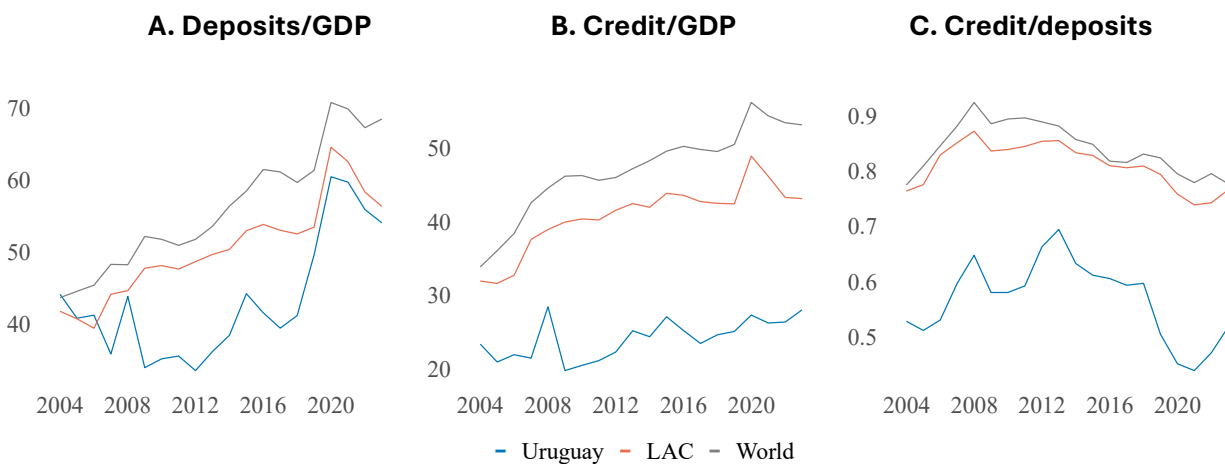
The evolution of Uruguay’s financial depth indicators exhibits a distinctive pattern relative to the LAC region and the world average over 2004–2024 (see Figure 1). Both Deposits/GDP and Credit/GDP remain consistently below LAC and World levels for most of the period, with Uruguay showing markedly higher volatility—including a sharp but transitory spike around 2008. A clear structural break emerges in 2020, when Uruguay’s deposit ratio rises sharply, mirroring the pandemic-era surge observed across all groups, though the jump is proportionally larger in Uruguay than in the region as a whole, briefly bringing it into line with LAC levels.

The most striking pattern appears in private-credit-to-deposits ratio. Uruguay lies persistently and substantially below both LAC and World levels throughout the sample, with the gap widening after 2013 and reaching a trough near 0.45 around 2020–2021, compared to LAC and World levels hovering around 0.75–0.80. This divergence indicates that Uruguay’s banking sector channels a comparatively smaller share of its deposit base into private credit than its regional and global peers.

⁵ We truncated the sample by keeping only the countries with a deposits-to-GDP ratio below 120%, with the goal of focusing on emerging economies and excluding outliers, particularly financial centers, where these bank ratios may reach much higher values, which might be hard to interpret as part of traditional banking intermediation.

Figure 1. Deposits and credit ratios across regions

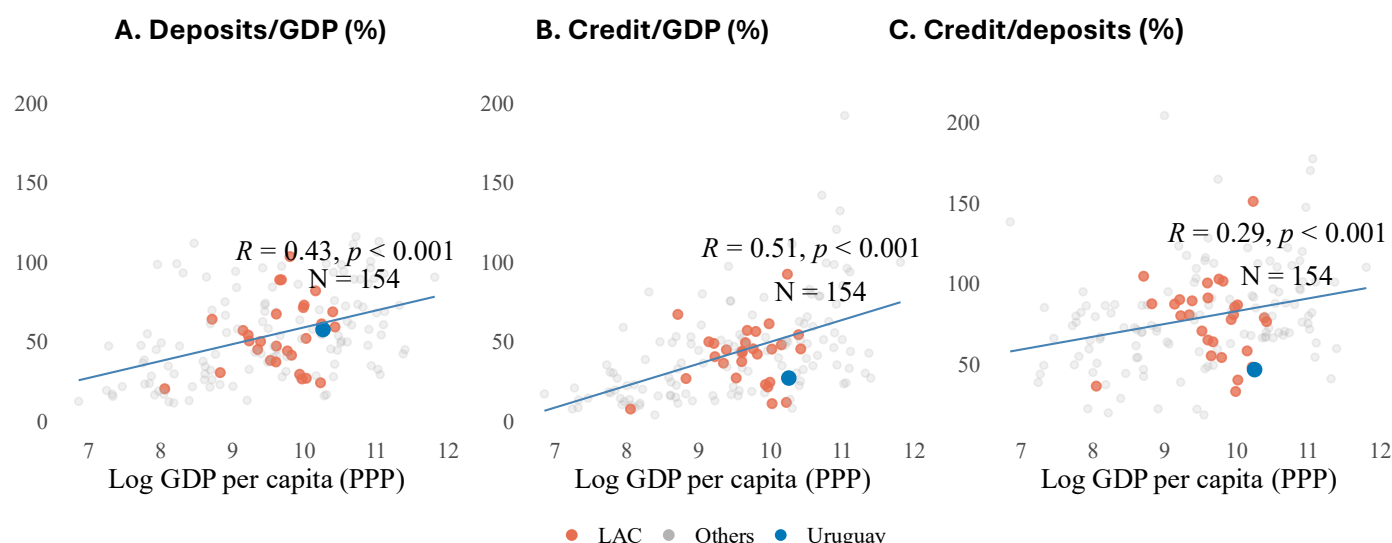
(annual, 2004-2026)



Notes: Graphs show the evolution of Deposits/GDP, Credit/GDP, and Credit/Deposits in Uruguay, Latin America and the Caribbean (LAC), and the World, over 2004-2023. LAC and World correspond to the simple average across countries in each group. Source: WEO-IMF.

This gap persists once economic development is considered. As Figure 2 shows, Uruguay's deposits-to-GDP ratio is in line with what its GDP per capita (in PPP terms) would predict, whereas both credit to GDP and credit to deposits fall well short of their expected levels—shortfalls that rank among the largest in Latin America and the Caribbean. The anomaly therefore lies specifically in the transformation of deposits into credit.

**Figure 2. Banking depth, development, and intermediation across countries
(2011–2023)**



Notes: Own elaboration based on data from FAS-IMF and WEO-IMF. Financial variables are computed as country-level averages over 2020–2023, while GDP per capita corresponds to the 2011–2023 country-level average, expressed in PPP terms at 2021 prices.

Uruguay's macroeconomic environment is broadly stable relative to the international sample (Appendix Table A.1), while its GDP per capita is roughly twice the world median. This contrast reinforces the central puzzle: Uruguay's financial system is shallow relative to the country's level of economic development. At the same time, the national saving rate is comparatively low. On the fiscal side, public debt is somewhat higher than international averages.⁶ Finally, on the external side, the current account deficit is markedly smaller than international averages.

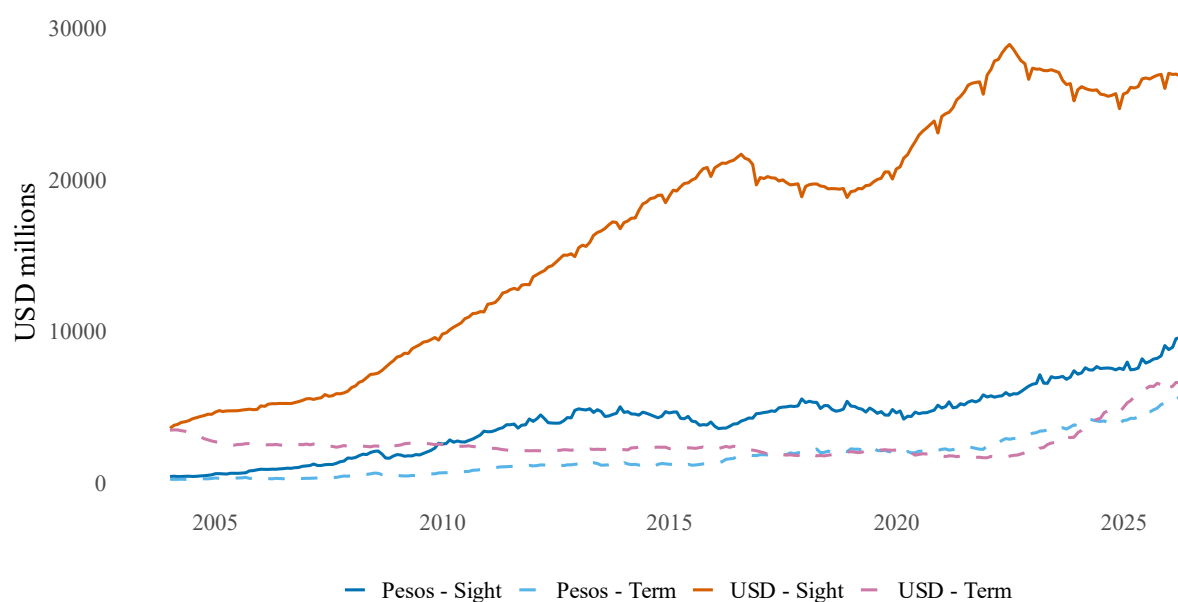
Contemporary volatility does not seem to be the source of the problem: although inflation sits somewhat above the global median, it is not accompanied by elevated volatility in either inflation or output growth. This sets Uruguay apart from more unstable macroeconomic settings and suggests that contemporary volatility plays a limited role in explaining its financial underdevelopment. The picture changes sharply, however, once historic stress is considered. Between 1970 and 2010, Uruguay recorded 22 years of inflation above 40% (against a global median of 2.1) and 9 banking crises (against a world median of 2.4)—pointing to a legacy of instability that may weigh on financial development to this day.

⁶ The IMF's Gross Government Debt definition includes all financial liabilities of the General Government, including those of the Central Bank, after netting out intra-government debts.

The institutional indicators in Table A.1 present a mixed picture.⁷ Uruguay's legal rights and the effective creditor rights enforcement fall somewhat below international benchmarks. By contrast, credit information indicators are comparatively strong: both registry and bureau coverage exceed global averages, with bureau coverage reaching the entire adult population.

The legacy of past inflation and financial stress plausibly shapes deposit and credit behavior through distinct channels, and this asymmetry may help explain the low conversion of deposits into credit. Having experienced repeated bouts of high inflation and currency depreciation, Uruguayans still seek refuge in the banking system largely through dollar-denominated deposits, since these offer protection against a potential erosion of the peso's purchasing power. Moreover, a substantial share of these deposits is held at sight, consistent with a strong preference for liquidity (Figure 3).

Figure 3. Deposits by currency and maturity
(monthly, 2004-2023)



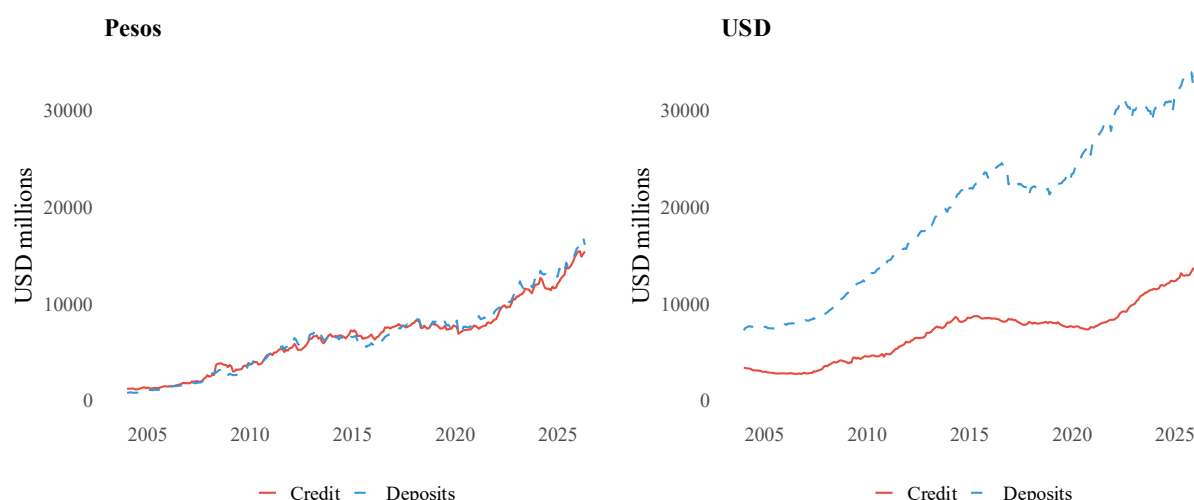
Note: Own elaboration based on monthly data from the Central Bank of Uruguay.

Demand for dollar-denominated credit, however, does not mirror this behavior: a loan denominated in dollars becomes more burdensome precisely when the peso depreciates, making borrowers reluctant to take on dollar debt. This is compounded on the supply side by prudential regulation that leaves banks with limited capacity to transform dollar-

⁷ Effective creditor rights are defined as the interaction between the Getting Credit and the Resolving Insolvency indices, intending to proxy for the material enforcement of the legal framework in terms of time, cost, and debt recovery. See Galindo and Micco (2007) for an earlier use of this interaction term and its rationale.

denominated deposits into credit.⁸ The Central Bank of Uruguay has tracked currency-mismatch indicators at the borrower level for over a decade (Demaestri et al., 2015), reflecting a legacy of the 2002 banking crisis, when widespread dollar-denominated lending to firms and households with peso-denominated income proved a key source of financial fragility once the currency depreciated sharply (De Brun & Licandro, 2005). Since then, prudential practice has consistently discouraged dollar-denominated credit to non-tradable sectors—borrowers without a natural hedge against exchange-rate risk—through differentiated capital weights on private-sector loans and stress-tested dynamic provisioning tied to exchange-rate movements, reinforcing, over the sample period, the asymmetry between abundant dollar deposits and comparatively scarce dollar credit. As a result, peso-denominated deposits are converted into credit at a nearly one-to-one ratio, while dollar-denominated ones are not (Figure 4).

**Figure 4. Deposits and loans by currency in the Uruguayan banking system
(monthly, 2004-2026)**



Notes: Own elaboration based on monthly data from the Central Bank of Uruguay. The figure displays the evolution of loans and deposits denominated in pesos (left panel) and US dollars (right panel) between 2004 and 2025, both expressed in current USD millions.

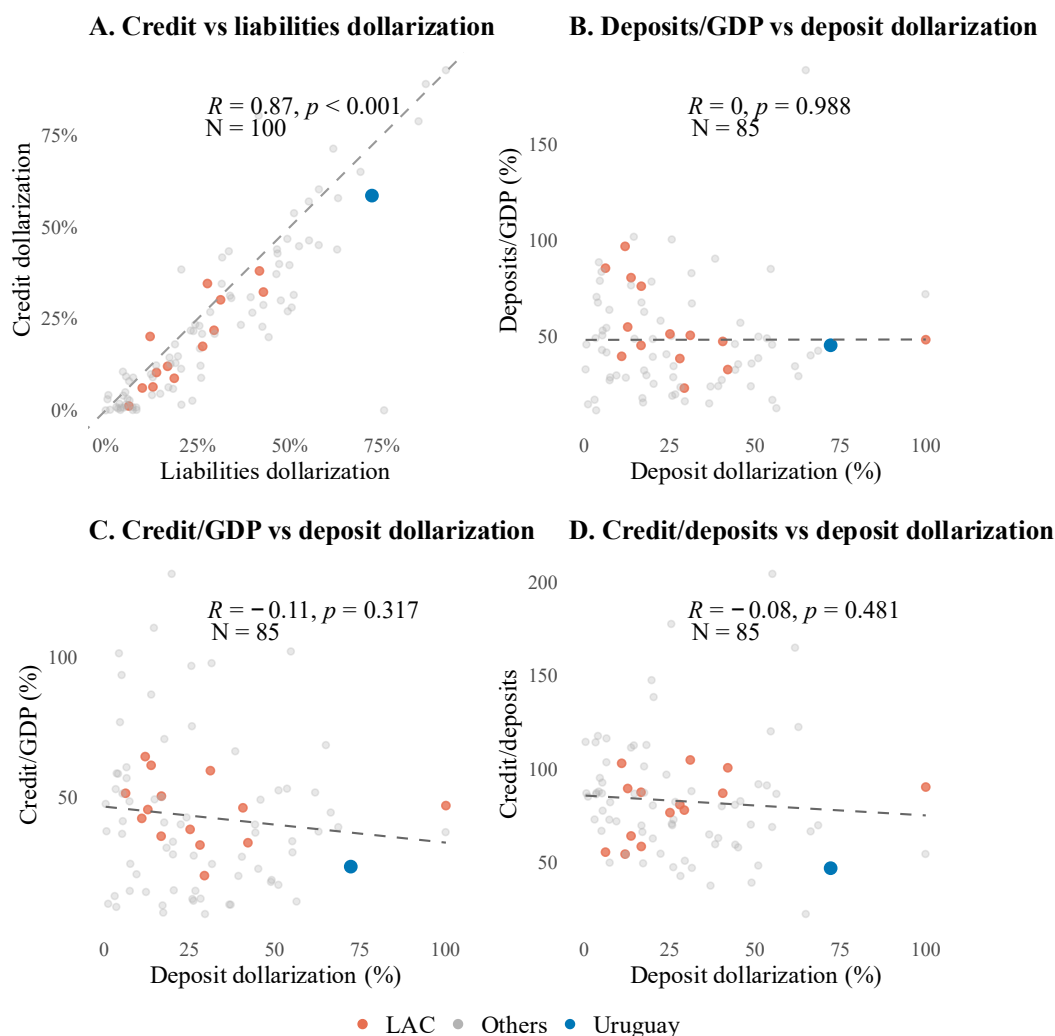
Putting together all these elements raises the question of whether the combination of high deposit dollarization plus bank regulatory constraints to engage in currency mismatches may explain the low level of credit in Uruguay. Figure 5 (panel A) indeed confirms that deposit dollarization in Uruguay remains among the highest in the world. However, the tight correlation between deposit and credit dollarization is not unique to Uruguay. As a matter of

⁸ To avoid currency mismatches on their own balance sheets, banks must channel this dollar liquidity into liquid dollar-denominated assets rather than domestic private credit or avoid channeling it altogether.

fact, among all dollarized countries in the sample, few exhibit credit dollarization exceeding deposit dollarization, likely reflecting regulations aimed at preventing currency mismatches like those in place in Uruguay.⁹ Furthermore, Figure 5 (panels B, C, and D) hints that dollarization across the world displays a weak correlation with credit, deposits, and the ratio of credit to deposits. Interestingly, Uruguay displays the level of deposits predicted by its level of dollarization, but it lies substantially below in terms of credit and especially its credit-to-deposits ratio. This reinforces the presumption that there may be factors beyond deposit dollarization that help explain the large gap between bank deposits and credit in Uruguay, but that may be hard to capture in a multi-country regression.

⁹ Data limitations preclude a detailed breakdown of monthly deposit and credit series by economic agent. However, quarterly data reported by the Central Bank of Uruguay (BCU) indicate that peso-denominated credit is predominantly granted to households (73%), although this share has declined from 83% in 2011. In contrast, dollar-denominated credit is overwhelmingly extended to firms (95%). Available data for credit cover new approved operations since 2016 rather than outstanding balances and, for deposits, are limited to term deposits. Firms dominate new peso-denominated term deposits, while households hold most new dollar-denominated deposits; indexed-unit deposits are more evenly distributed. As for credit, lending patterns differ sharply: nearly all new dollar-denominated credit goes to firms, particularly large exporters, which also account for most new peso-denominated lending. New indexed-unit lending is exceptional, directed primarily to households and concentrated in mortgages and vehicle financing.

**Figure 5. Dollarization across countries
(2011-2023)**

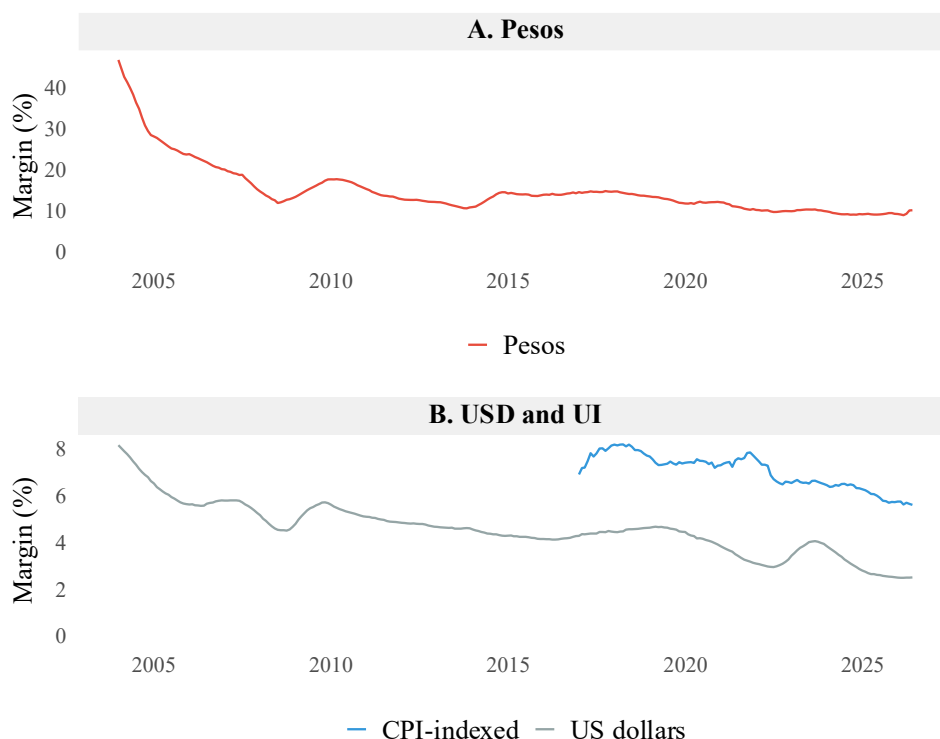


Notes: Own elaboration based on FAS-IMF. All variables are computed as country-level averages over 2011-2023. Liability dollarization is defined as the share of dollar-denominated liabilities—primarily deposits but also other borrowing obligations—in total banking system liabilities.

This asymmetry in deposit-to-credit conversion across currencies (Figure 3) should, in principle, manifest itself in interest-rate differentials. The relative scarcity of peso-denominated funding may place upward pressure on peso lending rates, restricting the volume of credit demanded and preventing the imbalance from appearing as an observed excess demand for loans. Conversely, the abundance of dollar deposits, combined with limited opportunities to transform them into domestic credit, should exert downward pressure on dollar-denominated deposit rates. The observed interest-rate structure is broadly consistent with this mechanism. Lending rates are highest for peso-denominated

loans, at around 17% in real terms, followed by inflation-indexed loans at approximately 8% and dollar-denominated loans at about 4%. Deposit rates are substantially lower—around 6% in real terms in pesos and 1% in indexed units and in dollars—implying considerably wider intermediation margins in domestic-currency instruments than in dollars (Figure 6). Furthermore, the large gap between real peso and inflation-indexed rates is itself informative: if high expected inflation were the only factor raising nominal peso rates, the two should be considerably closer once inflation is accounted for. Their divergence may instead reflect an inflation-risk premium associated with uncertainty about future inflation, as well as differences in funding availability, loan maturity, borrower composition, and the relative supply of and demand for peso- and UI-denominated instruments. While rates across currencies are not directly comparable because they embody different inflation and exchange-rate risks, the overall pattern is consistent with abundant dollar liquidity and a relatively scarce domestic-currency funding base. At the same time, particularly large margins in pesos and indexed units suggest that borrower segmentation, operating costs, maturity transformation, credit risk, and limited competitive pressure are also likely to play important roles.

Figure 6. Interest rate margin in the Uruguayan banking system
(monthly, 2004-2026)

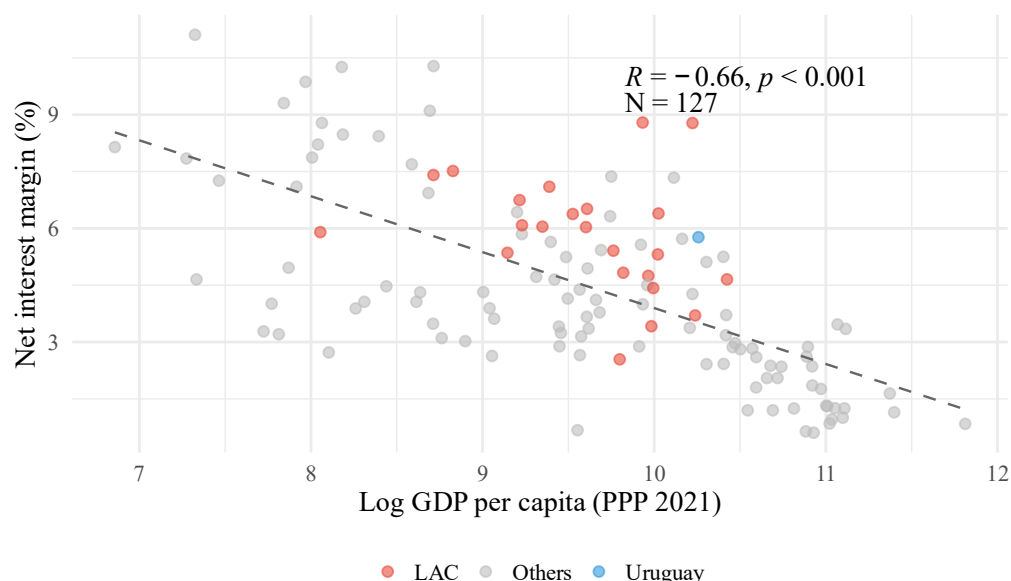


Notes: Own elaboration based on monthly data from the Central Bank of Uruguay. Interest-rate margins are calculated as the difference between 12-month average lending and deposit rates for each currency. The upper panel reports the real gross margin for peso-denominated operations, while the lower panel reports margins for inflation-indexed units (UI) and US dollars. The separate panels reflect the substantially different scales of the series.

To assess whether these currency-specific spreads translate into an unusually high overall cost of financial intermediation, Figure 7 shifts from the evolution of gross lending–deposit margins by currency in Uruguay to a cross-country comparison of aggregate net interest margins. Although the two measures are not strictly equivalent, the latter provides a broader indication of whether Uruguay’s banking system retains unusually large intermediation margins once all currencies and balance-sheet positions are considered jointly. Uruguay's position above the fitted line indicates that it maintains net interest margins significantly higher than would be predicted by its level of development alone. While richer economies typically exhibit lower intermediation margins due to competitive pressures and improved information environments, Uruguay's elevated NIM persists, suggesting that market structure and elevated banking operating costs weaken the natural competitive forces that would otherwise drive margins down. Mello and Ponce (2019) find that competitive conditions differ substantially across financial products, with particularly limited

competition in local-currency lending to households. Lurner and Rodríguez Salvo (2019) similarly identify weak competition in key market segments and the small size of the domestic market as relevant constraints, while banking operating costs are estimated to be between 4 and 14 pp higher when measured relative to assets and operating income, respectively (Figure 8). The combination of limited competitive pressure and high intermediation costs leaves banks with insufficient incentives to compress spreads.

**Figure 7. Banks net interest rate margin across countries
(2011-2023)**

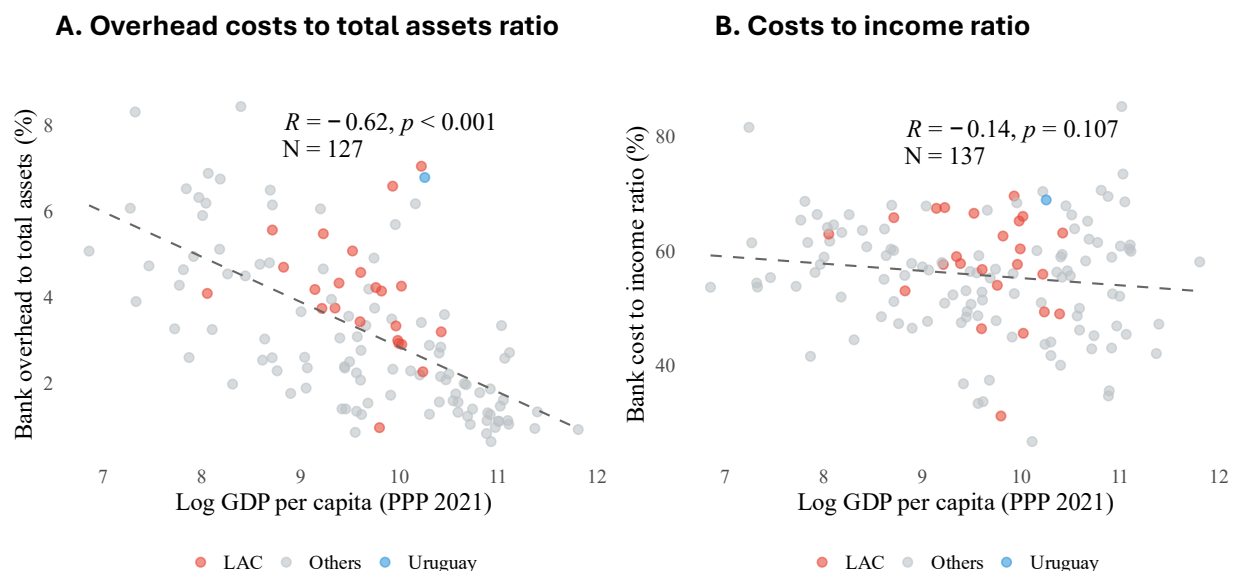


Notes: Own elaboration based on FAS-IMF and WEO-IMF. All variables are computed as country-level averages over 2011-2023. The figure plots country-level net interest margins against the logarithm of GDP per capita in PPP terms at 2021 prices. Latin American and Caribbean (LAC) countries are highlighted in orange, Uruguay in blue, and all other countries in gray; the dashed line represents the fitted linear relationship for the full sample.

Overall, the descriptive evidence reveals a clear and persistent asymmetry in Uruguay's financial system: deposits are broadly in line with international benchmarks and with the country's level of development, whereas private credit and the credit-to-deposits ratio are unusually low. This gap has persisted over time and cannot be readily attributed to deposit dollarization alone, since Uruguay also falls below countries with comparable levels of liabilities dollarization in both credit to GDP and in the extent to which deposits are converted into credit. Historical inflation and banking crises, together with prudential restrictions on lending in foreign currency to unhedged borrowers, provide a plausible explanation for the coexistence of abundant dollar deposits and comparatively scarce dollar credit, but the international evidence suggests that these factors do not fully account for the magnitude of Uruguay's credit shortfall. The observed structure of interest rates and margins

points to additional intermediation frictions, including scarce domestic-currency funding, borrower segmentation, high operating costs, and limited competition in specific lending markets. Taken together, the evidence suggests that Uruguay's shallow credit market reflects a broader difficulty in converting its deposit base into lending, rather than a failure to mobilize financial savings. The next section evaluates whether the historical, macroeconomic, institutional, and banking-sector characteristics considered in the paper can account for this gap in a multivariate cross-country framework.

**Figure 8. Banks' overhead costs ratios across countries
(2011-2023)**



Notes: Own elaboration based on FAS-IMF and WEO-IMF. All variables are computed as country-level averages over 2011-2023. Left panel: Bank overhead costs as a percentage of total assets, measuring operating expenses relative to the bank's asset base. Right panel: Bank cost-to-income ratio, measuring operating expenses as a share of operating income. Both indicators capture different dimensions of banking-system efficiency: the former shows costs relative to the scale of operations, while the latter shows costs relative to revenues generated.

4. Results

We begin by estimating Equation (1) by OLS and reporting the baseline results in Table 1. The table presents the coefficients on the macroeconomic controls, together with the Uruguay dummy, for three outcomes: deposits-to-GDP, credit-to-GDP, and credit-to-deposits ratios. For deposits, shown in columns 1 to 3, GDP per capita and government debt are positive and statistically significant, while GDP growth, the current account balance, and the saving rate are not. In the parsimonious specification in column 3, which retains only the significant macroeconomic determinants, the Uruguay dummy is negative and significant at the 10% level. This indicates that Uruguay's deposits-to-GDP ratio is 3.8 pp below the level predicted

by its macroeconomic fundamentals. The credit results point to a much larger gap. GDP per capita is again positive and significant, whereas GDP growth and saving are not. In column 6, the Uruguay dummy is negative and significant at the 1% level, implying that private credit is 26.7 pp of GDP below its predicted value. Because this credit shortfall is substantially larger than the deposit gap, Uruguay also displays a markedly low credit-to-deposits ratio: 39.1 pp below what would be expected given its macroeconomic fundamentals.

Table 1. Macroeconomic factors and credit

	Deposits/GDP			Credit/GDP			Credit/deposits		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
GDP per capita	9.562*** (1.754)	9.555*** (2.209)	9.577*** (1.765)	13.585*** (2.168)	13.271*** (2.663)	13.691*** (2.182)	8.888*** (2.322)	9.353*** (3.219)	9.044*** (2.334)
Government debt to GDP	0.224*** (0.057)	0.289*** (0.070)	0.224*** (0.057)	0.048 (0.069)	0.062 (0.081)	0.048 (0.069)	-0.202** (0.081)	-0.271*** (0.086)	-0.202** (0.081)
GDP growth rate		-0.887 (1.348)			0.092 (1.432)			0.882 (2.098)	
Current account balance to GDP		-0.239 (0.392)			-0.390 (0.422)			-0.598 (0.413)	
Saving to GDP		0.388 (0.279)			0.432 (0.315)			0.357 (0.361)	
Uruguay dummy			-3.887* (2.345)			-26.737*** (3.220)			-39.102*** (2.897)
Observations	153	142	153	153	142	153	153	142	153
Adjusted R-sq.	0.237	0.356	0.232	0.256	0.286	0.257	0.109	0.120	0.114

Notes: The regression estimated is specified in Equation 1. All variables are averages for 2011-2023. See Appendix Table A.4 for variable definitions and sources. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors (HC1) are reported in parentheses.

We next examine whether macroeconomic uncertainty and past episodes of systemic stress account for Uruguay's shallow banking intermediation by estimating Equation 2 and reporting the results in Table 2.10 As shown in column 1, our proxies for uncertainty—the level and standard deviation of inflation and the standard deviation of GDP growth—all enter with negative coefficients in the deposits-to-GDP equation, though none is statistically significant. By contrast, the standard deviation of GDP growth rate exerts a negative and significant effect on both credit-to-GDP and credit-to-deposits ratio (columns 4 and 7, respectively). Turning to historical stress, both the number of years with inflation above 40% and the number of banking crises between 1970 and 2010 are negative and significant for deposits to GDP and credit to GDP, while their effect on credit to deposits is not significant. The behavior of the Uruguay dummy is particularly telling. In the credit equation, accounting for past inflation and banking stress reduces its influence substantially, from –26.7 pp in the

¹⁰ As a robustness check, we lower the threshold used to identify high-inflation episodes from 40% to 15%, following Boyd et al. (2001), who document a marked deterioration in financial development once inflation exceeds approximately that level, and re-estimate the core macroeconomic specification. Our findings remain broadly robust to this alternative definition: the statistical significance of the Uruguay dummy is unchanged across all measures of financial depth, while its absolute magnitude decreases for deposits but increases for credit and the credit-to-deposits ratio. The coefficient on historical inflation episodes also preserves its sign and significance pattern across all dependent variables. See Table A.5 in the Appendix.

baseline (Table 1, column 6) to -1.2 pp (Table 2, column 6), and renders it statistically insignificant. In the deposits equation, the opposite occurs: the dummy shifts from -3.9 pp (Table 1, column 3) to a positive 26.9 pp (Table 2, column 3). Taken together, these results suggest that Uruguay holds more deposits than its history of systemic stress would predict, whereas that same history has durably depressed credit. As a result, the effect of these variables on the credit-to-deposits ratio is insignificant and only modestly attenuates the Uruguay dummy coefficient in that equation, which goes from -39.1 pp (Table 1, column 9) to -34.9 pp (Table 2, column 9) yet remains large in absolute value.¹¹

This asymmetric pattern between deposits and credit once historical stress is considered is consistent with the hypothesis that Uruguayans fear currency depreciation and, despite past banking crises, still place their savings in the banking system largely in dollars as a refuge from currency risk. Potential borrowers, however, face the inverse exposure: a loan denominated in dollars leaves them vulnerable to depreciation and income mismatches, so the same currency that shelters the depositor threatens the debtor. This asymmetry prevents the "refuge" motive that swells deposits from finding an analogous counterpart on the lending side.

¹¹ Historically, this relatively large deposit base was partly attributable to a substantial stock of nonresident deposits (40% of total deposits), particularly those held by Argentine residents. That explanation has become considerably less relevant over time, as nonresident deposits currently represent roughly 10% of total banking-system deposits.

Table 2. Uncertainty, historic stress, and credit

	Deposits/GDP			Credit/GDP			Credit/deposits		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Uruguay dummy	-5.698 (3.631)	16.033** (7.697)	26.869*** (8.560)	-31.044*** (4.342)	-9.269 (7.167)	-1.248 (8.524)	-43.782*** (4.980)	-32.818*** (11.555)	-34.980*** (12.317)
Inflation rate	-0.056 (0.448)	-0.222** (0.096)	-0.161* (0.084)	0.195 (0.411)	-0.170 (0.121)	-0.125 (0.115)	0.269 (0.653)	-0.177** (0.087)	-0.189* (0.096)
SD (GDP growth rate)	-1.597 (1.185)	-1.704 (1.131)	-2.265** (1.095)	-2.908** (1.223)	-3.211*** (1.163)	-3.626*** (1.169)	-2.742** (1.345)	-3.153** (1.281)	-3.041** (1.351)
SD (inflation rate)	-0.389 (0.905)			-0.815 (0.798)			-0.972 (1.376)		
Years with inflation $\geq 40\%$		-1.030*** (0.377)	-0.867** (0.362)		-0.972** (0.386)	-0.851** (0.375)		-0.410 (0.544)	-0.443 (0.534)
Number of banking crises			-2.252*** (0.613)			-1.667** (0.718)			0.449 (0.900)
Observations	153	153	153	153	153	153	153	153	153
Adjusted R-sq.	0.262	0.285	0.325	0.303	0.317	0.333	0.155	0.153	0.149

Notes: The regression estimated is specified in Equation 2. Macroeconomic controls GDP per capita and Government debt are included but not reported. All variables are averages for 2011-2023. Years with inflation $> 40\%$ and Number of banking crises are reported for the 1970-2010 period. See Appendix Table A.4 for variable definitions and sources. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors (HC1) are reported in parentheses.

We now turn to the legal framework as a potential determinant of financial intermediation. Given the potential collinearity between these indicators and economic development, as well as among the legal variables themselves, we estimate separate specifications for each measure, without including any macroeconomic regressors.¹² Table 3 shows that the strength of legal rights is not statistically associated with any of the three dependent variables, whereas the depth of credit information is positively and significantly related to private credit to GDP. Credit bureau coverage, credit registry coverage, and effective creditor rights are also positively associated with both deposits and credit, although only credit bureau coverage is significantly related to the credit-to-deposits ratio. The Uruguay dummy provides additional insight. In the deposits equation, it becomes positive and significant when either the strength of legal rights or effective creditor rights are included, suggesting that Uruguay's deposits-to-GDP ratio is between 5.3 and 6.5 pp higher than predicted conditional on these institutional dimensions. In the private credit equation, the dummy remains negative, ranging from -34.7 to -13.4 pp, but falls substantially relative to the baseline when either the strength of legal rights or effective creditor rights are added. This indicates that weaknesses in creditor protection account for part of Uruguay's credit shortfall. By contrast, the Uruguay dummy remains large and significant in the credit-to-deposits specifications, implying that the limited conversion of deposits into credit is not fully explained by the legal framework variables considered here.

¹² See Table A.2 for a full specification including all legal variables at the same time.

Table 3. Legal framework and credit: bivariate specifications

Variable	Deposits/GDP		Credit/GDP		Credit/deposits		N
	(1) Legal var.	(2) Uruguay	(3) Legal var.	(4) Uruguay	(5) Legal var.	(6) Uruguay	
Strength of legal rights (0-12 index)	0.80 (0.87)	5.31** (2.48)	0.83 (1.05)	-14.62*** (2.51)	0.16 (0.96)	-32.65*** (2.86)	148
Depth of credit information (0-8 index)	2.41 (1.74)	2.07 (3.37)	4.15*** (1.48)	-22.72*** (3.72)	3.27 (2.23)	-40.63*** (4.00)	124
Credit bureau coverage (% adults)	0.20*** (0.07)	-4.90 (4.56)	0.31*** (0.09)	-34.72*** (6.12)	0.24*** (0.08)	-50.46*** (5.30)	102
Credit registry coverage (% adults)	0.38*** (0.11)	-9.48 (6.37)	0.43*** (0.12)	-32.44*** (7.14)	0.19 (0.12)	-40.77*** (6.37)	88
Effective creditor rights	0.03*** (0.01)	6.47*** (2.43)	0.04** (0.02)	-13.47*** (2.31)	0.02 (0.01)	-33.25*** (2.81)	134

Notes: Each dependent variable is regressed over a single legal framework indicator and the Uruguay dummy. Columns (1), (3), and (5) report coefficients associated to legal variables, while columns (2), (4), and (6) retrieve the Uruguay dummy coefficient. Observations are reported in column (7), since they vary across regressors, rather than across dependent variables. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors (HC1) are reported in parentheses.

Given the distinctive features of Uruguay's banking system, we next examine in Table 4 whether banking-sector characteristics help explain the country's low level of financial intermediation.¹³ The analysis focuses on private deposits-to-GDP, credit-to-GDP, and credit-to-deposits ratio, examining their relationship with key banking-sector variables. The results indicate that bank concentration, measured by the asset share of the five largest banks, as well as deposit and loan dollarization, are not significantly associated with either of the two credit outcomes. By contrast, net interest margins and overhead costs relative to assets are negatively related to both measures of credit depth, suggesting that higher intermediation and operating costs may be associated with weaker lending. Regulatory capital and the bank Z-score are significantly correlated with both deposits to GDP and credit to GDP, with the former entering negatively and the latter positively in both equations. The inclusion of banking-sector regressors generally reduces the absolute value of the Uruguay dummy in the credit-to-GDP equation, particularly when net interest margins and the Z-score are included, bringing the estimated gap below 10 pp. Controlling for overhead costs reverses the sign of the Uruguay coefficient in the credit-to-GDP regression, although it remains statistically significant, and produces the largest reduction in the Uruguay dummy in the credit-to-deposits equation. Nevertheless, the Uruguay dummy remains large and statistically significant in the credit-to-deposits specifications, indicating that banking-structure variables alone do not fully account for Uruguay's limited conversion of deposits into credit.

¹³ See Table A.3 for a full specification including all banking variables at the same time.

Table 4. Banking structure and credit: bivariate specifications

Variable	Deposits/GDP		Credit/GDP		Credit/deposits		N
	(1) Bank var.	(2) Uruguay	(3) Bank var.	(4) Uruguay	(5) Bank var.	(6) Uruguay	
Top 5 bank concentration	0.07 (0.16)	5.27** (2.51)	0.13 (0.18)	-17.51*** (2.85)	0.22 (0.17)	-36.74*** (3.17)	124
Bank net interest margin (%)	-6.73*** (0.69)	13.43*** (1.54)	-6.87*** (1.00)	-8.65*** (1.64)	-2.66** (1.04)	-31.88*** (2.89)	136
Regulatory capital to risk-weighted assets	-1.31** (0.62)	2.14 (2.66)	-1.46** (0.66)	-20.90*** (2.98)	-0.56 (0.57)	-38.71*** (2.86)	112
Bank Z-score	0.73*** (0.24)	12.03*** (3.01)	0.81** (0.35)	-9.69*** (3.69)	0.26 (0.32)	-33.01*** (4.43)	135
Deposit dollarization	-0.11 (0.11)	11.16** (5.02)	-0.12 (0.09)	-10.81** (4.57)	0.03 (0.14)	-38.16*** (7.79)	87
Loan dollarization	-0.04 (0.10)	7.05* (3.97)	-0.08 (0.08)	-12.49*** (3.35)	-0.06 (0.12)	-33.48*** (5.54)	110
Overhead costs to assets	-8.83*** (0.87)	35.52*** (2.93)	-8.41*** (1.06)	11.80*** (3.25)	-3.15** (1.29)	-24.33*** (5.19)	136

Notes: Each dependent variable is regressed over a single banking regressor and the Uruguay dummy. Columns (1), (3), and (5) report coefficients associated to banking-sector variables, while columns (2), (4), and (6) retrieve the Uruguay dummy coefficient. Deposit dollarization is proxied by liabilities dollarization. Observations are reported in column (7), since they vary across regressors, rather than across dependent variables. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors (HC1) are reported in parentheses.

Finally, Table 5 reports the integrated specification in Equation 3, combining macroeconomic, volatility, institutional, and banking-structure determinants. The regressors are selected based on statistical significance, sample coverage, and consistency with the theoretical priors discussed above. For deposits to GDP, the estimated coefficients have the expected signs, and the Uruguay dummy is positive and significant, indicating that Uruguay's deposit ratio is 30.1 pp above the level predicted by the model in our preferred specification. For credit to GDP, the full specification identifies GDP per capita, GDP growth volatility, and the overhead costs-to-assets ratio as statistically significant determinants, all with the expected signs. Once these factors are jointly considered, the Uruguay dummy becomes small and statistically insignificant, suggesting that the model accounts for Uruguay's credit shortfall. By contrast, in the credit-to-deposits equation, the Uruguay dummy remains large and significant, though it is smaller than in the baseline (24 pp against 39 pp), suggesting that the included determinants explain part, but not most, of Uruguay's unusually low conversion of deposits into credit.

Overall, the results indicate that Uruguay's financial intermediation puzzle does not stem from an inability to mobilize deposits, but rather from the limited transformation of those deposits into private credit. Macroeconomic fundamentals alone predict a sizable credit shortfall, but this gap largely disappears once Uruguay's history of macroeconomic instability, banking crises, institutional features, and banking-sector characteristics are considered. Deposits, by contrast, appear stronger than predicted in fuller specifications. The anomaly lies in the credit-to-deposits ratio, where the Uruguay dummy continues being large and statistically significant across specifications. This suggests that, even after

accounting for observable macroeconomic, institutional, and banking-structure determinants, Uruguay's banking system intermediates a smaller share of its deposit base into credit than comparable economies.

Although the model does not fully resolve the puzzle, it points to a plausible mechanism. Once past macroeconomic and banking-sector stress are accounted for, Uruguay appears to hold more deposits than predicted, consistent with a highly dollarized economy in which households and firms maintain precautionary foreign-currency balances. Limited capital-market development may reinforce this pattern by reducing opportunities to hedge currency risk or invest in local-currency instruments. Yet these additional deposits are not fully translated into credit, possibly reflecting persistent risk aversion rooted in Uruguay's inflationary and financial crisis history, an asymmetry in the currency composition of deposits and loans due to regulatory requirements, higher intermediation costs, market segmentation, and limited competition, particularly in specific segments. Recent declines in inflation and policy efforts to reduce dollarization and incentivize credit growth suggest that this legacy may gradually weaken, creating scope for deeper local-currency credit markets and a more effective transformation of savings into lending (see Section 6).

Table 5. Integrated framework

	Deposits/GDP				Credit/GDP				Credit/deposits			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Uruguay dummy	26.869*** (8.560)	22.152** (9.748)	30.124*** (7.416)	32.059*** (8.034)	-1.248 (8.524)	-3.683 (9.822)	8.844 (8.792)	9.825 (9.774)	-34.980*** (12.317)	-39.469*** (13.749)	-24.069* (14.293)	-31.613* (15.964)
Log GDP per capita (PPP)	9.959*** (1.765)	13.445*** (2.305)	5.247** (2.294)	5.570** (2.608)	14.488*** (2.310)	14.116*** (2.445)	11.466*** (3.135)	10.205*** (2.462)	9.353*** (2.424)	5.345 (3.321)	9.661*** (3.148)	8.060** (3.716)
Government debt to GDP	0.244*** (0.056)	0.266*** (0.061)	0.236*** (0.053)	0.225*** (0.055)	0.071 (0.067)	0.054 (0.068)	0.005 (0.073)	0.001 (0.074)	-0.179** (0.080)	-0.252*** (0.082)	-0.272*** (0.080)	-0.289*** (0.083)
Inflation rate	-0.161* (0.084)	-0.124 (0.083)	0.021 (0.070)	0.047 (0.064)	-0.125 (0.115)	-0.101 (0.108)	-0.012 (0.115)	0.028 (0.104)	-0.189* (0.096)	-0.191** (0.094)	-0.202** (0.102)	-0.183* (0.100)
SD (GDP growth rate)	-2.265** (1.095)	-3.967*** (1.150)	-2.356** (0.969)	-2.632** (1.060)	-3.626*** (1.169)	-4.069*** (1.216)	-3.287** (1.314)	-3.539*** (1.286)	-3.041** (1.351)	-2.071 (1.649)	-2.914* (1.578)	-2.942 (1.861)
Years with inflation >= 40% (1970-2010)	-0.867** (0.362)	-0.902* (0.488)	0.058 (0.323)	-0.020 (0.379)	-0.851** (0.375)	-0.798* (0.477)	-0.433 (0.390)	-0.343 (0.404)	-0.443 (0.534)	-0.019 (0.644)	-0.836 (0.583)	-0.338 (0.668)
Number of banking crises (1970-2010)	-2.252*** (0.613)	-1.419** (0.692)	-1.228** (0.522)	-0.814 (0.535)	-1.667** (0.718)	-1.158 (0.742)	-1.646** (0.747)	-1.006 (0.693)	0.449 (0.900)	-0.095 (0.990)	-0.579 (0.934)	-0.492 (0.982)
Strength of legal rights		3.872** (1.814)		1.444 (1.272)		0.951 (1.316)		1.731 (1.607)		-2.970 (1.982)		0.362 (2.375)
Effective creditor rights		-0.050* (0.027)		-0.016 (0.021)		-0.007 (0.026)		-0.016 (0.029)		0.035 (0.029)		-0.010 (0.034)
Bank Z-score			0.394* (0.215)	0.310 (0.217)			0.501* (0.295)	0.343 (0.278)			0.070 (0.294)	-0.010 (0.297)
Overhead costs to assets			-5.641*** (1.258)	-6.362*** (1.323)			-3.462** (1.572)	-4.957*** (1.255)			0.495 (1.506)	-0.396 (1.449)
Observations	153	134	134	124	153	134	134	124	153	134	134	124
Adjusted R-sq.	0.325	0.329	0.502	0.498	0.333	0.330	0.381	0.408	0.149	0.123	0.178	0.132

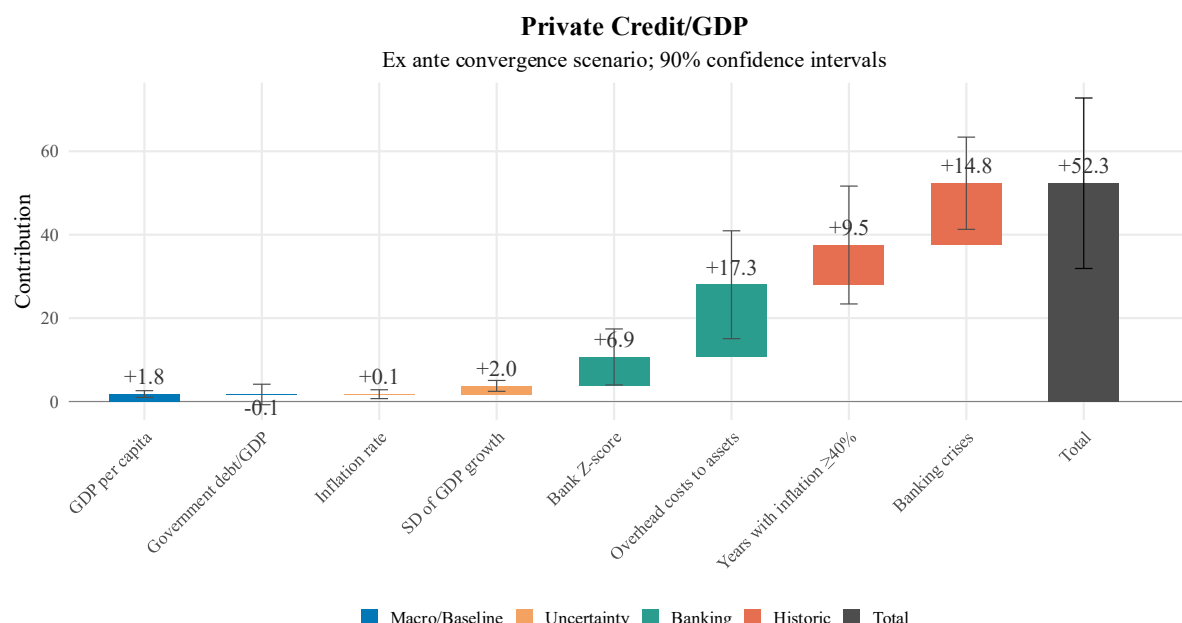
Notes: The regression estimated corresponds to Equation 3. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors (HC1) are reported in parentheses.

5. Simulations

To assess the relative contribution of each set of regressors in explaining Uruguay's credit shortfall, we simulate a sequential convergence exercise using our preferred specification for Credit/GDP (column 5 in Table 5). Starting from Uruguay's actual values for each regressor, we let each variable converge, sequentially, to the 75th percentile of the sample distribution if its estimated coefficient is positive, or to the 25th percentile if negative, ensuring that convergence always moves the predicted outcome in the direction implied by the regression. Variables are grouped into four categories: macroeconomic/baseline controls (GDP per capita, government debt to GDP), contemporary uncertainty (inflation rate, standard deviation of GDP growth), banking-sector characteristics (overhead costs to assets, bank Z-score), and historical stress (years with inflation above 40%, number of banking crises). The historical variables are allowed to converge last, so that the corresponding bars capture what happens once Uruguay's legacy of macroeconomic and banking-sector instability is, in effect, "forgotten."

Figure 9 reports the marginal contribution of each step, holding all previously converged variables fixed, together with 90% confidence intervals computed from the model's heteroskedasticity-robust variance-covariance matrix. The final bar reports the total accumulated effect of converging on all regressors simultaneously, relative to Uruguay's baseline prediction. The results show that historical stress variables account for the largest share of the estimated gap, though they are subject to wider confidence intervals. Eliminating Uruguay's legacy of high inflation and banking crises alone would close roughly half of the shortfall in private credit to GDP, more than any single macroeconomic, uncertainty, or banking-sector regressor considered individually. Convergence in banking-sector characteristics—particularly greater bank stability and lower overhead costs—would account for approximately the remaining half of the total improvement, leaving only a residual contribution for current macroeconomic fundamentals and uncertainty. This suggests that Uruguay's low credit-to-GDP ratio is disproportionately anchored in the lingering effects of past instability, while current banking-sector conditions also represent a quantitatively important constraint, consistent with the attenuation of the Uruguay dummy once these controls are introduced.

Figure 9. Clearing the pipe: Simulated effects of converging to sample benchmarks



Notes: Each bar shows the marginal contribution of moving the corresponding variable to its target percentile, holding all previously converged variables fixed. The final bar shows the total accumulated effect. Error bars show 90% confidence intervals. Targets are fixed ex ante: 75th percentile for GDP per capita and Bank Z-score, 25th percentile for government debt, inflation, GDP-growth volatility, overhead costs, years with inflation above 40% and banking crises.

6. Conclusions

This paper examines why Uruguay's banking system mobilizes a relatively large deposit base but converts only a limited share of those resources into private credit. Using data for 154 countries over 2011–2023, we estimate the determinants of deposits/GDP, credit/GDP, and the credit-to-deposits ratio. Once historical macroeconomic instability, banking crises, institutional conditions, and banking-sector characteristics are considered, Uruguay's credit-to-GDP gap largely disappears, while deposits appear stronger than predicted. The remaining anomaly is the low credit-to-deposits ratio, which persists across specifications. This suggests that Uruguay's banking system intermediates a smaller share of its deposit base into domestic credit than comparable economies, likely reflecting a combination of persistent dollarization, limited availability of local-currency financial instruments, and risk aversion rooted in past episodes of inflation and banking-sector stress.

Policy should therefore focus on improving credit intermediation. Continued macroeconomic stability remains essential, particularly through maintaining low and predictable inflation, as credibility is a prerequisite for reducing dollarization and deepening local-currency intermediation. Policy should also support the development of local-

currency financial markets, including instruments that allow households, firms, and banks to manage currency and maturity risks more effectively. At the banking-system level, reducing intermediation costs, strengthening competition in underserved credit segments, and encouraging the prudent expansion of local-currency lending could help narrow the gap between deposits and credit. The empirical results suggest that a particularly relevant avenue is to lower the cost of originating, servicing, and recovering loans—for example, through digitalization, shared financial infrastructure, better credit information, and streamlined regulatory processes—thereby reducing the minimum lending rate at which additional borrowers can be served profitably.

The Central Bank of Uruguay has recently adopted measures to encourage saving and expand credit in local currency. Since March 2026, the Central Bank has progressively adjusted reserve requirements to discourage dollar-denominated deposit-taking and allow banks to lend out a larger share of local-currency deposits. Meanwhile, requirements on dollar-denominated deposits were left unchanged and their remuneration was cut, further disincentivizing foreign-currency funding relative to peso funding. In addition, the Central Bank introduced a regulation in August 2026, effective October 2026, requiring banks to inform holders and prospective holders of dollar-denominated accounts about fluctuations in their purchasing power in pesos.

Expanding productive credit also requires addressing demand-side and structural constraints, including limited borrower risk appetite, high intermediation costs, borrower segmentation, and a limited supply of creditworthy projects at prevailing interest rates. Measures that encourage peso saving and lending can be complemented by policies that strengthen credit demand, broaden borrower access to finance, and reduce structural barriers to intermediation to increase the likelihood that lower dollarization translates into a sustained expansion of productive credit. These reforms are likely to take effect gradually, but they could help direct more of Uruguay's savings toward investment and growth.

Ultimately, a complete understanding of the persistent intermediation gap in Uruguay will require further research, particularly using microeconomic and bank-level data capable of distinguishing among supply-side constraints, credit-demand limitations, borrower risk, and other country-specific frictions that cannot be fully captured in a cross-country framework.

7. References

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Appendix

Table A.1 Summary statistics

Variable	Uruguay	Mean	P25	Median	P75	P90	SD	N
Dependent variables								
Deposits/GDP	57.5	54	32	50.1	72.2	94	26.7	154
Credit/GDP	27	43.3	21.4	39.5	53	80	29.5	154
Credit/deposits	46.9	79.4	62	77.8	92.5	114.3	30.3	154
Macro regressors								
GDP per capita (log, PPP 2021)	10.3	9.5	8.7	9.6	10.4	10.9	1.1	154
Annual inflation rate	7.9	6.9	2.2	3.4	6	11.6	16.7	154
Annual GDP growth rate	2.9	2.8	1.6	2.8	4	5	1.7	154
Gross government debt to GDP	57.5	54.6	36.9	49.4	70.8	86.5	29	153
Current account balance to GDP	-1.5	-2.6	-5.5	-2.6	0.2	4.5	8.3	154
Gross national saving to GDP	16.7	20.9	15.1	20.7	26.8	31.5	8.6	142
Uruguay dummy	1	0	0	0	0	0	0.1	154
Uncertainty and historic factors								
SD (inflation rate)	1.5	4.4	1.8	2.8	4.1	7	8.4	154
SD (GDP growth rate)	2.8	3.6	2.2	2.9	4.2	5.6	2.8	154
Years with banking crisis (1970-2010)	9	2.4	0	2	4.8	5	2.6	154
Years with inflation $\geq 40\%$ (1970-2010)	22	2.1	0	0	2	7.7	4.3	154
Institutional regressors								
Legal rights (0-12 index)	4	5.4	3	6	7	9	2.7	148
Information depth (0-8 index)	7.9	6.5	6	7	7.4	8	1.4	124
Registry coverage (0-100%)	73	23.6	2.1	15.5	36.2	63.1	24.8	88
Bureau coverage (0-100%)	100	48.1	15.6	43.7	79	100	34.1	102
Effective creditor rights	211.1	283	150.5	236.2	393.2	534.9	188.9	134
Banking sector								
Liabilities dollarization	72.3	30.1	11.6	25.2	44.3	62.3	25.3	87
Loan dollarization	58.6	24.3	6.8	19	35.3	54.9	23.1	110
Top 5 share of total bank assets	85.6	80.3	72.1	83.4	91.9	97.2	14.7	124
Bank net interest margin (%)	5.8	4.5	2.8	4.1	6	8	2.4	136
Bank regulatory capital to risk-weighted assets	16.5	18.1	15.6	17.3	19.6	23	4.4	112
Bank Z-score	6.6	16.2	10	15.2	20.4	30	8.7	135

Table A.2 Institutional regressors full specification

	Deposits/GDP					Private Credit/GDP					Credit/Deposits				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Uruguay dummy	5.309** (2.484)	4.935* (2.577)	6.694* (3.943)	6.090 (5.467)	-4.166 (9.128)	-14.618*** (2.512)	-16.466*** (2.562)	-18.470*** (3.639)	-25.308*** (6.134)	-31.487*** (11.872)	-32.655*** (2.859)	-35.864*** (2.987)	-40.322*** (4.466)	-50.888*** (6.623)	- 42.583*** (10.158)
Strength of legal rights (0-12 index)	0.800 (0.872)	-2.089 (1.875)	-4.188*** (1.504)	-3.865** (1.796)	-3.094 (2.145)	0.826 (1.045)	-4.082*** (1.399)	-4.606*** (1.536)	-3.490* (1.859)	-2.521 (2.266)	0.159 (0.957)	-3.564*** (1.346)	-2.372 (1.584)	-1.287 (1.816)	-1.275 (2.150)
Effective creditor rights		0.055** (0.026)	0.084*** (0.020)	0.071*** (0.024)	0.054 (0.033)		0.088*** (0.025)	0.095*** (0.027)	0.070** (0.030)	0.039 (0.035)		0.059*** (0.021)	0.041* (0.024)	0.022 (0.028)	0.014 (0.036)
Depth of credit information (0-8 index)			-0.195 (2.107)	-5.051 (3.093)	0.793 (3.673)			1.653 (1.562)	-1.792 (2.928)	1.765 (3.633)			2.076 (2.604)	3.981 (2.707)	5.734 (4.771)
Credit bureau coverage (% adults)				0.088 (0.083)	-0.065 (0.107)				0.186** (0.091)	-0.044 (0.109)				0.173* (0.098)	-0.067 (0.133)
Credit registry coverage (% adults)					0.329** (0.144)					0.358** (0.166)					0.072 (0.169)
Observations	148	134	113	94	46	148	134	113	94	46	148	134	113	94	46
Adjusted R-sq.	-0.007	0.05	0.116	0.132	0.12	-0.005	0.136	0.145	0.153	0.07	-0.005	0.045	0.015	0.056	-0.075

Notes: Each dependent variable is regressed against all significant banking-sector regressors identified in Table 3 and the Uruguay dummy. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors (HC1) are reported in parentheses.

Table A.3 Banking regressors full specification

	Deposits/GDP	Credit/GDP	Credit/deposits
	(1) Bank var.	(2) Bank var.	(3) Bank var.
Uruguay dummy	40.295*** (6.613)	14.950* (7.566)	-34.463*** (11.556)
Bank net interest margin (%)	-0.575 (1.802)	-1.042 (2.136)	-1.788 (3.081)
Regulatory capital to risk-weighted assets	-0.782* (0.453)	-0.809 (0.591)	-0.101 (0.771)
Bank Z-score	0.523*** (0.192)	0.555* (0.280)	0.049 (0.306)
Overhead costs to assets	-8.418*** (2.359)	-7.769*** (2.847)	-0.575 (4.193)
Observations	105	105	105
Adjusted R-sq.	0.485	0.382	0.005

Notes: Each dependent variable is regressed against all significant banking-sector regressors identified in Table 4 and the Uruguay dummy. Deposits/GDP are excluded from dependent variables since they are not expected to be affected by banking-sector regressors. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors (HC1) are reported in parentheses.

Table A.4 Variable definitions and data sources

Variable	Definition	Source
Deposits/GDP	Bank deposits as a share of GDP	FAS-IMF
Credit/GDP	Private sector credit by banks as a share of GDP	FAS-IMF
Credit/deposits	Ratio of private sector bank credit to bank deposits	FAS-IMF
GDP per capita (log, PPP 2021)	Natural logarithm of GDP per capita, PPP-adjusted, 2021 international dollars	WEO-IMF
Annual inflation rate	Annual percentage change in consumer prices	WEO-IMF
Annual GDP growth rate	Compound annual growth rate of real GDP	WEO-IMF
Gross government debt to GDP	General government gross debt as a share of GDP	WEO-IMF
Current account balance to GDP	Current account balance as a share of GDP	WEO-IMF
Gross national saving to GDP	Gross national saving as a share of GDP	WEO-IMF
Uruguay dummy	Binary indicator equal to one if the country is Uruguay, zero otherwise	Constructed from WEO
SD (inflation rate)	Standard deviation of the annual inflation rate over the sample period	Constructed from WEO
SD (GDP growth rate)	Standard deviation of the annual GDP growth rate over the sample period	Constructed from WEO
Number with banking crisis (1970-2010)	Count of years with an ongoing banking crisis, 1970-2010	Constructed from WDI
Years with inflation $\geq 40\%$ (1970-2010)	Count of years with annual inflation of 40% or more, 1970-2010	Constructed from WDI
Strength of legal rights (0-12 index)	Strength of legal rights index; measures the strength of secured lenders' rights in the event of borrower default	Doing Business-WB
Information depth (0-8 index)	Depth of credit information index; assesses scope, coverage and accessibility of credit information available to lenders through credit registries or bureaus	Doing Business-WB
Registry coverage (0-100%)	Credit registry coverage; percentage of adults listed in public credit registries	Doing Business-WB
Bureau coverage (0-100%)	Credit bureau coverage; percentage of adults listed in private credit bureaus	Doing Business-WB
Effective creditor rights	Interaction of the Strength of legal rights index and the Insolvency recovery rate	Constructed from Doing Business-WB
Liabilities dollarization	Average share of bank liabilities denominated in foreign currency	FAS-IMF
Loan dollarization	Average share of bank loans denominated in foreign currency	FAS-IMF
Top 5 share of total bank assets	Share of total banking sector assets held by the five largest banks	Financial Development Database
Bank net interest margin (%)	Net interest income as a share of average interest-bearing (earning) assets	Financial Development Database
Bank regulatory capital to risk-weighted assets	Total regulatory capital as a share of risk-weighted assets	Financial Development Database
Bank Z-score	Measure of bank solvency risk, combining return on assets and capitalization relative to their volatility; higher values indicate greater stability	Financial Development Database

Table A.5 Robustness check: years with inflation above 15%

	Deposits/GDP			Credit/GDP			Credit/deposits		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Uruguay dummy	-5.698 (3.631)	12.790** (5.774)	22.425*** (6.629)	-31.044*** (4.342)	-15.552*** (5.424)	-8.269 (6.452)	-43.782*** (4.980)	-38.103*** (8.294)	-40.223*** (9.399)
Inflation rate	-0.056 (0.448)	-0.228** (0.095)	-0.171** (0.085)	0.195 (0.411)	-0.177 (0.123)	-0.134 (0.118)	0.269 (0.653)	-0.181** (0.089)	-0.194* (0.098)
SD (GDP growth rate)	-1.597 (1.185)	-2.046* (1.118)	-2.499** (1.090)	-2.908** (1.223)	-3.482*** (1.171)	-3.825*** (1.174)	-2.742** (1.345)	-3.226** (1.307)	-3.126** (1.368)
SD (inflation rate)	-0.389 (0.905)			-0.815 (0.798)			-0.972 (1.376)		
Years with inflation $\geq$ 15% (1970-2010)		-0.760*** (0.240)	-0.614*** (0.231)		-0.577** (0.247)	-0.467* (0.238)		-0.129 (0.339)	-0.161 (0.333)
Number of banking crises (1970-2010)			-2.072*** (0.613)			-1.566** (0.712)			0.456 (0.882)
Observations	153	153	153	153	153	153	153	153	153
Adjusted R-sq.	0.262	0.301	0.333	0.303	0.319	0.331	0.155	0.151	0.146

Notes: The regression estimated is specified in Equation 2. Macroeconomic controls GDP per capita and Government debt are included but not reported. All variables are averages for 2011-2023. Years with inflation > 15% and Number of banking crises are reported for the 1970-2010 period. See Appendix Table A.4 for variable definitions and sources. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors (HC1) are reported in parentheses.

Table A.6 List of countries

Specification(s)	Variables included	N	Countries included
Table 5			
Columns (3), (5), and (9) (three specifications with a common effective sample)	Dependent variables: Deposits/GDP; Credit/GDP; Credit/deposits. Regressors: GDP per capita (log, PPP 2021); Gross government debt to GDP; Uruguay dummy; Annual inflation rate; SD (GDP growth rate); Years with inflation $\geq 40\%$ (1970-2010); Years with banking crises (1970-2010); Bank Z-score; Bank overhead costs to total assets.	134	Albania, Algeria, Andorra, Angola, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahamas, The, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Burkina Faso, Burundi, Cabo Verde, Cameroon, Canada, Chad, Chile, Colombia, Congo, Dem. Rep., Costa Rica, Côte d'Ivoire, Croatia, Czech Republic, Denmark, Djibouti, Dominican Republic, Ecuador, Egypt, Arab Rep., El Salvador, Estonia, Eswatini, Ethiopia, Fiji, Finland, France, Gambia, The, Georgia, Germany, Ghana, Greece, Guatemala, Guinea, Guyana, Haiti, Honduras, Hungary, Iceland, India, Indonesia, Iraq, Ireland, Israel, Italy, Jamaica, Kazakhstan, Kenya, Korea, Rep., Kuwait, Kyrgyz Republic, Lao PDR, Latvia, Lebanon, Lesotho, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Mali, Mexico, Moldova, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, North Macedonia, Norway, Oman, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Russian Federation, Rwanda, Saudi Arabia, Senegal, Serbia, Seychelles, Slovak Republic, Slovenia, South Africa, Spain, Sri Lanka, St. Lucia, Suriname, Sweden, Tajikistan, Tanzania, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, Ukraine, United States, Uruguay, Uzbekistan, Zambia, and Zimbabwe.

Specification(s)	Variables included	N	Countries included
Tables 1 and 2			
Columns (3), (6), and (9) of Tables 1 and 2 (six specifications with a common effective sample)	Dependent variables: Deposits/GDP; Credit/GDP; Credit/deposits. Controls reported in Table 1: GDP per capita (log, PPP 2021); Gross government debt to GDP; Uruguay dummy. Additional controls included in Table 2: Annual inflation rate; SD (GDP growth rate); Years with inflation $\geq 40\%$ (1970-2010); Years with banking crises (1970-2010).	153	Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, Bahamas, The, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Brunei Darussalam, Bulgaria, Burkina Faso, Burundi, Cabo Verde, Cameroon, Canada, Chad, Chile, Colombia, Comoros, Congo, Dem. Rep., Congo, Rep., Costa Rica, Côte d'Ivoire, Croatia, Czech Republic, Denmark, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, Arab Rep., El Salvador, Equatorial Guinea, Estonia, Eswatini, Ethiopia, Fiji, Finland, France, Gambia, The, Georgia, Germany, Ghana, Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hungary, Iceland, India, Indonesia, Iraq, Ireland, Israel, Italy, Jamaica, Kazakhstan, Kenya, Korea, Rep., Kosovo, Kuwait, Kyrgyz Republic, Lao PDR, Latvia, Lebanon, Lesotho, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Mali, Marshall Islands, Mexico, Micronesia, Fed. Sts., Moldova, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, North Macedonia, Norway, Oman, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Russian Federation, Rwanda, Samoa, São Tomé and Príncipe, Saudi Arabia, Senegal, Serbia, Seychelles, Slovak Republic, Slovenia, Solomon Islands, South Africa, Spain, Sri Lanka, St. Lucia, St. Vincent and the Grenadines, Suriname, Sweden, Tajikistan, Tanzania, Thailand, Timor-Leste, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, Ukraine, United States, Uruguay, Uzbekistan, Vanuatu, West Bank and Gaza, Zambia, and Zimbabwe.