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Financial Deepening in Argentina

Diagnosis and Policy Recommendations

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Abstract¹

As Argentina has been unable to embark on a sustainable GDP growth process for several decades now, the development of the banking system presents itself as a plausible policy goal to unleash the country's productive potential. Building on the law and finance literature, we study the factors that may be behind the shallow level of banking intermediation in Argentina in the last 15 years. To this end, we run a number of cross-section and panel regressions for up to 154 countries, which confirm that adequate macroeconomic and institutional conditions are key when it comes to explaining financial depth around the world.

In particular, to shed light on the Argentine case, we use the estimated coefficients to conduct some simulations, under the assumption that Argentina converges to the 75th percentile in our international sample in terms of macroeconomic stability and institutional (creditor protection) quality. Under this optimistic scenario, the results point to a sizable increase of about 40 percentage points in the ratio of private credit to GDP, with most of the improvement being explained by the macroeconomic upgrade. Of course, for this outcome to materialize, the country should stick, for a number of years, to a consistent reform program to build predictability and trust among both depositors and banks.

¹ We would like to thank the enriching comments and suggestions by Vanessa Alviarez, Laura Giles, Oscar Valencia, Gerardo Licandro and other seminar participants at the Central Bank of Uruguay, as well as the feedback from the economic team with the Southern Cone Department. The superb research assistance of Alejo Isacch is greatly appreciated. The usual disclaimer applies.

1. Introduction

A vast literature supports the contention that financial markets may be a major engine of economic growth (see Arestis et al., 2015). As the Argentine economy has displayed a disappointing expansion over the last few decades, and has utterly stagnated since 2011, the question arises as to whether financial markets may help unleash a long-lasting economic take-off.

Though an upper middle income country, Argentina displays one of the lowest levels of financial deepening in the world. In descending order of private credit to GDP, as of 2023, Argentina ranks 21st out of 177 economies and just 2nd in Latin America and the Caribbean, only surpassed by Haiti.

As evident from Chart 1.1, this financial underdevelopment has been chronic for at least the last six decades. The mean credit-to-GDP over the period 1960-2024 stands at 16.1%, not far from the most recent recorded value (13.1% in 2024). The same goes for 1991-2001, the longest spell of relative macroeconomic stability in half a century, where it reached an average of 19.8%. In contrast, by 2023, private credit has risen to 51% of GDP in the Latin American and Caribbean region and 141% in the upper middle income country group.

Zeroing in on the last two decades, Charts 1.2 and 1.3 both suggest that the lack of credit dynamism stems from both sides of the banking system's balance sheet. For one, private deposits remain low, with an average of 18.8% during the 1993-2024 period. Secondly, the transformation of private deposits into private credit has been underwhelming, with credit representing a meager 39.3% of total banking assets.

The goal of this document is to bring to light the explanatory factors behind this phenomenon and put forward some policy recommendations to foster banking intermediation in Argentina.²

The rest of the document will be organized into four sections. Section 2 lays out the empirical approach and the working hypothesis. In Section 3 we carry out an exploratory descriptive analysis of the variables of interest for a broad country sample. The econometric exercises will be reported in Section 4. Based on these estimations, Section 5 will present some simulations evaluating the expected quantitative impact on the size of the banking system in Argentina under a feasible macroeconomic and institutional upgrade. Some conclusions and policy recommendations will close.

² We will concentrate on the development of the banking system, without tackling other relevant issues in this arena, 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, backed by casual evidence, that financial markets' growth, sophistication and inclusiveness are preceded by a large and robust banking industry. Carvajal et al. (2019) address the underpinnings of this financial sequencing.

Chart 1.1. Private Credit to GDP in Argentina (1960-2023) and the world (1995-2023)

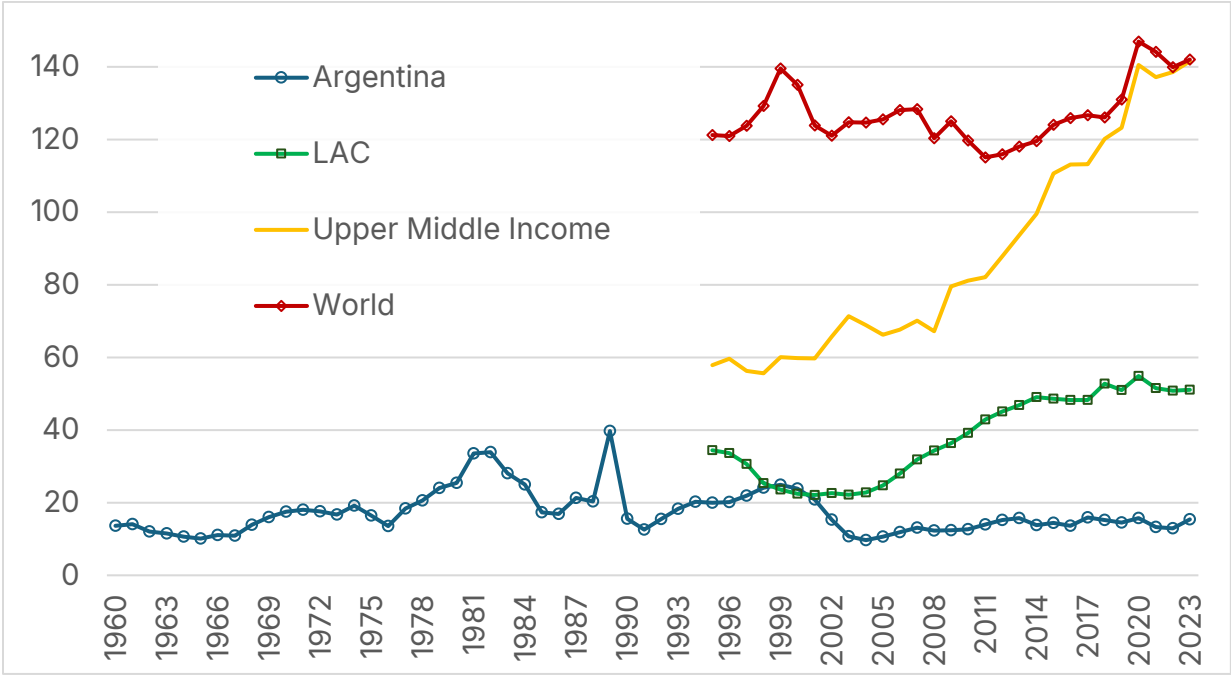


Chart 1.2. Private Credit and Deposits to GDP in Argentina (1993-2024)

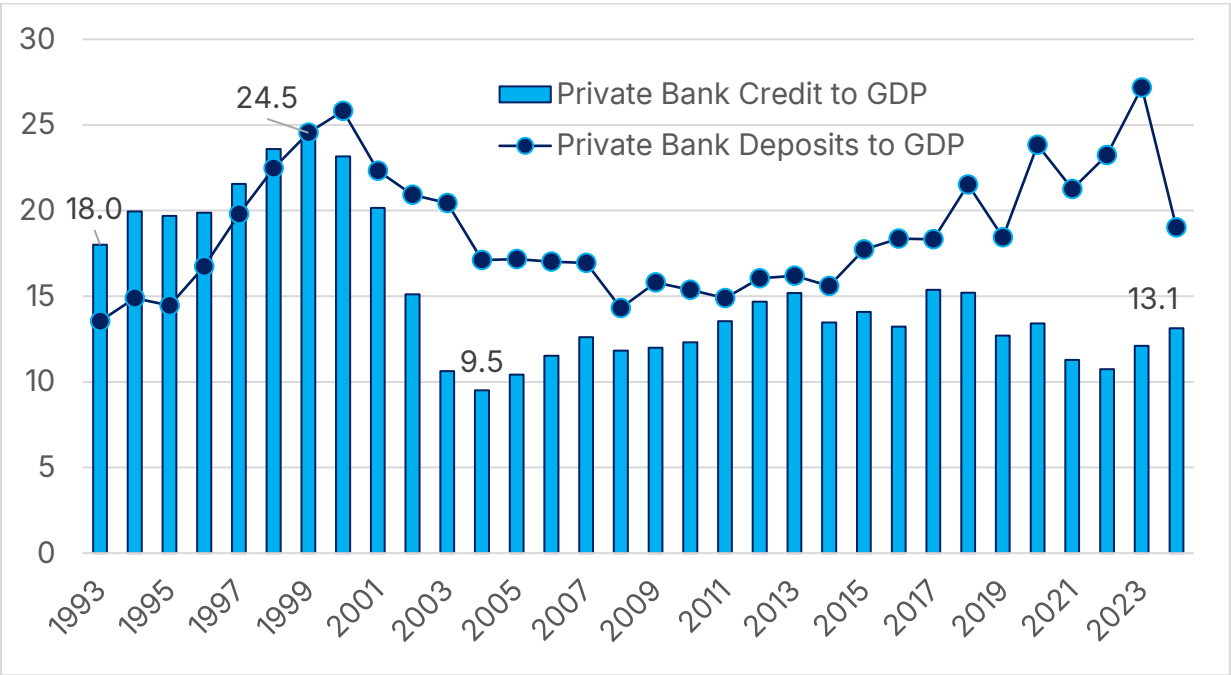
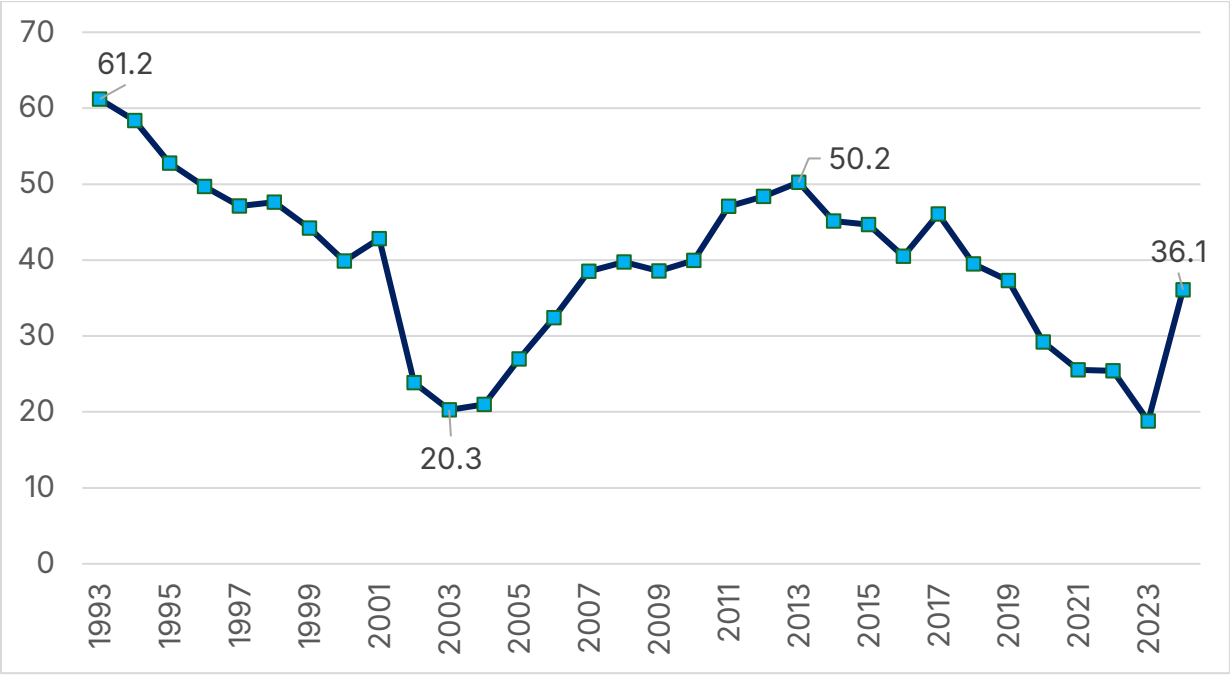


Chart 1.3. Private Credit to Total Banking Assets in Argentina (1993-2024)



Section 2: Analytical Framework and Working Hypotheses

A basic framework of supply and demand of loanable funds, distinguishing deposit and lending activity, will guide our empirical analysis.³

In this light, the level of private credit depends, first and foremost, on the supply of funds channeled to the banking industry by depositors, bondholders and equity holders. The volume of bank liabilities, or loanable funds, is determined by both the availability of saving as well as the willingness to relinquish the money to a banking institution, which relies on the financier's risk-and-return preferences and perceptions vis-à-vis other financial alternatives.

In turn, given the availability of loanable funds, the volume of private credit hinges on how banks allocate them into assets with different combinations of return, risk and liquidity, following their own strategic goals, the ongoing regulations and the loan demand they face.

Although the stakeholders on both sides of the balance sheet seek to maximize their expected risk-adjusted returns, their goals, investment menus and constraints may be different. This suggests that, while acknowledging their natural interplay, a separate investigation on private liabilities (especially deposits) and loans is called for to gain a better understanding of the factors hampering bank intermediation in Argentina.

We will estimate both cross-section and panel regressions for 154 countries over the period 2011-2023 to identify the macroeconomic and institutional drivers behind the level of private credit and deposits to GDP.⁴

The use of pure cross-country regression obeys the fact that the institutional fundamentals in our equations display little time variability. Institutions have historical and political origins that, as a norm, change slowly over time, if at all. Also, as the deep determinants of credit and deposits are long term in nature, a cross-section approach seems to be the right choice for the task at hand. Panels, in turn, are better suited to deal with temporal dynamics and causality issues that may be relevant for policy purposes. In the present study, the central goal is to unveil correlates of banking intermediation rather than establishing strict causality.⁵

Within our set of macroeconomic regressors, we expect GDP per capita, the real GDP growth rate and the saving rate (including both national and foreign saving) to be positively associated to the willingness to make both deposits and loans, as they increase the

³ This is a departure from the mainstream literature on the drivers of financial development, which focuses almost exclusively on the credit side (see, for example, Djankov et al., 2007).

⁴ The explanation of private credit by the confluence of macroeconomic and institutional forces goes back to the pioneer work of La Porta et al. (1997). See also La Porta et al. (2013) for a review of this law and finance literature.

⁵ Although causality, especially between financial development and economic growth, has been a major concern, the academic research has found evidence of finance causing growth (see, for example, Levine et al., 2000) as well as of growth causing finance (see Djankov et al., 2007).

availability of loanable resources and the confidence in getting paid back. Uncertainty may undermine such confidence, thus holding back banking intermediation. As uncertainty proxies, we use the inflation rate, the standard deviation of both the inflation and the real GDP growth rates and a banking crisis dummy taking value one if the country underwent a crisis at any time since 1970.

The government debt and overall balance to GDP are included to test the presence of crowding-out or crowding-in effects. Government debt may stand as an appealing, low risk investment vehicle for banks and investors, draining resources out of the deposit and loan markets. Compounding this crowding-out effect, unmanageable debt levels may jeopardize macroeconomic stability. On the other hand, if working properly, the development of the sovereign debt market may be instrumental in creating a yield curve and reinforcing investor trust in other financial assets, including deposits.

By enabling information sharing and erecting legal safeguards against opportunistic behaviors, institutions matter in shaping the structure and size of the banking industry. Our institutional indicators come from the World Bank's Doing Business program, which collects quantitative and qualitative data on the business climate in 190 countries.⁶ *Ease of Doing Business Score* is a composite index, ranging from 0 to 100, indicating how far a country is from the best practices (a score of 100). Two subcategories are especially important in regard to lending. One is *Getting Credit* (a 0-100 score), which measures the quality of the legal and information framework in the credit market, and encompasses (i) the *Strength of Legal Rights* index (a 0-12 index) which measures the strength of secured lenders' rights in the event that the borrower fails to service the debt at some point, and (ii) the credit information module, spanning the *Depth of Credit Information* index (a 0-8 index), which assesses the scope, coverage and accessibility of credit information available to lenders when selecting their borrowers through credit registries or bureaus; the *Credit Bureau Coverage* (the percentage of adult population listed in credit bureaus) and the *Credit Registry Coverage* (the percentage of adults listed in these public institutions, when existing in the country).⁷

⁶ Doing Business has been discontinued in 2020 and replaced by a new initiative under the name of Business Ready. Given our time frame, we employ Doing Business data for the period 2011-2019. About the methodology, please refer to <https://archive.doingbusiness.org/en/methodology> and <https://archive.doingbusiness.org/en/scores>.

⁷ The institutional dimension may encompass other measures, such as the existence and generosity of the deposit insurance system, the ongoing banking regulatory framework and the country's overall institutional foundations, as measured by indicators of rule of law, control of corruption and political risk. These are not included in our empirical analysis because of (a) the widespread presence of explicit and implicit deposit insurance schemes around the globe, especially after the 2008 crisis, which implies lacking variability across countries. The same goes, to some extent, for financial regulation, as most countries adhere to the Basel guidelines -and, even when liquidity and capital ratios are above Basel limits, as they usually are, that is usually a signal of banking fragility rather than strength. Regarding the country-wide institutional indicators, they tend to be highly correlated to the ones used in our study, so they are unlikely to provide additional explanatory power, besides the fact that the interpretation of the link to deposits and credit is more elusive.

Finally, given our interest in Argentina, we added a dummy variable for the country to capture any idiosyncratic effects not picked up by our control set.

Section 3: Descriptive Statistics

This section offers a first look at the data. Table 3.1 reports the level of private deposits and credit to GDP in Argentina and a sample of 154 countries over the period 2011-2023.⁸ It is apparent that Argentina lags well behind the median country in terms of both deposits (24% of GDP, against 50.1%) and credit (11.6% of GDP, against 39.5%). Furthermore, the ratio of private credit to deposits in Argentina (the full sample) stands at 48.4% (77.8%), attesting to the double difficulty of low deposits and low transformation of those deposits into private loans.

The macroeconomic variables are featured in Table 3.2, which reflects the disappointing performance of the Argentine economy in achieving robust growth and stability. In particular, the inflation rate and the standard deviation of both the inflation and growth rates are substantially above those of the other countries. Nonetheless, Argentina's GDP per capita easily surpasses the mean and median in the sample. The fiscal gross debt and deficit also appear to be above the average, while the national saving rate is relatively modest and foreign saving is negative.⁹

An overview of the institutional indicators, from Table 3.3, conveys a mixed impression, as Argentina, compared to the median, fares well on some (information sharing), slightly below the peer group on others (Resolving Insolvency, particularly the recovery ratio) and downright poorly on legal and effective creditor rights.¹⁰

Finally, Table 3.4 confirms the expected high correlation between deposits and credit and the negative link between them and the inflation rate and its volatility. The fiscal and saving variables display for the most part a positive correlation with banking intermediation, as do the institutional variables. We include a separate column for GDP per capita, just to underline not only its positive correlation with the variables of interest but also to stress the equally positive and high association to most of the institutional indicators, which may give rise to multicollinearity in running the econometric estimations. The same issue may arise from the (unreported) correlation among all institutional variables, with a mean value of 0.57.

⁸ We truncated the sample by keeping only the countries with a deposits-to-GDP ratio below 120%, with the goal of restricting the attention to 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.

⁹ The IMF's gross government debt definition includes all financial liabilities of the general government, including the Central Bank, after netting out intra-government debts. The fiscal balance corresponds to the overall, not the primary, balance.

¹⁰ The effective creditor rights are defined as the interaction between the Getting Credit and the Resolving Insolvency index, 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.

Table 3.1. Dependent Variables: Descriptive Statistics

Dependent Variables (2020-2023 averages)	Argentina	Full sample = 154 countries				
		Mean	Median	75th percentile	90th percentile	Standard Deviation
Private deposits to GDP	24.0	54.0	50.1	72.4	94.2	26.7
Private credit to GDP	11.6	43.3	39.5	53.1	80.0	29.5
Private credit to deposits	48.4	79.4	77.8	92.7	114.3	30.3

Table 3.2. Macroeconomic Regressors: Descriptive Statistics

Macroeconomic Regressors (2011-2023 averages)	Argentina	Full sample = 154 countries				
		Mean	Median	75th percentile	90th percentile	Standard Deviation
GDP per capita (PPP 2021 dollars)	27,532	22,872	14,914	33,441	55,342	22,080
Annual inflation rate	57.7	6.9	3.4	2.2	1.8	16.7
Annual GDP growth rate	0.4	3.0	2.7	4.0	5.7	2.2
Gross government debt to GDP	72.5	54.6	49.4	70.8	86.7	29.0
Fiscal balance to GDP	-4.6	-3.0	-3.1	-1.7	-0.3	4.0
Std dev (inflation rate)	18.0	4.4	2.8	1.8	1.3	8.4
Std dev (GDP growth rate)	5.3	3.6	2.9	2.2	1.7	2.8
Banking crisis (1 if crisis in 1970-2020, and 0 otherwise)	1.0	0.7	1.0	1.0	1.0	0.5
Gross national saving rate to GDP	15.3	20.9	20.7	26.8	31.5	8.6
Current account balance to GDP	-1.6	-2.6	-2.6	0.3	4.6	8.3

Table 3.3. Institutional Regressors: Descriptive Statistics

Institutional Regressors (2011-2023 averages)	Argentina	Full sample = 154 countries				
		Mean	Median	75th percentile	90th percentile	Standard Deviation
Ease of doing business (0-100 score)	57.1	60.6	60.9	68.4	78.0	11.6
Getting credit score (0-100 score)	50.0	51.0	50.0	67.1	76.8	20.2
Legal rights (0-12 index)	2.0	5.4	6.0	7.1	9.0	2.7
Information depth (0-8 index)	8.0	6.5	7.0	7.4	8.0	1.4
Registry coverage (0-100%)	41.0	23.6	15.5	36.3	63.5	24.8
Bureau coverage (0-100%)	98.0	48.1	43.7	79.5	100.0	34.1
Resolving insolvency (0-100 score)	43.9	49.8	45.1	61.4	78.8	17.8
Time (calendar years)	2.4	2.5	2.2	1.7	1.1	1.1
Cost (% of debtor's state)	16.5	15.4	14.5	9.0	5.0	9.6
Recovery (cents on the dollar)	26.3	41.5	36.9	52.4	80.0	21.8
Effective creditor rights (Getting credit * Resolving insolvency)	2135.5	2768.9	2404.0	3816.7	5158.6	1676.9

Table 3.4. Correlation Coefficients between Dependent and Regressors

Correlation coefficients	Private deposits to GDP	Private credit to GDP	GDP per capita
Dependent Variables:			
Private deposits to GDP			0.44***
Private credit to GDP	0.90***		0.53***
Macroeconomic Variables:			
Annual inflation rate	-0.16**	-0.19**	-0.04
Annual GDP growth rate	-0.12	-0.07	-0.14*
Gross government debt to GDP	0.14*	0.06	0.11
Fiscal balance to GDP	0.16**	0.25***	0.23***
Std dev (Inflation rate)	-0.17**	-0.21***	-0.03
Std dev (GDP growth rate)	0.10	0.01	0.02
Gross national saving rate to GDP	0.26***	0.35***	0.41***
Current account balance to GDP	0.24***	0.27***	0.48***
Institutional Variables:			
Easy of doing business (0-100 score)	0.34***	0.47***	0.69***
Getting credit score (0-100 score)	0.09	0.20**	0.24***
Legal rights (0-12 index)	0.05	0.06	-0.04
Information depth (0-8 index)	0.02	0.08	0.17**
Registry coverage (0-100%)	0.33***	0.29***	0.52***
Bureau coverage (0-100%)	0.21**	0.28***	0.57***
Resolving insolvency (0-100 score)	0.25***	0.32***	0.60***
Time (calendar years)	-0.16**	-0.18**	-0.39***
Cost (% of debtor's state)	-0.21***	-0.29***	-0.44***
Recovery (cents on the dollar)	0.34***	0.40***	0.64***
Effective creditor rights	0.19**	0.24***	0.32***

Section 4: Econometric Results

In what follows we report the econometric exercises carried out to identify the central macroeconomic and institutional drivers of the private deposits and credit to GDP. Before discussing the results, let us recall that we are adopting a sequential strategy, whereby we first study private deposits and then, based on those regressions, private credit. In general, the estimated equations display satisfactory goodness-of-fit and stable estimates. In this section we first address the statistical significance of the macroeconomic explanatory variables and then institutional variables, deferring the whole economic significance analysis to the next section.

Table 4.1 boasts the core cross-section deposits equations as a function of the macroeconomic correlates.¹¹ We observe positive loadings on GDP per capita and government debt, and negative coefficients on the inflation rate and GDP growth volatility. We find that the GDP growth rate, the fiscal balance, the saving rate and the standard deviation of the inflation rate do not turn out to be statistically significant. Due to potential multicollinearity with other macro covariates, the inflation rate estimates and significance are somewhat unstable.

The two binary explanatory variables are highly significant as well. Countries hit by a banking crisis at any point since 1970 display a private deposits-to-GDP ratio about 15 percentage points lower. Of particular interest for the present study, the Argentina dummy implies that the usual macro regressors do not fully account for the modest level of financial intermediation in the country. For instance, this effect goes over and beyond chronic inflation, as the inclusion of the dummy makes the inflation estimate fall from about 0.7 to 0.25, but staying highly significant. According to our results, this dummy explains a striking 24 to 38 percentage-point fall in private deposits to GDP. We will conjecture later on about the factors that might lie behind it.

In Table 4.2, we check whether the same specifications are able to explain private credit to GDP. Results remain unaltered for the most part, with the notable exception of the loss of significance of the government debt. A plausible interpretation is that the government debt market may reinforce the overall information about and the trust in financial markets, hence boosting deposits, but may at the same time crowd out private credit by offering banks an asset with an appealing risk-adjusted return, and much lower information frictions, vis-à-vis business and household loans (see Hauner, 2009).

To further explore the hypothesis that the macroeconomic landscape affects not only the volume of deposits but the extent to which they are channeled to private loans, we run in Table 4.3 regressions of the credit-to-deposits ratio on the same set of macro controls. The main results hold up. Interestingly, though, the government debt becomes significantly negative, supporting the hypothesis that, for a given level of deposits, banks are likely to

¹¹ In all cross-section regressions, we measure the dependent variables as the 2020-2023 average and the regressors as 2011-2023 averages.

hold back lending to the private sector not only under dire macroeconomic conditions but also when they perceive sovereign debt as a better investment opportunity.

For robustness, Table 4.4 features, for the three dependent variables, system Generalized Method of Moments (GMM) panel regressions to compare with our previous cross-section estimations. Once again, our chief conclusions so far do not appear to change in any noticeable manner, despite the change in the number of observations (from 153 to about 1,750) or the use of internal instruments to deal with potential endogeneity.¹²

Table 4.5 introduces the institutional regressors. As highlighted earlier, these regressors are highly correlated with GDP per capita and with each other. Moreover, as they all proxy, in different ways, for the quality of the creditor protection framework throughout the life of the loan contract, we expect them to have a more sensible impact on credit decisions as opposed to deposit decisions. By the same token, even though the protection to banks in their role of creditors indirectly provides protection to the ultimate creditors (the depositors and other debtholders), the first line of defense to depositors in the event of bank default is the financial safety net through the deposit insurance system and especially the lender of last resort facilities (see for example Laeven and Valencia, 2020).

In light of the above arguments and our preference for a sequential modelling (first deposits and then credit as a function of those deposits), our credit equations, presented in Table 4.5, include deposits and one institutional indicator at a time. In total, we report 12 regressions. The first one omits the institutional regressors altogether, delivering a high correlation between deposits and credit (0.84) and adjusted R² (0.58), consistent with the high correlation previously observed in the data.

As the various indexes and subindexes are included, the R² rises (to reach values between 0.60 and 0.74), without any major change in the private deposits coefficient (which ranges from 0.65 to 0.93), hinting that institutions do have added informational value on private credit. The creditor legal rights index is the only one that fails to be statistically significant, although the index of effective creditor rights (the interaction of legal rights and the Resolving insolvency index) becomes significant at 10%.

To close this section, Table 4.6 digs into the explanation behind the country dummy. An educated guess is that the meager level of both deposits and credit has to do with a long history of macroeconomic instability and costly and poorly resolved banking crises (four in the last five decades), which have undermined social trust in financial intermediation, which has translated into a preference for liquidity both outside and inside banks. Our baseline

¹² For additional robustness testing, we run a VAR system with Argentine quarterly data from 1993q1 to 2025q1, with the credit to GDP and real GDP growth as the endogenous variables and our host of macroeconomic controls as the exogenous variables. These exercises confirm that GDP growth exerts a positive effect on credit growth, but not the other way around and that the macro instability proxies hamper credit growth. Given the notorious influence of the exchange rate in the Argentine economy, we also included, not simultaneously, the black market premium and the volatility of the nominal and the real exchange rate of the peso against the dollar, but neither of these variables appears to add significant explanatory power on top of the other variables in the model.

specification already incorporates some uncertainty proxies, such as the presence of financial crises, inflation and the standard deviation of both inflation and GDP growth. Yet, the Argentina dummy remained highly significant.

A reason for that is that there exists no single, indisputable measure of uncertainty. Furthermore, the economic agents' perception may not just depend on recent instability but also on the memory of distant and recurrent events, such as crises spanning several decades. To deal with this measurement problem, Table 4.6 reproduces the baseline regression adding new uncertainty proxies, such as the standard deviation of the real exchange rate devaluation and the number of banking crises since 1970. By doing that, owing to the reasonable correlation between macroeconomic instability proxies, some of those variables cease to render a significant value. However, what matters most for our purpose is that the Argentina dummy now yields an insignificant estimate, lending some support to the conjecture that such unobservable heterogeneity has its roots in overall instability and uncertainty.

Table 4.1. Private Deposits to GDP: Cross-Country Macroeconomic Correlates

Dependent Variable: Private Deposits to GDP	(1)	(2)	(3)	(4)	(5)	(6)
ln (GDP Per Capita)	8.808*** (4.97)	8.669*** (4.30)	8.987*** (5.04)	9.477*** (5.63)	9.960*** (5.64)	10.35*** (6.04)
Inflation Rate	-0.289*** (-2.83)	-0.698*** (-3.96)	-0.254*** (-3.39)	-0.225*** (-3.05)	0.410 (1.00)	-0.150* (-1.74)
Government Debt to GDP	0.244*** (4.35)	0.333*** (4.47)	0.245*** (4.37)	0.257*** (4.92)	0.268*** (4.97)	0.266*** (4.96)
GDP Growth Rate		-0.466 (-0.52)				
Fiscal Balance to GDP		0.0164 (0.02)				
(Nat.+Foreign Saving) to GDP		0.102 (0.64)				
Argentina Dummy			-27.66*** (-6.23)	-24.95*** (-5.58)	-37.74*** (-3.52)	-24.46*** (-5.18)
Banking Crisis Dummy				-13.84*** (-3.49)	-15.54*** (-3.98)	-15.19*** (-3.86)
Std. Dev. (GDP Growth Rate)					-1.951* (-1.86)	-2.470** (-2.46)
Std. Dev. (Inflation Rate)					-1.169 (-1.42)	
Constant	-41.49** (-2.40)	-45.96** (-2.50)	-43.31** (-2.49)	-39.70** (-2.36)	-36.37** (-2.08)	-39.83** (-2.35)
Observations	153	142	153	153	153	153
Adjusted R-sq.	0.264	0.384	0.266	0.322	0.344	0.340

Robust t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4.2. Private Credit to GDP: Cross-Country Macroeconomic Correlates

Dependent Variable: Private Credit to GDP	(1)	(2)	(3)	(4)	(5)	(6)
In (GDP Per Capita)	12.85*** (5.93)	11.34*** (4.67)	13.04*** (5.98)	13.39*** (6.01)	14.20*** (6.04)	14.72*** (6.32)
Inflation Rate	-0.282** (-2.20)	-0.875*** (-6.84)	-0.244** (-2.43)	-0.224** (-2.21)	0.631* (1.68)	-0.110 (-0.95)
Government Debt to GDP	0.0670 (1.03)	0.124 (1.50)	0.0680 (1.04)	0.0762 (1.18)	0.0938 (1.48)	0.0905 (1.39)
GDP Growth Rate		-0.0959 (-0.08)				
Fiscal Balance to GDP		0.450 (0.59)				
(Nat.+Foreign Saving) to GDP		0.0512 (0.33)				
Argentina Dummy			-29.85*** (-4.93)	-27.96*** (-4.72)	-44.77*** (-4.20)	-27.22*** (-4.29)
Banking Crisis Dummy				-9.658** (-1.98)	-12.18** (-2.55)	-11.71** (-2.42)
Std. Dev. (GDP Growth Rate)					-3.071*** (-2.64)	-3.757*** (-3.37)
Std. Dev. (Inflation Rate)					-1.544** (-2.06)	
Constant	-80.77*** (-4.44)	-66.99*** (-3.06)	-82.73*** (-4.51)	-80.21*** (-4.52)	-75.84*** (-4.18)	-80.42*** (-4.51)
Observations	153	142	153	153	153	153
Adjusted R-sq.	0.276	0.329	0.278	0.298	0.342	0.335

Robust t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4.3. Private Credit to Private Deposits: Cross-Country Macroeconomic Correlates

Dependent Variable: Ratio of Private Credit to Deposits	(1)	(2)	(3)	(4)	(5)	(6)
ln (GDP Per Capita)	8.162*** (3.52)	7.264*** (2.62)	8.298*** (3.55)	8.175*** (3.47)	8.802*** (3.42)	9.240*** (3.76)
Inflation Rate	-0.279*** (-3.80)	-0.594** (-2.53)	-0.252*** (-4.29)	-0.259*** (-4.23)	0.456 (0.58)	-0.168* (-1.92)
Government Debt to GDP	-0.183** (-2.35)	-0.230*** (-2.82)	-0.182** (-2.32)	-0.185** (-2.41)	-0.171** (-2.32)	-0.174** (-2.31)
GDP Growth Rate		0.115 (0.06)				
Fiscal Balance to GDP		0.327 (0.58)				
(Nat.+Foreign Saving) to GDP		-0.0528 (-0.28)				
Argentina Dummy			-21.08*** (-4.87)	-21.76*** (-5.09)	-35.95** (-1.99)	-21.17*** (-4.74)
Banking Crisis Dummy				3.483 (0.65)	1.450 (0.26)	1.844 (0.33)
Std. Dev. (GDP Growth Rate)					-2.423* (-1.69)	-3.001** (-2.14)
Std. Dev. (Inflation Rate)					-1.301 (-0.80)	
Constant	13.83 (0.64)	29.35 (0.98)	12.45 (0.57)	11.54 (0.53)	15.23 (0.65)	11.37 (0.52)
Observations	153	142	153	153	153	153
Adjusted R-sq.	0.127	0.122	0.124	0.121	0.143	0.141

Robust t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4.4. System GMM Regression for Deposits, Credit and Credit to Deposits
Macroeconomic Regressors plus Argentina Dummy

Macroeconomic regressors	Private Deposits		Private Credit		Credit/Deposits	
	(1)	(2)	(3)	(4)	(5)	(6)
In (GDP Per Capita)	14.56*** (5.77)	11.09*** (4.92)	16.25*** (5.89)	15.56*** (6.00)	9.573** (2.23)	11.45*** (2.72)
Inflation Rate	-0.153* (-1.84)	-0.149* (-1.79)	-0.104* (-1.93)	-0.0949 (-1.56)	-0.0732** (-2.10)	-0.0929** (-2.38)
Government Debt to GDP	0.206** (2.41)	0.287*** (3.73)	0.00299 (0.05)	0.114* (1.87)	-0.222** (-2.20)	-0.200** (-2.00)
Argentina Dummy	-35.46*** (-4.93)	-31.57*** (-6.97)	-42.06*** (-5.60)	-34.10*** (-5.83)	-31.23** (-2.22)	-21.90*** (-2.76)
Std. Dev. (GDP Growth Rate)		-1.905*** (-3.64)		-1.798** (-2.17)		-0.0680 (-0.06)
Constant	-102.1*** (-4.36)	-65.90*** (-3.12)	-112.1*** (-4.42)	-105.2*** (-4.40)	13.23 (0.33)	-10.84 (-0.28)
Observations	1751	1751	1752	1184	1747	1747
AR(1) Test	0.395	0.320	0.837	0.0274	0.255	0.252
Hansen Test	0.158	0.422	0.246	0.999	0.172	0.494

Robust t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Year effects included but not reported.

Table 4.5. Private Credit to GDP: Cross-Country Institutional Correlates

<i>Dependent Variable: Private Credit to GDP</i>	Obs.	Private Deposits	Institutional Regressors	Adj. R2
No institutional variable	154	0.840*** (9.85)		0.579
Ease of doing business	152	0.650*** (10.18)	0.788*** (5.27)	0.682
Getting credit score	150	0.785*** (12.19)	0.230*** (3.11)	0.635
Legal rights	148	0.800*** (11.88)	0.211 (0.31)	0.603
Information depth	124	0.882*** (13.36)	1.883** (2.06)	0.685
Registry coverage	88	0.738*** (7.77)	0.131 (1.63)	0.625
Bureau coverage	102	0.931*** (12.68)	0.112** (2.27)	0.743
Resolving insolvency	135	0.740*** (9.53)	0.301*** (3.05)	0.625
Time	135	0.787*** (10.44)	-3.697** (-2.12)	0.610
Cost	135	0.759*** (10.46)	-0.585*** (-3.11)	0.631
Recovery	134	0.711*** (9.33)	0.305*** (3.33)	0.639
Effective creditor rights	134	0.777*** (10.71)	0.0185* (1.72)	0.605

Robust t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4.6. Uncertainty and Argentina Dummy

	Deposits	Credit	Credit to deposits
GDP Per Capita	9.817*** (5.14)	13.70*** (5.34)	7.933*** (2.74)
Inflation Rate	-0.240 (-0.35)	-0.487 (-0.93)	-0.157 (-0.16)
Government Debt to GDP	0.304*** (4.75)	0.143** (2.02)	-0.138 (-1.60)
Argentina Dummy	2.236 (0.08)	16.37 (0.86)	-5.961 (-0.19)
SD (Inflation Rate)	-1.103 (-1.20)	-1.348 (-1.57)	-1.161 (-0.64)
SD (GDP Growth Rate)	-2.815** (-2.58)	-4.121*** (-3.40)	-2.881* (-1.92)
SD (RER Devaluation Rate)	-0.00235 (-0.00)	11.15* (1.85)	15.63** (2.12)
Banking Crisis Dummy	-13.52** (-2.47)	-10.37* (-1.73)	1.548 (0.22)
Number of Banking Crisis since 1970	-1.006 (-1.38)	-0.956 (-1.27)	-0.232 (-0.26)
Constant	-28.54 (-1.43)	-64.28*** (-3.26)	24.88 (0.98)
Observations	138	138	138
Adjusted R-sq.	0.364	0.378	0.107

t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Section 5: Simulations

To gain some quantitative sense of the impact that an improvement in institutional standards and economic growth and stability would have on the level of financial intermediation in Argentina, we run in this section some simulations making use of the previous estimations.

As deposit and credit decisions depend, at the end of the day, on trust, the following projections are not supposed to materialize in the short run, even under a fast program combining proper macroeconomic management and institutional reforms. On the contrary, they should be thought of as optimistic policy goals for, say, the next 10 to 20 years, which assume that no interruption takes place in the course of the program.

First off, we simulate in Chart 5.1 the ratio of private deposits to GDP using the estimated equation from Table 4.1, last column. For each macroeconomic regressor, we assume that Argentina converges to the top 75th percentile, as shown in Table 3.2. For example, we ask by how much the deposits ratio would climb if the annual inflation rate drops from the 2011-2023 average (57.7%) to the inflation in the 75th percentile (2.2%). As the estimated coefficient is -0.15, this means that the deposits ratio would rise by 8.3 percentage points ($0.15 * (57.7 - 2.2) = 8.3$). From the actual ratio of 19.1% in 2024 (latest recorded value), deposits would increase to 27.4%, all else equal. We repeat the same exercise for each regressor individually and then all at once, including the assumption that Argentina's idiosyncratic factor (as measured by the coefficient on the Argentina dummy, which explains a staggering 24.5 percentage point deposits reduction) is eliminated.

The private credit simulations are based on the just simulated deposits plugged into the regressions from Table 4.5. Our preferred institutional variable is Effective Creditor Rights, as it captures both the letter and the enforcement of commercial laws.¹³ For the time being, we postulate that Effective Creditor Rights in Argentina catches up with the level at the 75th percentile. From Chart 5.2, we first notice that, under the ongoing macroeconomic and institutional conditions (no upgrade), the predicted ratio to GDP (15.1%) is, reassuringly, quite close to the actual value (12.7%). Now, in the most optimistic scenario, Argentina would end up with a private credit ratio of 53.3% - an increase of 40.6 percentage points over the actual value in 2024, of which just 5 percentage points would come from a better institutional framework and the rest from a macroeconomic revamping. Of course, for this outcome to materialize, the country should stick, for a number of years, to a consistent reform program to build predictability and trust among both depositors and banks.

¹³ Results do not vary in any noticeable way when other institutional proxies are used instead of Effective Creditor Rights.

Chart 5.1. Private Deposits to GDP in Argentina with Macroeconomic Upgrade

Argentina's macro regressors converge to the 75th percentile in the country sample and the Argentina dummy goes to zero (see statistics from Table 3.2, column 4, and regression coefficients from Table 4.1, last column)

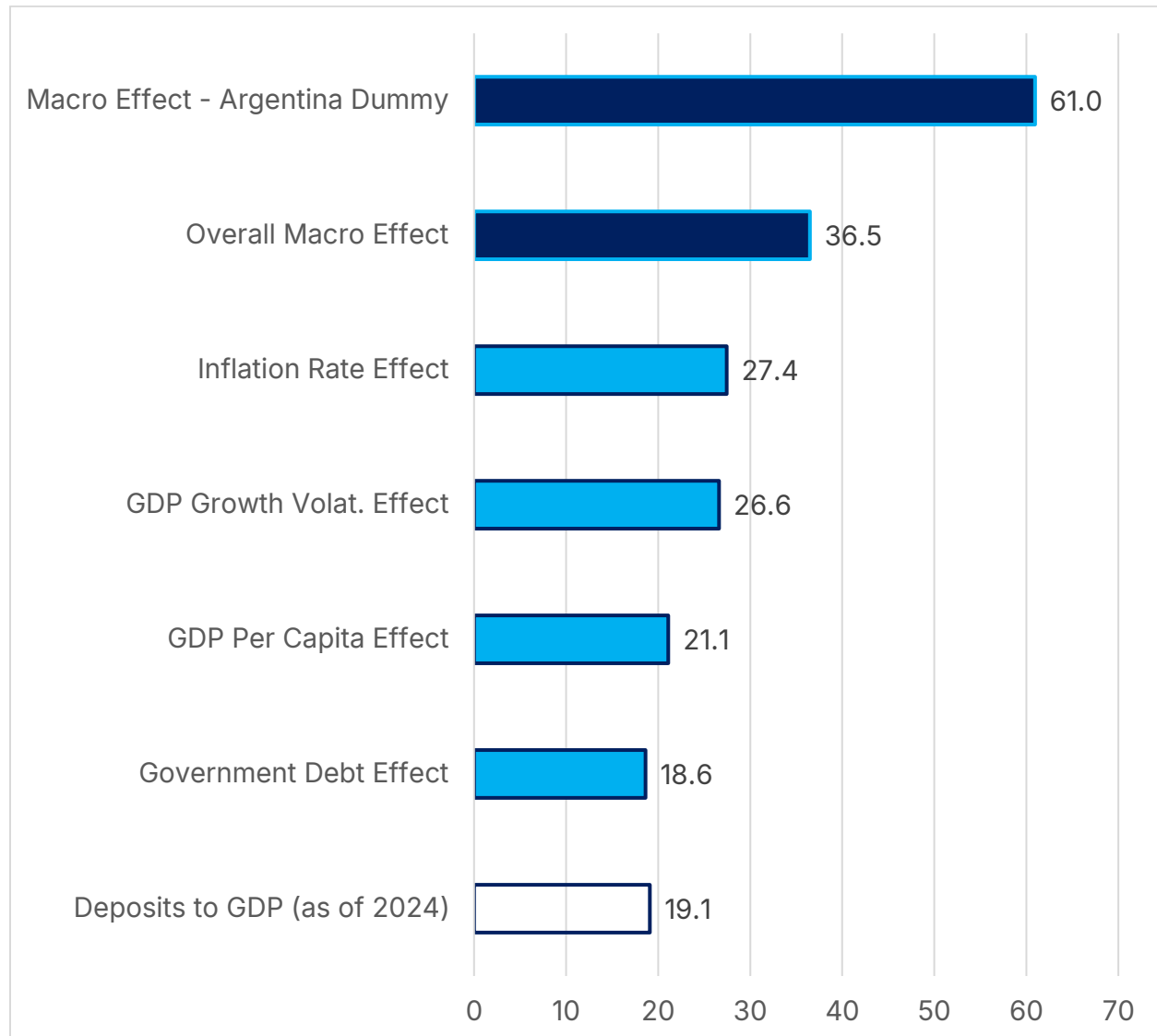
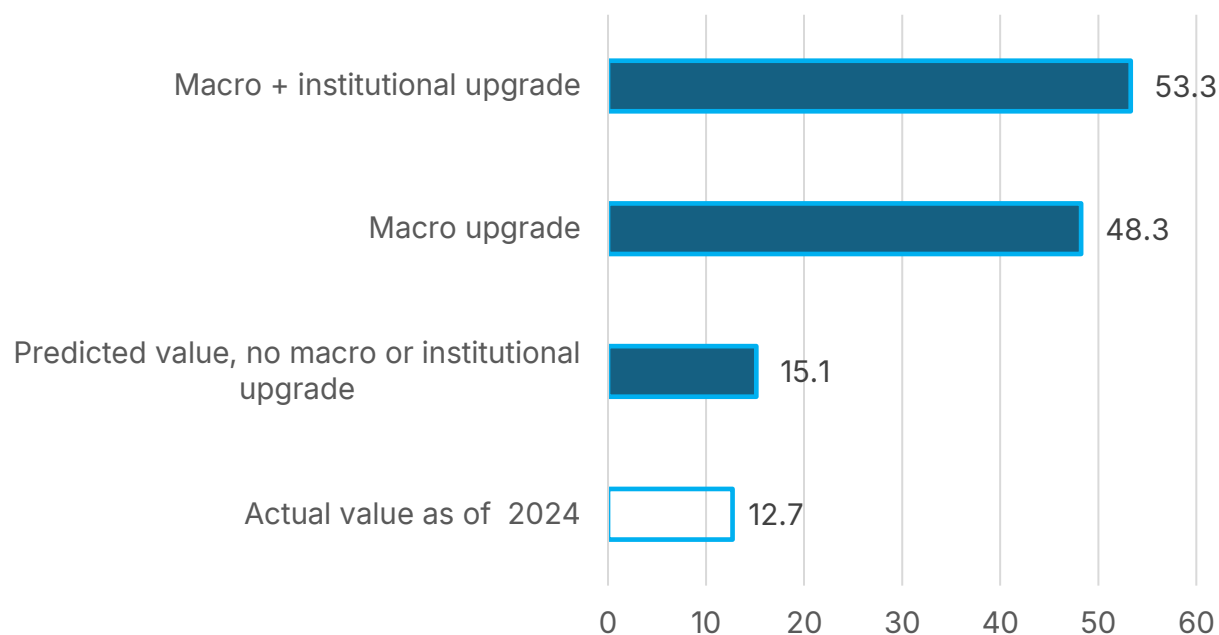


Chart 5.2. Argentina: Private Credit to GDP with Macroeconomic and Institutional Upgrade

Macro and institutional (based on effective creditor rights) regressors converge to the 75th percentile in the country sample and country dummy goes to zero (see statistics from Table 3.3 and regression coefficients from Table 4.5)



Section 6: Conclusions and Policy Recommendations

As Argentina has been unable to embark on a sustainable GDP growth process for several decades now, the development of the banking system presents itself as a plausible policy goal to unleash the country's productive potential. Building on the law and finance literature, we study the factors that may be behind the shallow level of banking intermediation in Argentina in the last 15 years. To this end, we run a number of cross-section and panel regressions for up to 154 countries, which confirm that adequate macroeconomic and institutional conditions are key when it comes to explain financial depth around the world.

To shed light on the Argentine case, we use the estimated coefficients to conduct some simulations, under the assumption that Argentina converges to the 75th percentile in our international sample in terms of macroeconomic stability and institutional (creditor protection) quality. Under this optimistic scenario, the results point to a sizable increase of about 40 percentage points in the ratio of private credit to GDP, with most of the improvement being explained by the macroeconomic upgrade. Of course, for this outcome to materialize, the country should stick, for a number of years, to a consistent reform program to build predictability and trust among both depositors and banks. In that sense, our simulations should be interpreted as medium- to long-term outcomes under benign overall conditions.

The direct policy recommendations emerging from the study are not surprising. Without an adequate macroeconomic and institutional framework, little can be advanced towards a deeper banking system. Macroeconomic stability appears to be much more impactful than any institutional reform, but also more elusive as a policy goal, as it faces more constraints and requires a much broader social and political consensus than a creditor rights legal amendment. While the latter is not without challenges, it is a legislative matter with no major and conspicuous economic ramifications. However, we must recall that effective creditor rights go beyond the mere letter of the law to encompass their enforcement, and this in turn depends on an efficient and expedite judicial system, which imposes implementation challenges of their own.

Regarding sequencing, although the paper does not delve into this aspect, it seems logical that the quest for macro stability should take precedence over institutional reforms in a country like Argentina, where volatile macroeconomic conditions have shaped even microeconomic decisions for decades now. Legal changes may be inconsequential without macro normalcy.

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Annex: Data Sources

Argentina's GDP at current values: Instituto Nacional de Estadísticas y Censos (INDEC), https://www.indec.gob.ar/ftp/nuevaweb/cuadros/17/cuadro9_1.xls (1993-2003) and http://www.indec.gob.ar/ftp/cuadros/economia/sh_oferta_demanda_06_25.xls (2004-2024)

Argentina's banking system balance sheet: Banco Central de la República Argentina (BCRA), <https://www.bcra.gob.ar/Pdfs/PublicacionesEstadisticas/balbanhis.xls>

Outstanding private credit and deposits to GDP by country: Financial Access Survey (FAS), IMF, <https://data.imf.org/en/datasets/IMF.STA:FAS>

For comparison only: Global Financial Development Database, World Bank.

<https://thedocs.worldbank.org/en/doc/5882f2b2117b882d58a78f9c64ea3613-0050062022/original/20220909-global-financial-development-database.xlsx>

Institutional indicators: Doing Business (discontinued as of 2020), World Bank, <https://archive.doingbusiness.org/content/dam/doingBusiness/excel/db-2021/Historical-Data--DB04-DB20-.xlsx>

Macroeconomic data: World Economic Outlook, IMF, <https://www.imf.org/en/Publications/WEO/weo-database/2025/april>

Financial crises database: Laeven, M. L., & Valencia, M. F. (2018). *Systemic banking crises revisited*. International Monetary Fund. <https://www.imf.org/-/media/Files/Publications/WP/2018/datasets/wp18206.ashx>