

I Overview

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This paper assesses the implications of high financial dollarization for macroeconomic policies and vulnerabilities in Uruguay. Dollarization creates balance sheet exposure to exchange rate changes and poses important policy questions. Understanding the exposures of different sectors and the transmission of macroeconomic shocks is key to determine appropriate policies and instruments. To shed light on these issues, the paper assesses the scope for an independent monetary policy and for the exchange rate to be a shock absorber in a financially dollarized economy, the transmission of shocks by the financial system and the role of external factors in explaining key financial variables, and balance sheet vulnerabilities and the need for insurance mechanisms.

The analysis is particularly relevant at this juncture, as Uruguay pursues key postcrisis monetary and financial reforms. The country has experienced a remarkable recovery after the 2002 crisis, supported by sound policies and favorable external conditions. With the framework put in place in 2002, Uruguay abandoned an exchange rate peg in favor of a free float, adopted a monetary regime initially based on money targets, improved financial prudential norms and supervision, and accumulated significant central bank reserves. Since then, the dollarization of the banking system has declined, but it is still high. Against this background, the country now faces issues beyond those addressed to stabilize the economy. The analysis has a direct bearing on the ongoing efforts to move toward a fully fledged inflation-targeting regime and develop interest rates as monetary instruments as well as other related issues, including the preparedness of the financial system to deal with shocks and the adequacy of current central bank reserves.

The main findings can be broadly summarized as follows:

- Despite high financial dollarization, there is scope for domestic monetary policy to be effective. Beyond the direct impact of the monetary stance, with increased credibility, particularly during the periods when the exchange rate has been allowed to float, the central bank has been able to influence inflation through the expectation channel. In addition, banks' lending behavior suggests that there is a limited but strengthening bank lending channel for monetary policy.

- A flexible exchange rate can be an effective absorber of external shocks in Uruguay. With a partial and declining pass-through, exchange rate movements can help restore balances and deal with shocks. At the same time, instruments other than the exchange rate, such as interest rates, are likely to be more appropriate to manage monetary policy as Uruguay gradually moves toward a fully fledged inflation-targeting framework.
- External financial developments play a substantial role in Uruguay, partly because of high dollarization. Beyond the still significant real linkages to the region and nonresident deposits in the financial system, there are several other important financial links with the rest of the world. In particular, banks' dollar lending is found to be influenced by U.S. monetary policy. Also, sovereign spreads behavior suggests that investors link Uruguay's fortunes to a considerable extent to external developments.
- Sustaining sound policies over the medium term will be essential to further increase the effectiveness of policy instruments and reduce spillover risks. Despite much progress, there are still vulnerabilities and policy constraints imposed by dollarization. A clear monetary framework and commitment to the inflation objectives, within a flexible exchange rate regime, appear important to further increase central bank credibility and reduce real costs of lowering inflation. In due time, this could also assist in lowering dollarization. Continued progress toward regaining investment grade would likely go a long way in reducing external linkages. Although nearing appropriate levels, further reserve accumulation would also be desirable.

This work explores the implications of financial dollarization in seven papers, presented in three main sections.

Monetary Policy in a Dollarized Economy

Uruguay remains a highly dollarized economy, potentially limiting the scope for monetary policy.

Under outright dollarization, monetary policy is generally expected to play little or no role. In Uruguay, however, although financial dollarization is among the highest in the world, the peso is the basis for most transactions and contracts in the economy. Thus, the question of whether there is scope for monetary policy is an empirical issue:

- Gelos and Rossi Iriondo study the determinants and dynamics of inflation and explore the expectation channel of monetary policy. With higher-than-targeted inflation, lowering inflation has become among the authorities' top short-term policy concerns. The study establishes econometrically that forward-looking expectations have been the key drivers of inflation, particularly since the adoption of a flexible exchange rate. This is an important insight because it suggests that inflation could be lowered without large economic activity costs. It also shows that the central bank has been gaining credibility, with announced inflation targets playing an increasing role in forming expectations. Fiscal variables, in turn, are among the factors explaining expectations. Monetary aggregates become important only after the adoption of a flexible exchange rate regime over longer-term horizon forecasts.
- López-Mejía, Rebucci, and Saizar assess the exchange rate pass-through to domestic prices and the effectiveness of a flexible exchange rate as a shock absorber and indirect channel of transmission of monetary policy. The authors show that the pass-through began to decline as early as 1994–95 but has become unstable since late 2005. This result suggests that the exchange rate has become a less effective nominal anchor. Thus, the role of an appreciation in offsetting inflationary pressures, although still important, has decreased. It also means that the exchange rate can generate expenditure switching effects, helping isolate the economy from shocks. Using an innovative Bayesian approach, the study also provides further evidence that monetary policy credibility has generally increased, giving the central bank larger scope to conduct monetary policy effectively. However, in contrast with Gelos and Rossi Iriondo, who found a steady increase in credibility, this study suggests a moderate decline between 2006 and mid-2007. The research also finds that increased credibility could lower dollarization, although long periods of time may be needed.

A further aspect to assess the scope for monetary policy is whether there exists a credit channel for monetary policy in Uruguay. To the extent that banks' lending reacts to monetary policy changes, the scope and effectiveness of monetary policy would be enhanced. This discussion is presented in

the second section as part of a more comprehensive study of banks' lending behavior, going beyond the credit channel.

External Linkages Under Dollarization

Given the importance of external developments for a small, open, and dollarized economy, this part assesses key aspects of Uruguay's financial linkages with the rest of the world. The country has made significant strides in reducing vulnerabilities associated with external developments. For example, nonresident deposits in the banking system, which were at the center of the 2002 crisis, have been halved as a share of total deposits, and exports have become geographically more diversified. Still, banks' balance sheets are likely to be affected by changes in U.S. monetary conditions, given their substantial holdings of U.S. financial assets and, more generally, the high degree of dollarization of their operations. Moreover, in line with other middle-income economies, global and emerging market conditions appear to have become more important in recent years.

- Gelos and Piñón analyze the transmission of macroeconomic shocks by the domestic banking system. Relying on detailed microeconomic data, they exploit the time series and cross-section dimensions of the data to draw inferences on banks' behavior. The transmission of domestic monetary policy changes, an issue more related to the previous section, is studied here within a single framework for domestic and external shocks. The results suggest a limited but growing lending channel for monetary policy, with banks decreasing or increasing peso lending as domestic monetary conditions tighten or loosen, respectively. A similar transmission of foreign shocks is found, with banks adjusting dollar lending to changes in U.S. interest rates. Supporting the hypothesis on the role of financial frictions in the behavior of banks, the effects are stronger for less liquid and less capitalized banks. Thus, as the share of peso lending continues to increase, the impact of monetary policy will become stronger. That said, with dollar lending still representing the largest share, external shocks remain key determinants of bank lending.
- In a second study, Gelos and Piñón examine the competitive conditions of the Uruguayan banking system. This is important not only to assess prospects for increased financial intermediation, but also because imperfect competition may propagate external shocks and amplify swings (Mandelman, 2006). Using techniques from the new empirical industrial organizations approach (Panzar and Rose methodol-

ogy), the study concludes that the degree of competition is relatively low by international standards. This raises the challenge of strengthening competition intensity without endangering financial stability. (See Chapter V for full references.)

- Adler and Eble assess the importance of external factors in driving Uruguayan sovereign spreads. Their study concludes that, although fundamentals explain part of the variation in sovereign spreads, external factors play a key role and have become more important since the 2002 financial crisis. Furthermore, although Uruguay was largely insulated from regional and emerging market economy shocks—and perceived as a safe haven in the region—until the crisis, its spreads have since moved closely with those of neighboring countries. Econometric estimates suggest that investors' perceptions of Uruguay's financial interdependencies were revised significantly following the crisis, and that the downgrading of Uruguay to speculative grade in 2002 heightened financial spillovers and global and regional linkages. Thus, against the background of recent upgrades in credit ratings, it will be important to sustain appropriate policies to continue making strides toward regaining investment-grade status.

Financial Vulnerabilities and Insurance Mechanisms

This section evaluates vulnerabilities and insurance mechanisms in place against potential balance of payments or bank deposit withdrawal shocks. Commercial banks' soundness and liquidity indicators have improved substantially since the 2002 crisis, with higher profitability, capital adequacy, and liquid foreign assets, and lower exposure to nonresident deposits. At the same time, central bank reserves have increased substantially. However, although vulnerabilities have clearly declined, high dollarization poses important risks. Thus, there is still a need to assess the capacity of the banking system and of the economy as a whole to cope with external shocks and the adequacy of protective mechanisms, particularly the

level of central bank reserves. The studies in this section include the following:

- Rietti Souto examines banking system vulnerabilities from the perspective of balance sheet exposures, asset volatility, and default probabilities. First, an update of the stress tests undertaken by the 2006 Financial Sector Stability Assessment (FSSA) confirms that, with the exception of extreme events, the banking system would be resilient to most shocks. Severe external current and capital account shock scenarios, such as a sudden stop, illustrate remaining vulnerabilities, but also a significantly less severe impact on the banking system than in 2002. Second, as a novel approach, the contingent claims (or Merton's framework) are adapted to a case without equity markets, using monthly balance sheet data of individual banks. Although lacking market values, a central feature of Merton's framework, the results track the 2002 crisis well, displaying significant asset value volatility. Consistent with the FSSA's results, the findings suggest that banks' resilience to shocks has increased significantly since the 2002 crisis. Estimated default probabilities resulting from a simulated 2002-like shock, although important, are about half the estimated level for 2002.
- Gonçalves assesses the adequacy of foreign reserves as insurance against balance of payments and banking crises. Jeanne and Ranciere's model for optimal reserves is extended by explicitly incorporating the dollarization of bank deposits. The model studies reserve levels from the perspective of consumption-smoothing benefits against the quasi-fiscal costs of holding reserves. The results indicate that reserves are nearing optimal levels, given a sharply improved debt profile away from short-term, reduced nonresident deposits, and substantial liquidity held by banks. Nonetheless, further reserve accumulation is desirable going forward. As the recovery matures and lending picks up, banks' liquidity would likely decline and higher reserves would be needed from a prudential perspective. Moreover, higher levels would also be useful for crisis prevention, beyond the crisis mitigation objective taken into account in the framework.