

Table A3. Tests of Efficiency of Inflation Forecasts

<i>12-month ahead forecast horizon</i>			
Sample period: 1993:03-2006:09			
No. Observations: 163			
Dependent variable	Regressors	Chi-square	p-value
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of Inflation	21.71	0.0002
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of primary balance	10.42	0.034
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of real wage gap	19.24084	0.0007
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of real effective exchange rate gap	8.933186	0.0628
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of Year-on-year M1 growth	18.59057	0.0009
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of unemployment rate	25.35912	0.0000
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of Year-on-year exchange rate change	70.51959	0.0000
<i>1-month ahead forecast horizon</i>			
Sample period: 2004:01-2006:09			
No. Observations: 33			
Dependent variable	Regressors	Chi-square	p-value
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of Inflation	14.60901	0.0056
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of primary balance	5.496805***	0.2400
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of real wage gap	2.534467	0.6385
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of real effective exchange rate gap	9.135744	0.0578
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of Year-on-year M1 growth	4.018122	0.4036
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of unemployment rate	2.907312	0.5735
$\varepsilon_{t+12}$	Constant, lags 1 to 3 of Year-on-year exchange rate change	6.910537	0.1407

## II. PASS-THROUGH, DOLLARIZATION, AND CREDIBILITY IN URUGUAY

By Alejandro López Mejía, Alessandro Rebucci, and Carolina Saizar

### A. Introduction

1. *A high degree of exchange rate pass-through to domestic prices and financial dollarization can constrain the effectiveness of a flexible exchange rate as a shock absorber and indirect channel of transmission of monetary policy.* Accordingly, pass-through and financial dollarization have been considered key obstacles to the design and implementation of an independent monetary policy in Uruguay since the 2002 crisis, when the exchange rate was allowed to float. A poorly (well) functioning monetary policy framework in a flexible exchange rate regime, in turn, may hamper (foster) the country's ability to maintain macroeconomic stability and insulate the real side of the economy from shocks.

2. *This paper documents the recent evolution of pass-through and investigates the scope for reducing dollarization through enhanced monetary policy credibility.* In line with developments in other emerging markets, the paper finds that the exchange rate pass-through in Uruguay has declined over the years. However, the results suggest that it has become volatile and unstable since late 2005, when the authorities moved away from the free float adopted in the aftermath of the 2002 crisis. Also, consistent with theory and other experiences (See Borensztein et al (2004), Jeanne (2002), and Rajan (2004) among others), it finds that monetary policy credibility affects financial dollarization, although long periods of time may be needed for credibility to deliver its benefits and for dollarization to decline.

3. *The policy implications of these findings are important.* A lower exchange rate pass-through to domestic prices implies that the exchange rate can work well as a shock absorber and is less effective as a nominal anchor. Thus, the exchange rate could be allowed to float more freely in response to normal shocks. To the extent that positive capital account shocks have a temporary component, greater exchange rate flexibility would be consistent with "leaning against wind" to further accumulate reserves, thus adding insurance against balance of payments crises; it is also consistent with intervening for foreign exchange liquidity provision in response to sudden and large negative capital account shocks given that, with high dollarization, large exchange rate fluctuations generate balance sheet effects that can destabilize the real economy and the financial sector.<sup>1</sup> Improving credibility should become a priority as it can help lower dollarization, reducing vulnerabilities to external shocks and enhancing the transmission mechanisms of monetary policy. This, in turn, would increase the economy's ability to implement effective stabilization policies, thus fostering an environment conducive to financial development and growth.

---

<sup>1</sup> These implications are consistent with a formal analysis of alternative monetary policy responses in economies potentially vulnerable to sudden stops (Benigno, Otkok, Rebucci, and Young (2007a and b)).

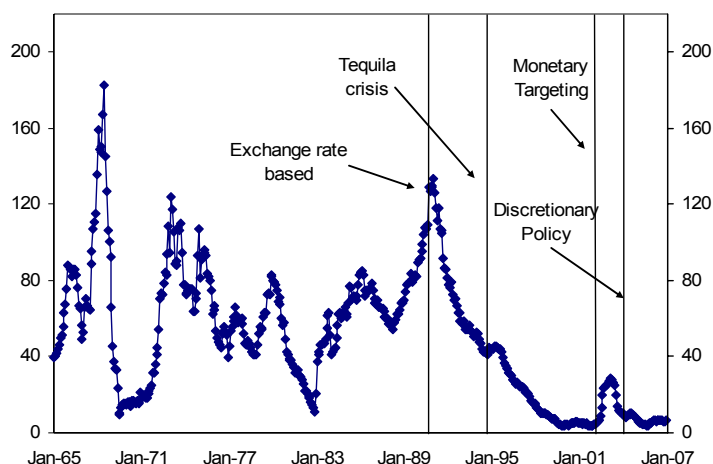
## B. Background

4. *This section describes the evolution of the monetary policy framework and the constraints to the channels of transmission of monetary policy in Uruguay.* It underlines the importance of increasing the clarity of objectives and the transparency of operations under the existing framework to increase credibility.

### The evolution of the monetary policy framework

5. *Uruguay's long history of monetary instability came to an end with a successful exchange-rate-based stabilization during the 1990s.* Starting in late 1990, the authorities allowed the peso to move within a crawling band that was depreciated at a declining rate, but in excess of domestic inflation to help strengthen external competitiveness. This policy helped anchor inflationary expectations and brought inflation down from over 100 percent in 1990 (Figure 1).

Figure 1. Inflation in Uruguay



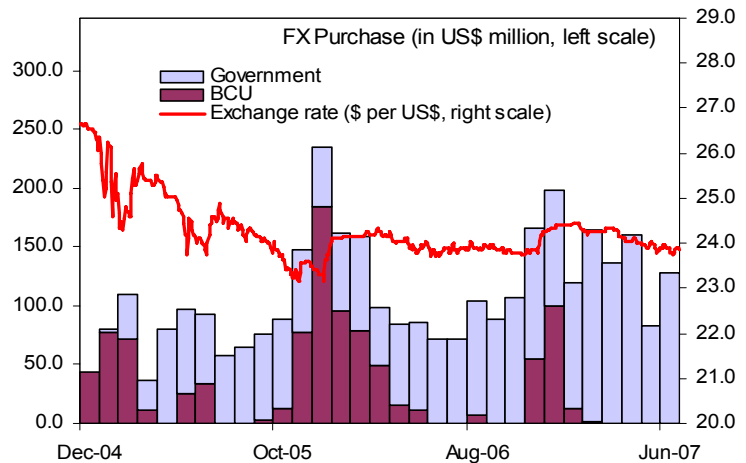
6. *A revealed preference for single digit inflation has emerged since the late 1990s.* During the last eight years, average annual inflation has fluctuated within  $3\frac{1}{2}$  and  $9\frac{1}{3}$  percent. An exception was 2002, when end-year inflation reached 26 percent following the financial crisis—still a moderate increase compared to the inflation experienced in previous decades.<sup>2</sup>

7. *The monetary framework that was adopted in the midst of the 2002 financial crisis has evolved gradually.* Initially, the exchange rate was allowed to float in June 2002 and base money targets were selected to anchor the system starting in early 2003. In 2004, a band for base money (rather than a point) became the monetary target and, at the end of each quarter, the central bank began to announce a target for the annual headline consumer price inflation, twelve months in advance. In late-2005, the authorities moved away from the free float and

<sup>2</sup> The crisis was triggered by deposit withdrawals from cash-strapped Argentine residents that soon developed into a more generalized run on the banks (IMF, 2003).

adopted M1 as the intermediate target, keeping the base money range as the operational target; since then, significant foreign exchange purchases, partly undertaken by the government to meet its foreign currency needs, have succeeded in maintaining the nominal exchange rate broadly stable (Figure 2). In 2006, the central bank stopped announcing base money targets and extended the inflation target band to 18 months (still with the possibility of revising it at the end of each quarter) (De Brun and Licandro (2005), Aboal, Lanzilotta, and Perera (2006)).

Figure 2. Nominal exchange rate and foreign exchange rate intervention



8. ***Under these circumstances, the existing monetary framework appears to have multiple objectives.*** In particular, by mid-2007, the authorities were simultaneously targeting (and announcing) M1, the inflation rate, and had an apparent exchange rate target. This ambiguity may also reflect the fact that the mandate of the central bank is not exclusively to maintain low inflation. According to the law, other objectives of the central bank are to maintain an adequate level of international reserves and the stability of the financial system. In addition, although an exchange rate objective is not specified in the central bank's formal mandate, the exchange rate has in practice been a policy objective due to concerns related to competitiveness and the balance sheet effects associated with dollarization.

9. ***Under the existing monetary regime, consistency among the main objectives of monetary policy is essential.*** While during the 1990s the exchange rate was a clear and transparent nominal anchor, the appearance of multiple objectives and the lack of transparency on the relative importance of each of these objectives under the existing framework leaves the system without a clear anchor and undermines its credibility. For instance, if the exchange rate is perceived as a policy objective per se, the authorities' inflation target may be ignored by the public when forming their expectations about inflation. Thus, there is strong need to be transparent regarding the role of the exchange rate to help strengthen the effectiveness of monetary policy (Mishkin and Savastano, 2000). In this context, limiting foreign exchange intervention by the state bank would minimize market perceptions of exchange rate "floors" and need to be coordinated with the central bank (Aboal, Lorenzo and Loya, 2003).

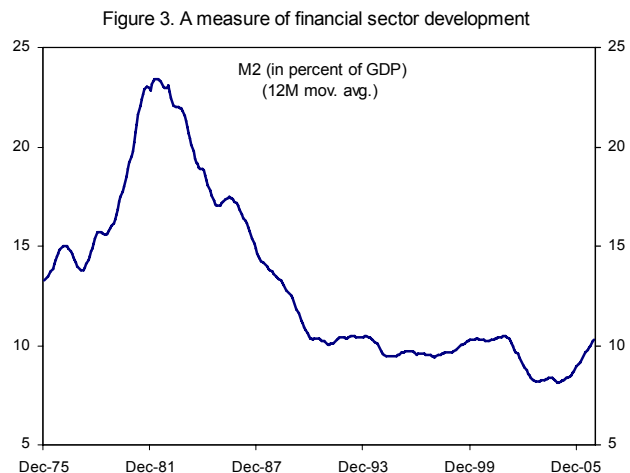
### The transmission mechanisms of monetary policy and its implications

10. ***The channels through which monetary policy is transmitted to prices and output face several constraints in Uruguay.*** If the exchange rate plays a key role in the price setting process, a flexible exchange rate could lead to high variability in inflation and increase

dollarization (Ize and Levy Yeyati, 2006). A high pass-through also reduces the effectiveness of the exchange rate as indirect channel of transmission to output and prices, since changes in the exchange rate would have a limited impact on net exports. The existence of a high pass-through in Uruguay is consistent with a large share of tradable goods in the consumer basket (about 60 percent).<sup>3</sup> Also, a history of monetary instability might have led the public to try to isolate the impact of changes in the exchange rate on real income by linking price and wage contracts to changes in the value of the *peso* against the dollar.

11. ***High financial dollarization makes inflation expectations harder to anchor and reduces the effectiveness of monetary policy to affect aggregate demand.*** High financial dollarization reduces the effectiveness of the interest rate channel because the central bank has limited control over the dollar yield curve of interest rates. Thus, changes in money supply in domestic currency have a limited impact on savings and aggregate demand (see Varela-Loschiavo and Vera-Iglesias, 2003). Dollarization also weakens the exchange rate channel: an expansionary monetary policy, that could increase the demand for domestic goods through the impact of a real devaluation, may lead to financial distress and an economic contraction due to balance sheet effects.

12. ***Low financial intermediation and the structure of the financial system also weaken the channels of transmission of monetary policy.*** With relatively low financial intermediation, personal savings and retained earnings play a key role in financing consumption and investment and the effectiveness of the interest rate and lending channels is more limited (Figure 3).<sup>4</sup> Also, in the case of Uruguay, the presence of a large state-owned bank, representing about



50 percent of the system, potentially weakens the lending channel. A monetary contraction, for example, may not necessarily lead to a reduction of bank's loanable resources because the government can have an incentive to provide the bank with the needed resources to avoid a reduction in lending and output. Still, as discussed in Chapter IV, while still low, the lending channel is becoming more important (Gelos and Piñón, 2007).

<sup>3</sup> A high pass-through is usually associated to high real dollarization (Armas, Batini and Tuesta, 2007). In Uruguay, existing evidence indicates that the elasticity of prices with respect to the exchange rate is about 0.5 in the long run (Licandro, 2000).

<sup>4</sup> De Brun et al (2006) find that retained earnings and bank lending represent 45 and 25 percent of total financing of corporations.

13. ***Enhancing credibility of monetary policy would help relax these constraints.***

Credibility is essential for the expectation channel of monetary policy to work and for a sustained process of dedollarization to occur. Reduced dollarization would help increase the effectiveness of other transmission channels and makes monetary policy more effective in stabilizing the economy. This, in turn, could lead the private sector to require less real and financial hedging against the risk of instability, thus reducing dollarization and the vulnerability of the economy to crisis. The next two sections study the evolution of pass-through and investigate the scope for reducing financial dollarization through enhanced credibility.

**C. Has Pass-Through Declined in Uruguay?**

14. ***A standard methodology was used to assess the evolution of the exchange rate pass-through to the consumer price index (CPI) and the producer price index (PPI).***

Following Campa and Goldberg (2002), as adapted by Edwards (2006) to the analysis of changes in exchange rate pass-through after the adoption of inflation targeting regimes, the following equation was estimated by ordinary least squares using monthly data:

$$(1) \quad \Delta \log P_t = \beta_0 + \beta_1 \Delta \log E_t + \beta_3 \Delta \log P_t^* + \beta_4 \Delta \log P_{t-1} + \omega_t$$

where  $P_t$  is the price index (the consumer and producer price indexes were used as proxies for nontradable and tradable inflation, respectively),  $E_t$  is the nominal exchange rate,  $P_t^*$  is the U.S. producer price index (a proxy for world inflation), and  $\omega_t$  is an error term with standard characteristics. The short term pass-through is given by  $\beta_1$  and the long term pass-through is  $\beta_1/(1-\beta_4)$ . For a nominal exchange rate to be an effective shock absorber or help transmit monetary policy impulses indirectly, the pass-through for nontradables needs to be smaller than that for tradables: a nominal devaluation leads to a real depreciation, helping generate and expenditure switching effect, thus affecting net exports and the output gap.

15. ***The results indicate that the pass-through has declined since the 2002 crisis and it is now higher for tradables than for nontradables.*** Table 1 presents the estimated short-run and long-run pass-through coefficients for the CPI and PPI equations for Uruguay, and a set of comparator countries analyzed by Edwards (2006). In the case of Uruguay, the sample is divided into pre-crisis (September 1990–September 2002) and post-crisis (December 2002–September 2005) periods. The pass-through coefficient (short and long term) declined after the 2002 crisis for tradable and nontradable goods. While the pass-through coefficients for nontradables are now lower than for tradables, they were higher before the 2002 crisis—probably due to the importance of backward looking wage indexation mechanisms during the 1990s. The pass-through coefficients vary considerably across countries, with higher values in economies that experienced high inflation (e.g., Brazil, Israel, Mexico, and Uruguay).

Table 1. Short- and Long-Run Exchange Rate Pass-Through, Selected Countries 1/

Country	CPI				PPI			
	Short-Run Pass-Through		Long-Run-Through		Short-Run Pass-Through		Long-Run Pass-Through	
	Pre-IT	Post-IT	Pre-It	Post-IT	Pre-It	Post-IT	Pre-It	Post-IT
Uruguay 1/	0.56	0.24	1.4	0.45	0.41	0.39	1.17	0.76
Australia	0.054	0.000	0.120	0.000	0.070	0.070	0.070	0.070
Brazil	0.719	0.056	1.027	--	0.759	0.235	1.060	0.697
Canada	0.039	0.000	0.078	0.000	0.085	0.085	0.143	0.143
Chile	0.137	0.005	0.212	0.008	0.207	0.045	0.257	0.056
Israel	0.624	0.197	0.718	--	0.627	0.197	0.713	0.224
Korea	0.020	0.020	0.025	0.025	0.055	0.055	0.070	0.070
Mexico	0.191	0.015	0.523	0.018	0.246	0.246	0.591	0.316

Source: Edwards (2007).

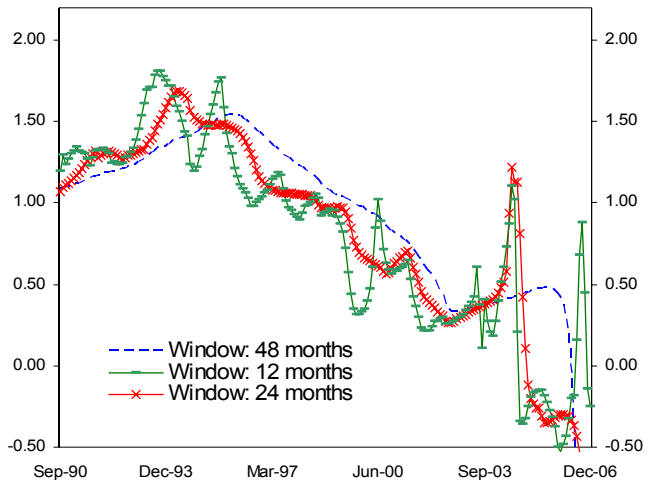
1/ Before and after the 2002 crisis; mostly data. The specification includes one lag (or automatic specification search starting from six lags in Pcgets) before the crisis. After the crisis it uses an automatic specification search, starting from six lags.

### 16. *An alternative methodology*

*yields similar insights.* Static OLS rolling regressions with different estimation windows, which can each be interpreted as a cointegration relation, indicate that the pass-through to the CPI began to decline much earlier (around 1994–95), as the level and volatility of inflation declined (Figure 4). While the regressions suggest a sharp increase in the pass-through following the 2002 crisis, they also show a subsequent decline to below the pre-crisis level, consistent with the result in Table 1.

However, the switch to a managed float regime seems to be associated with a strong instability of the pass-through, with the 12-month window suggesting that it could be on the rise again.

Figure 4. Pass-through rolling regression coefficients

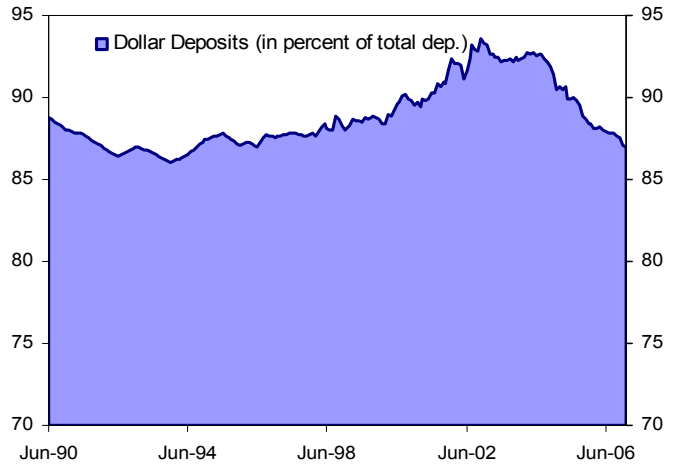


17. *The exchange rate cannot be an effective nominal anchor when the pass-through is unstable.* Indeed, under these circumstances, exchange rate movements have an uncertain impact on inflation. At the same time, the exchange rate is now a more effective shock absorber, with the exchange rate pass-through for nontradables being smaller than that for tradables. Therefore, the exchange rate should be allowed to float more freely in response to normal shocks. Nevertheless, high dollarization is still a constraint to a floating exchange rate as large fluctuations would induce destabilizing balance sheet effects.

## D. Is Monetary Policy Credibility Linked to Financial Dollarization?

18. ***Financial dollarization is very high and persistent in Uruguay.*** A traditional measure of financial dollarization is the share of dollar deposits in total deposits of the banking system (Figure 5). Financial dollarization can also be measured as the share of dollar credit in total credit of the banking system (Figure 6). In Uruguay both measures of dollarization are very high and persistent, with credit dollarization somewhat lower and more volatile than deposit dollarization.

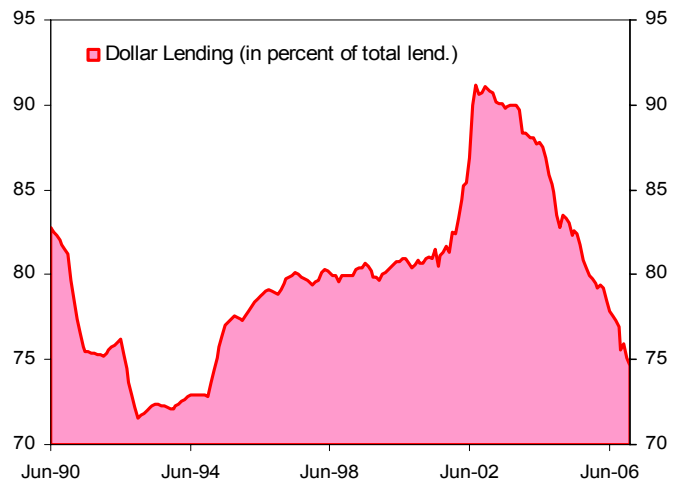
Figure 5. Deposit dollarization



19. ***Credibility can be broadly defined as the public's degree of confidence or uncertainty regarding the government's policy objectives.*** Monetary policy credibility can thus be measured as the probabilistic distance between the expected policy outturns and the publicly announced policy targets. The measure adopted here is the difference between expected inflation and the inflation target, normalized by the variance of expected inflation. Thus,

credibility =  $(E\pi_t - T\pi_t) / (8 * V\pi_t^{0.5})$ , where  $E\pi_t$  is expected (unconditional) mean inflation at time  $t$ ,  $T\pi_t$  is the inflation target, and  $V\pi_t^{0.5}$  is the standard deviation of unconditional mean inflation. This measure is approximately bounded between -1 and +1, if the standard deviation of mean inflation is multiplied by a factor of 8, and theoretically "perfect", when expected inflation is equal to the inflation target, at zero.<sup>5</sup> The numerator quantifies the distance between expected inflation and the inflation target (i.e., it provides a signal on the direction and magnitude of the deviation of expectations from target). The denominator quantifies the uncertainty regarding such deviations (the noise surrounding the signal). For instance, a large

Figure 6. Credit dollarization



<sup>5</sup> See appendix for more details.



deviation of expectations from the inflation target associated with high uncertainty may result in the same credibility level than a relatively smaller deviation with lower uncertainty.

20. **According to this measure, credibility has fluctuated widely since the late 1990s and has lately fallen.** Broadly in line with previous findings (Masoller, 1997), monetary policy credibility appears to have been very “close to perfect” during the last years of the exchange-rate-based stabilization period, reflecting a small undershooting of expected inflation compared to the target and little uncertainty about those deviations.<sup>6</sup> Credibility started to deteriorate just before the crisis, but it took three years before reverting to the pre-crisis levels. This latter improvement was partly due to a second wave of uncertainty, possibly associated with the changes in the monetary procedures and framework in 2005 (Figure 7). This measure of credibility suggests that since 2006, there has been a moderate but persistent deterioration in credibility, with small deviations of expected inflation from the target associated with progressively less uncertainty about those deviations.

Figure 7. A Measure of Credibility

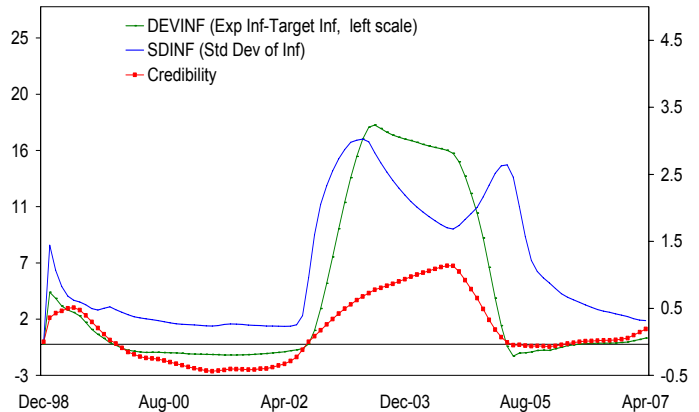
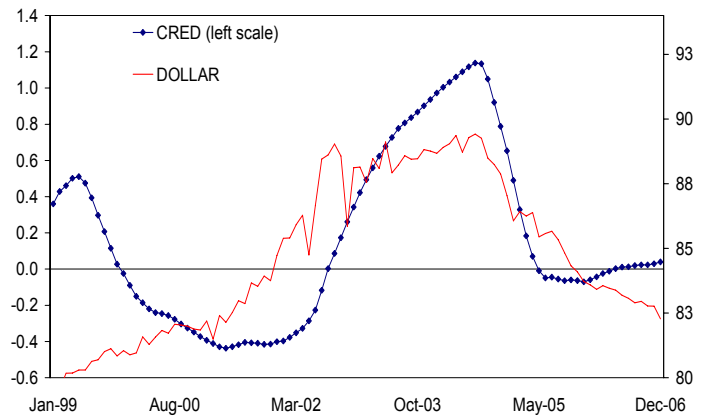


Figure 8. Financial Dollarization and Credibility



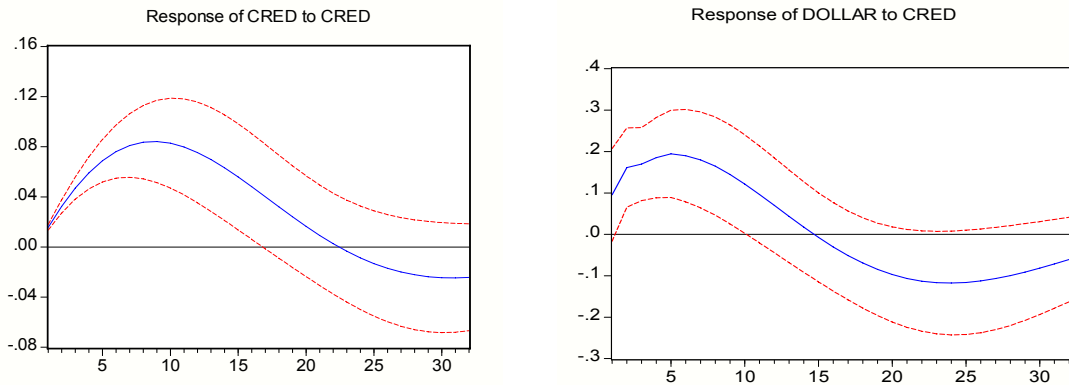
21. **Financial dollarization and credibility are closely associated.** This holds for the pre and post-crisis periods, with a sample correlation of around 0.8, and is confirmed by a more formal analysis (Figure 8). A simple VAR analysis shows that lower credibility increases dollarization persistently (Figure 9).<sup>7</sup> Thus, enhancing the credibility of monetary policy could help reduce financial dollarization, which, in turn, would make monetary policy more effective. However, consistent with evidence from other

<sup>6</sup> This evidence is robust to two alternative measures of credibility: the difference between consensus forecast inflation and the inflation targets under the IMF programs, and the difference between expected depreciation (as implied by the interest rate differential between dollar and peso bank deposits) and actual depreciation under of the upper band of the crawl.

<sup>7</sup> For identification purposes, the VAR assumes that dollarization does not affect credibility within a month. The VAR includes the measure of credibility above and the share of dollar deposits in total deposits by residents, together with three lags of each variable, a constant and a linear trend, and Argentine and Uruguayan country spreads. Data are monthly and the sample period is from January 1999 to December 2006.

countries (Borensztein et. al 2004), credibility is likely to take a long time to deliver its benefits and for dollarization to decline. For instance, between February 2004 and May 2005 credibility improved from 1 to zero, but deposit dollarization changed only by 4 percentage points (to 90 percent of total deposits).

Figure 9. Impulse response functions



## E. Conclusions

22. ***The exchange rate pass-through to domestic prices has declined over the last decade although it has become unstable since late-2005.*** This implies that the exchange rate is now a less effective nominal anchor and, therefore, the role of an appreciation in offsetting inflationary pressures, while still important, has diminished. It also means that the exchange rate can generate expenditure-switching effects, thus helping isolate the economy from shocks. Accordingly, the exchange rate should be allowed to float more freely in response to normal shocks. However, high dollarization is still a constraint to a floating exchange rate as exchange rate fluctuations generate balance sheet effects that can destabilize the real economy and the financial sector. In this context, intervening in the foreign exchange market in response to financial shocks is justifiable. Clarity on they rational for intervening and transparency of intervention procedures may help increase the effectiveness of such interventions and facilitate floating more freely in response to other shocks.

23. ***Improving monetary policy credibility would help reduce dollarization, a key constraint to monetary policy in Uruguay.*** Enhancing credibility would strengthen the expectation channel of monetary policy and, by reducing dollarization, would increase the effectiveness of other transmission channels and make monetary policy more credible for stabilizing the economy. This, in turn, could lead the private sector to require less hedging against the risk of instability, thus reducing the vulnerability of the economy to crisis and increasing long-term growth prospects.

24. ***There is scope to secure credibility gains in Uruguay.*** In particular, the credibility of its monetary framework can be improved by: (i) strengthening *de facto* the operational independence of the central bank through its recapitalization and a clear commitment to subordinate the exchange rate to the inflation target; (ii) enhancing the communication

strategy to ensure that markets understand well the monetary policy strategy, and the instruments and procedures for its implementation; (iii) further strengthening the financial sector to help increase the effectiveness of monetary policy, and (iv) further developing analytical capabilities to enhance the capacity of the central bank to forecast inflation and to understand better how adjustments in policy settings are transmitted into inflation.

### References

- Armas, A., Batini, N., and V. Tuesta, 2007, “Peru’s Experience with partial Dollarization and Inflation Targeting,” in *Peru—Selected Issues*, IMF Country Report No. 07/53 (Washington: International Monetary Fund).
- Aboal, D., F.Lorenzo, and N. Noya, 2003, “La Inflación como Objetivo en Uruguay: Consideración sobre los Mecanismos de Transmisión de la Política Monetaria y Cambiaria,” *Revista de Economía* (Montevideo: Banco Central del Uruguay).
- , B. Lanzilotta, and M. Perera, 2006, “Flotación de jure y de facto?: La Política Monetaria-Cambiaria en el Período Pos Crisis en Uruguay” (mimeo; Centro de Investigaciones Económicas, Montevideo).
- Benigno, G., C. Otrok, A. Rebucci, and E. Young, 2007a, “Alternative Monetary Policy Rules in a Model with Endogenous Sudden Stops,” in “*Frontiers in Economics and Globalization*,” Elsevier (forthcoming).
- , 2007b, “Optimal Monetary policy in a Model with Endogenous Sudden Stops” (unpublished manuscript; Washington: International Monetary Fund).
- Borensztein, E., M. Chamon, O. Jeanne, P. Mauro, and J. Zettelmeyer, 2004, “*Sovereign Debt Structure for Crisis Prevention*,” IMF Occasional Paper No. 237 (Washington: International Monetary Fund).
- Calvo, G., and F. Mishkin, 2003, “The Mirage of Exchange Rate Regimes for Emerging Market Countries,” NBER Working Paper No. 9808 (Cambridge, Massachusetts: National Bureau of Economic Research).
- Campa, J.M., and L.S. Goldberg, 2002, “Exchange Rate Pass-Through into Import Prices: A Macro or Micro Phenomenon?” NBER Working Paper No. 8934 (Cambridge, Massachusetts: National Bureau of Economic Research).
- De Brun, J., and G. Licandro, 2006, “To Hell and Back. Crisis Management in a Dollarized Economy: The Case of Uruguay,” in *Financial Dollarization: The Policy Agenda*, ed. by A. Armas, A. Ize, and E. Levy-Yeyati (Washington: International Monetary Fund).
- , Gandelman, N., H. Kamil, and A.C. Porzencanski, 2006, “The Fixed Income Market in Uruguay,” in *On the Verge of a Big Bang? Bond Markets in Latin America*, ed. by K. Cowan, B. Eichengreen, and U. Panizza (Boston, Massachusetts: MIT Press). Forthcoming.

- Edwards, S., 2006, “The Relationship Between Exchange Rates and Inflation Targeting Revisited,” NBER Working Paper No. 12163 (Cambridge, Massachusetts: National Bureau of Economic Research).
- Frankel, J.A., D. Parsley, and S-J. Wei, 2005, “Slow Passthrough around the World: A New Import for Developing Countries?” NBER Working Paper No. 11199 (Cambridge, Massachusetts: National Bureau of Economic Research).
- Gelos, G., and M. Piñón, 2007, “Understanding Bank Lending Behavior in Uruguay”, forthcoming, in “*Uruguay—Selected Issues*” (Washington: International Monetary Fund).
- International Monetary Fund, 2003, “*Report on the 2002 Banking Crisis*,” IMF Staff Country Report No. 03/247 (Washington: International Monetary Fund).
- Ize, A., and E. Levy-Yeyati, 2006, “Financial De-dollarization: is it for Real?” in *Financial Dollarization: The Policy Agenda*, ed. by A. Armas, A. Ize and E. Levy-Yeyati (Washington: International Monetary Fund).
- Jeanne O., “Why Emerging Market Countries Borrow in Foreign Currency,” IMF Working Paper No. 03/177 (Washington: International Monetary Fund).
- Licandro, J.A., 2000, “The Scope for Inflation Targeting in Uruguay,” (mimeo; Montevideo: Banco Central de Uruguay).
- Masoller, A., 1997, “Una medición de la credibilidad de los programas de estabilización en Uruguay: 1978–82 y 1990–95,” *Revista de Economía* (Montevideo: Banco Central del Uruguay).
- Mishkin, F., and M. Savastano, 2000, “Monetary Policy Strategies for Emerging Market Countries: Lessons from Latin America,” NBER Working Paper No. 7617 (Cambridge, Massachusetts: National Bureau of Economic Research).
- Rajan, R., 2004, “Dollar Shortages and Crises,” NBER Working Paper No. 10845 (Cambridge, Massachusetts: National Bureau of Economic Research).
- Rebucci, A., and M. Rossi, 2006, “Measuring Disinflation Credibility in Emerging Markets: A Bayesian Approach with an Application to Turkey’s IMF-Supported Program,” *Economics Bulletin*, Vol. 6, No 11, pp. 1–8.
- Varela-Loschiavo, G., and C. Vera Iglesias, 2003, “Mecanismos de Transmisión de la Política Monetario-Cambiaría a Precios,” *Revista de Economía-Segunda Epoca* Vol. X, No. 1 (Montevideo: Banco Central del Uruguay).
- Taylor, J., 2000, “Low Inflation, Pass-Through, and the Pricing Power of Firms,” *European Economic Review*, Vol. 44 (7): pp. 1389–1408.