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Capital Inflows, Exchange Rate Flexibility, and Domestic Credit*

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Abstract

Protracted expansionary monetary policies in advanced countries have renewed the debate over policy options to cope with large capital inflows that drive credit expansions in emerging economies. In a forthcoming paper, we show that during capital inflow bonanzas credit grows more rapidly and its composition tilts to foreign currency in economies with less flexible exchange rate regimes. Hence, carefully crafted macro-prudential measures may complement macroeconomic policies.

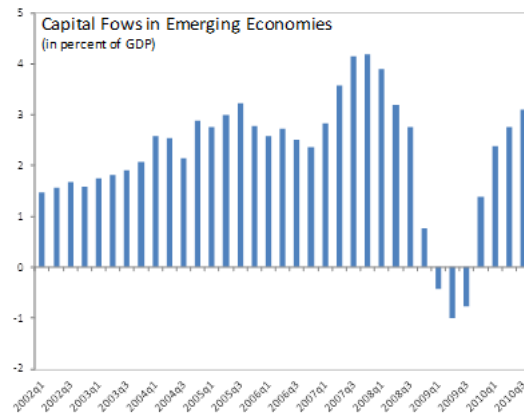
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Context

Capital inflows bonanzas have become more frequent after restrictions to international movements were relaxed worldwide over the last decades.¹ Capital flows to emerging economies can finance investment and foster economic growth, as well as increase welfare by facilitating consumption smoothing. However, inflows may also induce sharp monetary and credit expansions, which build vulnerabilities associated with currency mismatches and distorted asset prices.² These vulnerabilities are usually at the core of currency and financial crises, especially in the context of capital flows reversals.³

Capital inflows associated with expansionary monetary policies in advanced countries have typically had spillovers to emerging economies, which may be stronger this time around. This could be associated with: (i) more protracted policies in advanced economies (a push factor), and (ii) the fact that emerging markets have been conspicuously resilient during the last financial crisis, increasing investors' appetite for the asset class (a pull factor).⁴ The debate over the right policy mix to cope with capital flows has been extensive. However, it has overlooked the role played by the exchange rate regime.



¹ See, for example, Reinhart and Reinhart (2008), and references therein.

² See Magud et al (2011) describing the four fears to capital inflows.

³ See Eyzaguirre et al (2011) for a recent debate on capital flows reversals.

⁴ The capital flows reversal was mild and relatively short-lived if compared to previous financial crises.

The exchange rate regime could be an important element in credit expansions for several reasons. First, by definition currency pegs limit the policy instruments to curve monetary expansions associated with large capital inflows. Second, by extending implicit improperly priced guarantees, fixed exchange regimes may contribute to stronger credit growth than flexible ones, especially in the context of large capital inflows. Montiel and Reinhart (2001) argue that deposit guarantees and a peg are perceived as a guarantee to foreign currency claims. The latter, in turn, increases the scope for banks' expansion through external funds, which can potentially feed into domestic credit (i.e., an increase in the banking system leverage ratio). Finally, in a different context, Backé and Wójcik (2007) develop a simple framework with an increasing trend in productivity growth in an emerging economy that pegs its domestic currency to a developed economy with constant productivity growth.⁵ The peg gives place to lower interest rates and higher domestic credit compared to the equilibrium with a flexible regime.

A credible fixed exchange rate regime may also place incentives for taking on debt in foreign currency. As for creditors, the increase in banks' leverage—loan to deposit ratios—that large capital inflows usually bring about can place incentives to lend directly in foreign currency, as this would allow banks to avoid currency mismatches in their balance sheets. As for debtors—in credible pegs—a small differential between interest rates in domestic and foreign currency may create incentives to borrow in the latter, as they would deflate a lower interest rate by expected domestic inflation or wage growth. These incentives have typically

⁵ This is particularly relevant in Emerging Europe.

played a critical role during inflation stabilization programs, especially when they were coupled with policies allowing liability dollarization.

Results

Against this backdrop, in a forthcoming paper we show that during capital inflows booms credit grows more rapidly and its composition tilts to foreign currency in economies with relatively inflexible exchange rate regimes. We build a panel of 25 emerging markets—in Latin America, Europe, and Asia.⁶ Then, we define homogeneous periods of capital inflows booms based on either changes in trend or positive cyclical deviations from trend—so that the observations in the panel are comparable. As a result, we identify capital inflows bonanzas during 1990-1997 in Asia, 1993-2002 in Latin America, and 1999-2008 in Emerging Europe.

Panel regressions focus on three variables, i.e., domestic credit to the private sector (as percent of GDP), the share of foreign currency credit over the total, and the external financial and capital account (as percent of GDP). The main explanatory variable is the *de-facto* exchange rate regime in Reinhart and Rogoff (2004). For robustness, we used alternative variations of this classification (the “coarse” and the “fine” ones), as well as IMF’s AREARS. In all cases the results were consistent. Given the time-varying nature of exchange rate regimes, using *de-facto* exchange rate arrangements have the advantage of drawing a distinction between what countries declare as their official *de jure* regime and their actual *de*

⁶ The countries in the sample are Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovak Republic, Serbia, Turkey, Indonesia, Korea, Malaysia, Philippines, and Thailand.

facto exchange rate practices, which may even capture to a certain degree the endogeneity of policies, shocks, and markets reactions.

Then, we document that (see Figure 1 and Table 1):⁷

- Domestic credit is higher in economies with less flexible exchange rate regimes.
- The share of foreign currency credit is larger in economies with less flexible exchange regimes. Lack of exchange rate flexibility exacerbates the effect of large capital inflows (as per banking system leverage) on the composition of domestic credit, increasing the share of foreign currency credit.
- There is no compelling evidence of a relationship between the ratio of capital flows to GDP and the exchange rate regime; i.e., *when it rains, it rains everywhere*.

⁷ See the paper for details. Notice that our empirical methodology is based on ex-post information, i.e., is backward-looking. An alternative approach could be to conduct event studies to capture market reactions on an ex-ante basis. Event studies could focus on authorities' announcements (signals), and analyze how forward-looking agents react to these announcements.

FIGURE 1

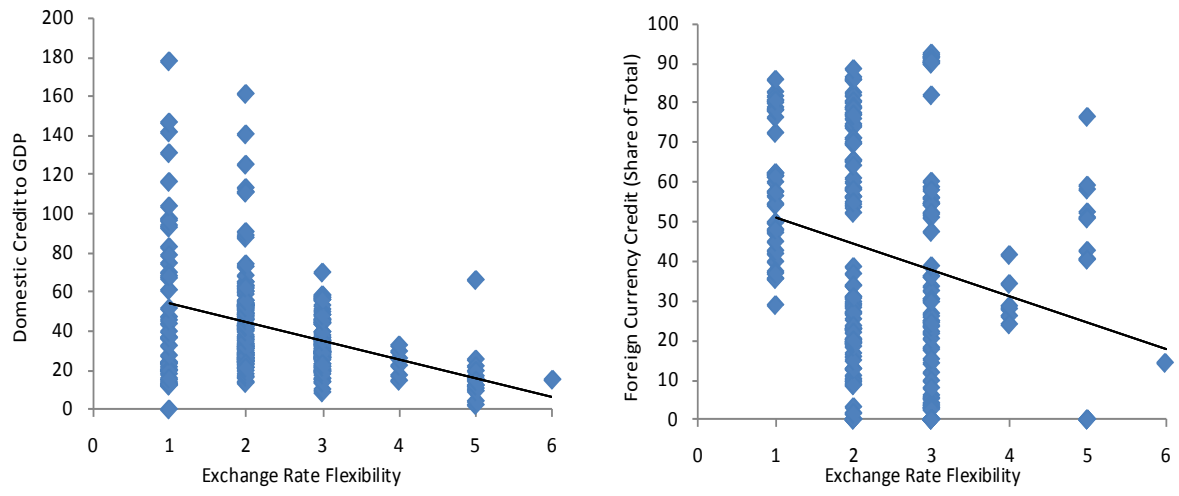


TABLE 1

	Domestic Credit	Share of FX Credit	Capital inflows
Exchange rate regime 1/	(-)	(-)	
Capital inflows	(+)	(+)	
Broad money	(+)		
Share of domestic deposits in FX		(+)	
Interest rate differential		(+)	
Leverage		(+)	
Leverage*exchange rate regime		(-)	
Financial integration			(+)
Trade openness			(+)
External debt			(+)

1/ This variable decreases as the exchange rate regime becomes more rigid.

Policy Implications

Our findings suggest that the flexibility of the exchange rate regime should be an important element in conceiving the policy mix to cope with large capital inflows and domestic credit expansions.⁸ Given that the exchange regime has an impact on both the amount and composition of domestic private credit, there is room for macro-prudential regulations. These may counteract the lack of exchange rate flexibility by curbing credit growth and reducing the share of foreign currency loans. In particular, the following regulations may target banks' external funding and incentives to lend/borrow in foreign currency:

- Currency-dependent liquidity requirements—maybe even combining them with marginal reserve requirements on external wholesale financing. Both contain credit

⁸ See, for example, Ostry et al (2010) for a recent debate on these issues.

and reduce incentives to borrow in foreign currency by reducing the interest rate differential between loans in domestic and foreign currency.⁹

- Increasing capital requirement for FX loans and/or introducing dynamic provisioning on FX loans (i.e. provisions increase as the share of FX loan over the total increases). These would place incentives for banks to internalize the higher credit risk associated with potential borrowers' currency mismatches. They would also facilitate the building of buffers to cope with capital flows reversals.
- Tightening debt-to-income and loan-to-value ratios (conditional on the debts' currency denomination) would also contribute to contain domestic credit directly, and might be more effective than traditional monetary tightening—i.e. increasing domestic interest rates.

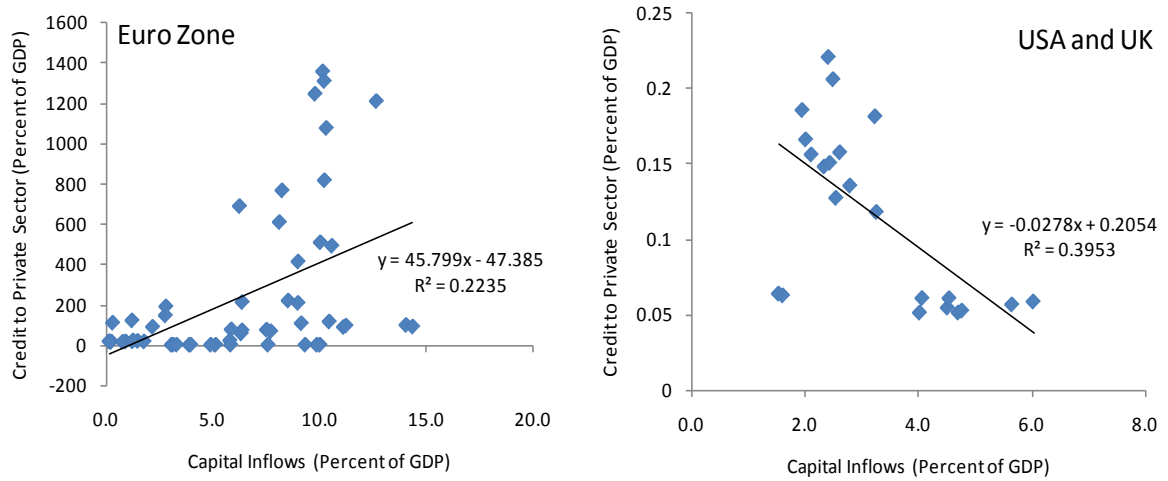
Advanced Economies

While our analysis focuses on emerging economies, a snapshot on advanced economies suggests that exchange rate flexibility may also play a role on credit expansions. Figure 2below suggests that capital inflows may have also been associated with credit expansions in the euro zone since the mid-1990s. On the other hand, albeit with less significant capital inflows (in terms of their gross domestic product), countries with more flexible exchange regimes do not show a positive association between capital inflows and domestic credit expansions. While preliminary, this evidence suggests that it might be worth looking at the

⁹ Notice that imposing reserve requirements across the board will not affect on interest rate differentials.

dynamics of exchange rate flexibility, capital inflows and domestic credit in advanced economies as well.

FIGURE 2



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