

# Global Dimensions of Unconventional Monetary Policy—an EME Perspective

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Brazil took preventive measures and got prepared during the construction of the various components of unconventional monetary policy (UMP). UMP in advanced economies (AEs) is defined here as the combination of a monetary policy stance at the zero lower bound, large-scale asset purchase programs (QE) and forward guidance (FG). Having done that, emerging market economies (EMEs) in general and Brazil in particular are now also ready to mitigate the risks for the unwinding of these measures. We were accustomed to managing “sudden stops” of capital flows. We had to learn also to manage “sudden floods.” Both events pose risks, albeit different, for our macro and financial stability.

I’m going to focus on the following issues: (1) the empirical evidence and impact of UMP on emerging markets and Brazil; (2) our policy response in terms of results and analytical foundations; (3), the current market turbulence and how we’re responding; (4), the implications of the exit from UMP for the management of our international reserves; and (5), some concluding remarks.

## **A Summary of My Remarks:**

- Of course UMP had a positive role avoiding a new Great Depression in AEs and thus benefitted the rest of the world;

- But UMP also had spillover effects, positive and negative externalities; UMP resulted in increases in liquidity for AEs and in global liquidity; that happened in a context of broken credit multipliers in, and high risk aversion in, AEs; thus it led to larger and more-intense-than-usual capital flows into EMEs; you can find other well-known macro 1.01 effects of “easy money for a prolonged period of time,” in the economics of foreign aid, etc.;
- Beyond the old Minskyan and Kindlebergian views, a modern large volume of economic and financial history literature, plus recent experiences, show that large and volatile capital inflows can pose a threat to economic and financial stability in recipient countries whether advanced or not; so EMEs in general, and Brazil in particular, had to take precautionary and preventive measures;
- We tested successfully our pragmatic policy framework, in the tradition of “leaning against the wind”; it combines textbook macro tools with financial and prudential regulatory instruments. And now that there is talk about the “tapering” of QE, we are also dealing with its effects on the re-pricing of our class of assets in this new context.

### **I. Evidence of the Effects of UMP on EMEs, Especially Brazil**

Large capital inflows related to UMP are documented in several IMF spillover reports (IMF 2013). What’s the problem? Essentially it complicates domestic macro policies:

- The problem is not capital flows per se, it’s volume and intensity; when it’s too much, it can lead to excessive credit expansion, lower quality of credit origination, increased financial system exposure to exchange rate risk, asset price distortions (including excessive exchange rate appreciation), and inflationary pressure;
- Easy global money can boost domestic demand in whatever policy stance the economy might need to be; it amplifies expansion beyond what you might desire; you might have then to shut down expansion sooner than envisaged; the party gets too wild too soon;
- And when you get this “feeling good” mindset, it complicates even further your domestic political economy (sometimes already

complex even without easy money); that means it hampers your capacity to slow down the party with policy instruments that depend on political cycles; this is for all countries, AEs and EMEs alike;

- Then, if you tighten MP, it might exacerbate short-term inflows and compound potentially destabilizing forces in domestic asset markets<sup>1</sup>; it's a threat to financial stability;
- Finally, I am sure everybody knows that if you relax the definition of UMP to just “easy money,” what I just said is not a story happening only in the Tropics or EMEs; it also explains financial crises in East Asia, Scandinavia, the Baltics, eastern Europe, etc.; you also have the case of Spain-Greece-Portugal, where risk/spread (too) rapid convergence to very low levels can explain lending excesses by core eurozone banks; all this reminds us—if need be—that financial excess is not exclusively an EME story.

In any event, we saw this story unfolding in Brazil, and we worked hard to slow it. We did our own empirical exercises in Brazil (Barroso, Pereira da Silva and Soares 2013) to assess the collateral effects of UMP using a rigorous counterfactual exercise. Our evaluation methodology estimates ex-ante and ex-post policy effects over a grid of counterfactuals. Our results are consistent with the view that QE had a positive effect on growth and helped, through currency appreciation, to slow inflation; but QE also had other significant spillover effects on the Brazilian economy, mostly transmitted through “excessive” capital inflows that led to exchange rate appreciation, stock market price increases and a credit boom.

## **II. Policy Response: Leaning Against the Wind**

The first textbook and well-tested line of defense against large capital inflows has been to allow exchange rate appreciation and accumulate international reserves. However, the effectiveness of these policies, together with other textbook demand management policies, depends on the volume and intensity of inflows. Given the exceptional level of inflows brought by UMP, many emerging markets<sup>2</sup> pragmatically complemented their toolkit of aggregate demand management instruments with macroprudential (MaPs) measures targeting both credit markets and capital inflows directly (a typical

list is in Table 1). Over time, our policy response eventually looked like a new framework: (a) textbook macro policies to manage aggregate demand (fiscal but especially MP) plus (b) regulatory prudential tools to smooth risk-taking and growth in our financial markets. This framework is now known as MP+MaPs in the new jargon aimed at ensuring both price and financial stability.

What are typical MaPs measures? They included (see Table 1) taxes on specific capital inflows, restrictions on some foreign exchange exposures and tighter limits on financial institution and household leverage. For example, loan-to-value and debt-to-income ceilings on real estate lending were imposed, particularly in East Asia. In Brazil, we imposed taxes on specific capital inflows and a reserve requirement on banks' FX spot positions. We also increased required bank reserves and capital requirements on riskier consumer loans and imposed a minimum payment floor on credit card balances. It should be noted that to design adequate and timely MaPs, it is necessary to have almost real time, high frequency data on financial sector operations (registers of credit, counterparts, derivatives transactions, etc.).

What were the practical results of using this framework? In our case, our MaPs were successful in improving the maturity and composition of international financing. The share of portfolio flows (including in this measure international loans and bonds) relative to FDI fell: while in 2010 FDI was about 36 percent of total capital flows, FDI since 2012 has been about two-thirds of total flows. FDI inflows remained strong throughout this period, reaching \$62 billion over the last 12 months, almost enough to finance Brazil's current account deficit. The maturity of foreign credit increased, as the inflow of short-term foreign loans and bonds essentially came to a halt, while net issuance of longer-term international debt securities remained positive (Table 2).

Furthermore, credit expansion in Brazil moderated to sustainable levels. There has been a shift from riskier forms of consumer lending toward relatively less risky forms such as real estate lending, which in Brazil is still relatively undeveloped. Debt service to income has stabilized, and actually fallen if one excludes real estate loans. Finally, the delinquency rate in household lending has fallen significantly.

**Table 1**  
**Macroprudential Measures**

Policy tools	Countries
<b>Changes in reserve requirements</b>	Brazil (2010 <sup>1/</sup> ), China (2010), Peru (2010), Russia (2009), Taiwan (2010), Turkey (2010-11)
<b>Real estate measures</b> (Lowered LTV ceiling, DSR and caps on DTI for mortgage loans)	China (2010-11), India (2010), Hong Kong SAR(2009- 10), Korea (2009) Malaysia (2010), Hungary (2010)
<b>Limits to FX exposure</b> (Ceilings on FX positions, additional capital requirements for FX credit exposure)	Brazil (2011 <sup>2/</sup> ), Indonesia (2010), Hungary (2010), Korea (2010), Peru (2010 <sup>3/</sup> ), Philippines (2010), Russia (2009-11), Turkey (2010-2011)
<b>Elements of dynamic provisioning</b> (Countercyclical provisioning scheme, capital buffers on loans, issue of securities to stabilize FX liquidity)	China (2010), India (2009-10), Israel (2010), Mexico (2010), Turkey (2009-10)
<b>Taxes on capital inflows</b> (FX loans, FX investment on short-term currency futures, FX investment on fixed income)	Brazil (2009-12 <sup>4/</sup> ), Korea (2011), Peru (2010), Thailand (2010)
<b>Reduced deductibility of interest expenses on foreign debt</b>	Colombia (2010), Russia (2010)
<b>Interest rate ceiling on external borrowing</b>	India (2009-10)

<sup>1/</sup>Partially reversed in 2011; <sup>2/</sup> Partially reversed in 2012; <sup>3/</sup> Reduced in 2011; <sup>4/</sup>Partially reversed in 2012.  
Sources: BIS, IMF, Bank of Canada.

**Table 2**  
**Composition of Capital Flows (billions of dollars)**

	FDI	Porfolio**	Total
2010	49 (36 percent)	88 (64 percent)	137
2012	65 (70 percent)	28 (30 percent)	93
2013 (January-July)	35 (58 percent)	26 (42 percent)	61
Up to July 2013	62 (61 percent)	40 (39 percent)	103
August 2013*	2.2 (40 percent)	3.4 (60 percent)	5.6

\* Up to Aug. 19. August data preliminary and not public

\*\* Equities, fixed income and foreign loans and bonds

However, a word of caution here about the generic term now used of capital flow management (CFM) instruments. There are differences in CFMs between MaPs and capital controls. MaPs are of a regulatory prudential nature and affect the cost of doing something that is riskier. Capital controls are a tougher prohibition, i.e. the cost is infinite. When EMEs use MaPs and/or capital controls to mitigate the collateral effects of UMPs, there are also risks. The very success in moderating the financial cycle in EME can also lead to deterioration in market sentiment, including among your own domestic investors. Capital controls might be harmful if they are used without the

necessary parsimony and clarity. Why? Simply because using them in an excessive and unpredictable way might produce negative signaling effects about policymakers that might entail costs beyond the benefits of ensuring financial stability. It is a very fine line to walk.

### **III. Exit from UMP, Policy Responses and Strategies for EMEs**

The exit from UMP was supposed to be a predictable and predicted process of slow reversal of current policies. Not a sudden-stop à la Calvo but rather a well-prepared gradual change. After all, it is a positive thing that the U.S. economy is showing signs of recovering. The stated intention I believe was to separate the slowing down of asset purchases (the tapering and then end of QE) from the beginning of changes in the monetary stance (the rise in rates, i.e. federal funds). Why is it that despite all the careful preparation, there was such volatility in market reactions?

At least three broad lines of reasoning offer some explanation about the current volatility produced by the discussion about tapering QE.

- Some are saying that it is a problem of “storytelling,”<sup>3</sup> that central bankers should now concentrate on their language/writing skills, psychological credentials, etc. If that is true, in the future we might have, instead of “hawks” and “doves,” new central bankers labeled “Lacanians,” “Freudians” or “Jungians”; I am not sure at all this will bring more clarity to communication.
- Others are arguing that the fact that the two policies (QE and FG on rates), conditional on variables that are difficult to understand, confused markets (unemployment, expected inflation, etc.).
- And finally, I might add that the usual parameters to forecast the timing of policy changes given central banks’ reaction functions (the NAIRU, the neutral rate, potential GDP) most likely have shifted after the crisis. Moreover, they might not get back exactly where they were before. Thus, it becomes a trickier exercise to determine *ex ante* exactly when rates will rise, therefore creating an incentive to act before the pack.

Whatever the reason or the combination of motives, markets became unsettled but somehow this cannot come as a complete

surprise. Despite the best efforts to communicate the pace and content of such a normalization process, some volatility has to occur in this process because there will always be someone ahead of the curve that will trigger some herd behavior. Therefore, as we expected, as soon as the discussion of tapering asset purchases began in a more explicit way (e.g., around early May 2013), there was a re-pricing of risk and a global sell-off of emerging market assets. Since then, when Treasury yields began to increase, EMEs have generally seen sharply depreciating exchange rates, increasing sovereign bond yields and credit default swap spreads and, in many cases, falling stock prices.

In any event, the exit from UMP is, overall, a welcome transition to more normal global monetary policy conditions. Since the exit is a result of economic recovery in the world's largest economy, it is a net positive for emerging market economies, which will benefit including through global trade.

In Brazil, we prepared ourselves for this transition. First, our pragmatic policy response left us much better prepared for the eventual exit from UMP. We built strong policy buffers, including international reserves. Our international liabilities position is more robust, with more FDI and less portfolio investment, more equity and less debt. Foreign exchange exposure is limited. The financial system does not rely significantly on foreign funding. And credit market expansion has moderated to sustainable levels.

Second, we also took measures to strengthen financial system resilience and address fragilities revealed by the global financial crisis, over and above our existing, robust prudential-regulatory framework. We promoted significant improvements in credit and derivative reporting systems, enhancing our ability to monitor financial institutions' operations in real time.<sup>4</sup> Even though derivatives in Brazil are mostly centrally cleared, we also enhanced reporting requirements for OTC derivatives. Finally, we've published the necessary regulations for the implementation of the Basel III framework in Brazil, in accordance with the internationally agreed phase-in schedule.

What were the practical results? In Brazil's case, the sell-off has manifested itself as a search for hedge and FX protection, not as actual

outflows. In fact, portfolio debt flows in June and July have actually been positive at about \$11.5 billion, while portfolio equity flows are negative at about \$3.5 billion. In part, these numbers reflect a shift from equity to debt due to the removal of the capital inflow tax on portfolio debt instruments early in June. Most of the selling pressure has come from foreign real-money investors seeking to hedge their portfolios from currency devaluation, Brazilian companies hedging their foreign exchange liabilities and foreign companies hedging their exposure to local assets. There is no foreign currency shortage in the domestic spot market, which the Central Bank monitors continually.

Therefore, our response has focused on removing risk from the economy during this transition period. We have policy buffers and an ample policy toolkit. Some of these tools were used successfully during the global financial crisis of 2008. The Central Bank has provided exchange rate risk protection through foreign exchange swaps. We've also removed interest rate risk through open-market operations, and the Brazilian Treasury has done the same through its debt placements and buybacks. The policy buffers we have in place give us ample room to steer the economy through this turbulent transition period. Finally, with the aim of providing FX "hedge" (protection) to the economic agents and more liquidity to the FX market, the Banco Central do Brasil announced on Aug. 22 that a program of FX swap auctions and U.S. dollar sale auctions with repurchase agreement will begin Aug. 23. This program will last at least until Dec. 31, 2013.<sup>5</sup>

#### **IV. Exit from UMP and the Management of International Reserves**

Finally, emerging market central banks also have to think about the implications of the exit from UMP for the management of international reserves. Over the last 10 years, developing economies' international reserves have gone from less than \$1 trillion to more than \$6 trillion. This is on the order of one-quarter of their aggregate GDP. The accumulation of international reserves helped smooth exchange rate volatility and build a foreign currency liquidity buffer for the economy. Developing economy international reserves' increased more than \$700 billion in 2010; only 2007 saw a larger increase in the dollar value of developing economy reserves. Brazil's international reserves increased

tenfold in the same period, from about \$37 billion to more than \$370 billion and increased by more than \$50 billion in 2010 alone. Reserve accumulation did not aim, however, to change the trend of the exchange rate; in fact, Brazil and other major EMEs saw their exchange rates appreciate in 2010.

However, due to the official, public sector nature and purpose of international reserves, reserve management involves low risk tolerance. Excessive volatility, potentially resulting in losses, might be questioned since reserve managers are accountable to the general public.

## **V. Conclusions, Challenges for Exiting UMP and Medium-Term Issues for Policymakers**

In conclusion, while the prospect of an exit from UMP as economic growth recovers in the United States is a net positive event, it does create several challenges for the global economy during the transition period. Brazil is well prepared to handle these challenges due to sound economic fundamentals, robust policy buffers and the timely adoption of macroprudential measures during the preceding period of intense capital inflows. The prospects of an exit from UMP bring, more broadly, challenges of communication and international coordination.

What are the challenges for communication? It's mainly irreversibility. Once the perception of an UMP exit is public, it's the "toothpaste syndrome"—it's difficult or almost impossible to get it back into the tube. Naturally, an orderly exit from UMP with a clearly communicated path would allow EMEs to constructively adjust to changing financial market conditions. We fully understand the difficulties involved in monetary policy communication about UMP exit, which are compounded in this case because it is an unprecedented situation. It would be helpful to central banks, both as responsible for macro stability and as reserve managers, to have the maximum possible predictability over the medium term. However, some volatility, as mentioned earlier, needs to be factored in because of the cyclothymic nature of market reactions.

And what are the challenges for international coordination? It's to be able to smooth the exacerbation in EMEs of financial cycles originating in AEs. Discussion forums such as the Group of Twenty and

the Financial Stability Board can be useful, even if we all realize they have limited enforcement power over policy. There seems to be here two extreme positions:

- A world where MP decisions in AEs are taken or calibrated with a view and concern about their spillover effects on the global economy in general and EMEs in particular (see one option in Rey 2013); given the current political economy debates about issues that entail sacrificing much less sovereignty than that, this proposition seems clearly naïve to say the least;
- A world where MP decisions in AEs are taken with a view and concern about the objectives of their own countries and where EMEs in particular use their array of MaPs and capital controls to mitigate the externalities deriving from that.

Between these two extremes, there are many intermediate and more pragmatic positions. They range from having both AEs and EMEs cooperating to enact global prudential and regulatory rules to mitigate excessive financial pro-cyclicality (e.g., Basel III-type capital, leverage, liquidity and funding rules, adequate risk weights, cross-border resolution mechanisms, etc.) up to sharing information about cross-border financial activity, etc. In both cases, international cooperation is essential for progress in increasing global financial stability.

Finally, in addition to the communication and coordination challenges of exiting from UMP, there are other important issues for policymakers. The analytical work to support the new pragmatic policy response of MP+MaPs is rapidly emerging. It already was present to some extent in the old debate of “clean versus lean” and the concern that someone should be looking at asset price developments, especially when they were fueled by credit. Now, the most recent theoretical literature points to using MP and MaPs as complements, not substitutes (IMF 2013). For example, using DSGE frameworks, this new literature is building a reasonably strong case showing for combining a typical Taylor rule with MaPs. It provides a superior welfare outcome than using each instrument separately to achieve goals of price and financial stability. What is important is to translate this debate into an EME context where we do have to operate inflation

targeting regimes with significantly higher levels of uncertainty, more asymmetry of information, a bigger role for bank credit, etc. (Agénor and Pereira da Silva 2013). There are many more challenges still:

- What are the pros and cons of the various options, where MP is complemented by MaPs, and/or where an augmented policy interest rate rule includes some measure of the private sector credit growth gap to help to contain excessively rapid credit growth, and prevent surges in asset prices, etc?
- What are the pros and cons or the various domestic institutional set-ups to monitor financial stability and price stability through the interaction of both the traditional monetary policy committee and new financial stability committees? Given the known interactions between MP and MaPs, how should they coordinate the setting of their counter-cyclical instruments, the cost of money and the cost of capital?

The analytical agenda is challenging. Meanwhile, we will have continue reflecting on our best policy options to deal with the reality of the present market turbulence.

## Endnotes

<sup>1</sup>In 2010 only, emerging markets and developing economies received almost \$225 billion in net portfolio flows. This was more than double the already very strong portfolio flows received before the crisis in 2007. In contrast, an average level of net portfolio flows was less than \$20 billion earlier in the decade.

<sup>2</sup>Countries that actively used macroprudential measures targeting capital flows included, among others, Brazil, Peru, Korea, Turkey, South Africa, Thailand and the Philippines.

<sup>3</sup>See Gillian Tett, *Financial Times*, Aug. 22, 2013.

<sup>4</sup>The crisis also revealed vulnerabilities in the funding and business models of certain small and medium-sized banks. These banks comprised a small fraction of the small and medium-sized bank segment in Brazil. Even so, we took measures, including the resolution of a number of institutions, and the vulnerabilities have been eliminated.

<sup>5</sup>The swap auctions will occur every Monday, Tuesday, Wednesday and Thursday, when \$500 million will be offered per day. On Fridays, a credit line of \$1 billion will be offered to the market through sale auctions with repurchase agreement. When appropriate, the Banco Central do Brasil will carry out additional operations.

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