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International financial integration and fragmentation: a view from Central Banks

Remarks by Luiz Awazu Pereira da Silva[1]

Post-crisis policy-making has indeed become more complicated and is certainly not anymore a "boring" world of central bankers to use one of Mervyn King's expressions. I'll make two sets of comments, one on Heaven and the other on Hell: (1) what does the crisis tell us about our capability of achieving simultaneously macroeconomic (price) and financial stability; then (2) on global policy coordination vis-à-vis exchange rate volatility.

1. Heaven and the Holy Graal: achieving both macroeconomic and financial stability

Alan Blinder in his most recent book ("After the Music Stopped") masterfully describes the run-up to the global crisis, its causes and policy lessons. Among many issues, he flags this perverse combination of deterioration in the quality of mortgage origination (the subprime debacle), opaque and complex built-up of poorly regulated derivative instruments, disseminated in excessively and highly leveraged interconnected balance sheets, etc. and all that allowed by lax regulation-supervision and (very) bad incentives.

Needless to say, he makes a strong case for more regulation, both in quantity and quality or intelligence (which is more difficult) if only for the very good reason that "*thou shalt remember that people forget*" the causes of past financial crises and that "*thou shalt not rely on self-regulation*".

[1] Deputy-Governor, Central Bank of Brazil. E-mail address: luiz.apereira@bcb.gov.br The opinions expressed here are mine and should not be attributed to the Central Bank of Brazil (BCB)

Basel III is a case in point and the Central Bank of Brazil (BCB) has just successfully released its Basel III package. We published on March 1st 2013 a set of four resolutions and fifteen circulars that implement in Brazil the recommendations of the Basel Committee on Banking Supervision (BCBS) regarding the capital structure of financial institutions. The measures aim at improving the ability of financial institutions to absorb shocks, strengthening financial stability and promoting sustainable economic growth. The increase in the quantity and quality of regulatory capital held by financial institutions reduces the likelihood and severity of eventual future financial crises and their potential cost to the real economy. So Basel III in a nutshell, is a systematic global regulatory response to prevent us from the excessive pro-cyclicality that drives financial systems to recurrent crises well portrayed by Niall Fergusson.

The dangers of (irrational) exuberance were known although not enough attention was paid to Minsky and Kindleberger before the Lehman event. And the tools we had were essentially either microprudential or applied with a microprudential mindset, like LTVs, DTIs and even forward-looking provisioning. When macroprudential, counter-cyclical tools were available like reserve and capital requirements, they were not necessarily used in coordination with a more comprehensive fiscal and monetary framework, either because of political economy factors or because of the absence of an adequate comprehensive macro-financial analytical framework that could calibrate and guide them.

So we will still face challenges under Basel III and beyond. To paraphrase Reinhart and Rogoff, "*this time is* (not necessarily) *different*". We all know that excessive credit growth has been a prelude to (and even a leading indicator of) all financial crises on record since the Tulip bubble. These challenges are especially important for emerging markets because of our openness to sudden stops and floods of resources that affect the liquidity and structural conditions of our credit and asset markets.

What are some of these challenges that need to be carefully thought through?

First is how to use wisely the counter-cyclical macroprudential tools that Basel III has provided us with. The counter-cyclical capital buffer is a case in point: there is a need to develop a proper methodology for estimating credit gaps, a key variable for assessing financial stability, perhaps even the most important indicator to ascertain the (very) difficult concept of "systemic risk". Credit gaps cannot be thought as a simple filtered trend irrespective of the quality of the statistical procedure: that would not capture structural growth stemming from financial deepening and inclusion, a fundamental factor that is present in the credit dynamics of emerging markets. Then, there are communication and transparency requirements and the ritual and rules associated with the timing and announcements before activating a buffer. And finally, another issue is the institutional setup that would best promote the coordination between monetary and macroprudential policies, in other words the close coordination between the central bank and the macroprudential authorities if they are not –like in Brazil— under a central umbrella.

This question leads to a second important challenge: since the onset of the global financial crisis one issue which has been brought to the attention of policymakers is the role of **both** macroprudential policy and monetary policy in mitigating pro-cyclicality and promoting both price and financial stability. The debate has been centered on how monetary policy and

macroprudential policy should be used. The pragmatic solution has been dubbed a "separation principle", à la Tinbergen: use one instrument --monetary policy-- to ensure one objective, price stability; and use a second instrument --macroprudential regulation-- to ensure a second objective, financial stability. This separation *cum* complementarity is especially useful in a post-crisis world of volatile and more intense capital flows that can have destabilizing effects on emerging markets.

Now in practice, what does it mean? Obviously, to perform well, any monetary and regulatory regime must also have a strong fiscal position that maintains stable and low risk *premia*. Strong public sector accounts that are capable of countercyclical accumulation of precautionary resources may provide some fiscal space for policymakers to act counter-cyclically without losing credibility and mitigate the risks associated with large and volatile capital flows when needed. In this vein, a comprehensive framework that comprises monetary, fiscal and macroprudential policies seems to emerge as the policy framework best suited to achieve price and financial stability in emerging markets.

These challenges are not trivial but many emerging markets have been, implicitly or explicitly, using some form of this framework when facing the complex post-crisis economic and financial environment.

2. Hell is Paved with Good Intentions: on global policy coordination vis-à-vis exchange rate volatility

Before the crisis, (almost) free floating exchange rates was the rule and somehow easy to follow including through accepting some global coordination and formal Accords (e.g., the Plaza example). In emerging markets, we knew very well that to strengthen the efficiency and credibility of our inflation targeting (IT) frameworks, we need **not** to have any commitment to target exchange rates. Of course, marginally, everyone was concerned with inflationary pass-through of abrupt exchange rate movements. Therefore many intervened, with more or less publicity and intensity, in some cases due to fear of floating, in others to avoid excessive transmission of large terms-of-trade shocks, etc.

After the crisis, things changed. For us in emerging markets, the global financial crisis provided clearer evidence--if need be—that our financial systems were affected by the monetary and financial conditions prevailing in advanced economies through sudden stops and sudden floods of capital and their consequences on our exchange rates. Very weak credit multipliers in advanced economies combined with high liquidity and changes in relative risk perception all or in part constituted an incentive to carry trade and other flows. Large capital inflows, whose size and intensity were way beyond those explained by traditional push factors and were certainly out of our full control, contributed to increase financial instability and brought potential risks of asset and credit bubbles together with additional inflationary pressure. All this put together added difficulties and had an impact on the performance of our IT regimes.

I would add here another side effect: we managed in Brazil (after a while) to successfully master how to handle such episodes, using as you know a set of macro-prudential

instruments. Many other emerging markets did pretty much the same, adding sometimes capital controls to their policy toolkits. It worked very well indeed in Brazil, we controlled financial instability, stabilized our ER volatility but there's no free lunch: we also had to pay a price in terms of foreign investors' perception, of policy transparency & predictability and perhaps in retrospect in terms of our own animal spirits at home.

Now in 2013, the issue is not to finger point anyone. Certainly, zero bound policy rate monetary policy plus quantitative easing (QE) in many advanced economies managed to avoid a 21st century New Depression. Advanced economies' policy-makers were concerned –and quite rightly so-- about weak domestic activity and/or deflation at home. But these policies did produce an unintended collateral effect: term spread reduction policies affected their exchange rates and thus while helping activity, also triggered unusual capital movements. We also all know this new combination of unprecedented conventional and unconventional monetary policy doesn't solve all fundamental issues faced by advanced economies. Almost five years into the crisis now, what is dragging the recovery there seems to be issues about the size and fiscal characteristics of Welfare States in advanced economies. Those issues that affect confidence in the MLT there will have to be addressed by new social contracts that are still hard to see in the presently fragmented and divided political economy in the US and Europe. We hope for the best but it's likely that solutions will take some time, that markets will have to be patient and that each society will have to design its own compromise between say raising revenues and cutting spending.

Hence, in this challenging policy context, QE and its effects has become a hotly debated subject among policy makers and academics in the post-crisis environment. Emerging markets policy makers point out that a possible important side effect of QE has been "excessive" capital inflows in various forms of carry-trade that triggered in turn excessive growth in domestic asset prices and local financial system aggregates. Advanced economies policy makers argue that quantitative easing policies were aimed at sustaining growth and avoided extreme negative events, therefore supporting growth in emerging market economies as well. The controversy has been featuring prominently in the Group of Twenty (the G20) the major international forum for policy coordination.

There is controversy as to the effectiveness and possible global spillovers of such "unconventional" monetary policy measures. A number of interesting reports and papers have been published, from the IMF, the BIS, the World Bank, the OECD and academia. The IMF (2012) has undertaken a set of studies on the possible spillover effects of policies conducted by five major systemic economies (the US, the Eurozone, Japan, China and the UK) in the post-crisis environment. While the study concludes that we have evidence of highly correlated asset prices, negative effects of financial shocks, and that "*the actions and inactions of systemic economies have far greater effects on the world than in normal times*", the report is mostly based on Fund's global macro-model simulations which did not explicitly consider counterfactual scenarios.

We did in Brazil our own homework, reaching similar conclusions than the Fund and the BIS. But we tried going beyond the general "intuition" about potential destabilizing effects of QEs. Being more rigorous meant that we needed to define an exact counterfactual. The

methodology is in the Heckman counterfactual tradition and is an extension of Pesaran and Smith (2012), resulting in estimates of *ex-ante* and *ex-post* policy effects over a grid of well-measured counterfactuals. We also provide a decomposition of the transmission channels of the policy effects. We used a VAR model of the endogenous variables where the different channels are represented. Our counterfactual evaluation shows results that are consistent with the view that QE policies in advanced economies had significant spillover effects on the Brazilian economy. These effects were mostly transmitted through excessive capital inflows that led to exchange rate appreciation, stock market price increases and a credit boom. Our results quantify the economic significance of the effects which appears clearly and are sizeable. The additional capital inflows resulting from QE2, for instance, are of the order of 100 USD billion (almost a third of our international reserves). This was associated with additional 0.9% of GDP of non earmarked credit to households, a fall of 5 percentage points in interest rates in reference loans, an increase of 12% of GDP in the stock market value, a nominal exchange rate appreciation of 20 basis points, with a counterfactual exchange rate of 1.8 against the actual 1.6 BRL/USD. These are non-trivial effects indeed and make it harder for emerging markets to manage both macro (price) and financial stability.

3. Conclusions

What is the bottom line here? The G20 seems to have evolved towards accepting a "pragmatic" laissez-faire: advanced economies can operate monetary policy at the zero bound and do QEs that they see fit while emerging markets are allowed to countervailing capital flow management (CFM) measures and in some cases, to use some forms of capital control. We can certainly live with that, since as I mentioned earlier we know how to do it and have the tools for that.

However, one must recognize that this combination of opposite policy directions is risky, sub-optimal and certainly not conducive of welfare-enhancing outcomes globally. It might be the only possibility given the current state of global political economy but I would much prefer a discussion –perhaps at the G20 level-- that considers a more globally coordinated framework between our advanced and emerging economies which are in different positions in their respective financial and business cycles.

Perhaps incentives to increase credit multipliers in advanced economies, including using their prudential-regulatory framework to define higher risk-weights for cross-border flows into emerging markets temporarily while their recovery takes strength would allow in turn emerging markets to lower their own CFMs and their own controls. That might succeed in producing a closer to Pareto-type global outcome with a more predictable, smooth and business friendly environment for all.

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