

## Can emerging economy central banks be market-makers of last resort?

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Market-maker of last resort (MMLR) is not an extension of the lender of last resort (LOLR) function; it is a completely new role for the central bank. The implicit model behind the classical LOLR function is that credit markets are driven by trust in solvency of banks and non-bank intermediaries. When that trust evaporates, the central bank can step in and save the day. In some long-departed monetary system, this may have been the whole story.

The implicit new model is that credit markets are driven by trust in collateral rather than trust in banks. The working assumption is that all observed credit transactions between counterparties with unequal credit ratings require collateral from the weaker party. When the endogenous value of collateral evaporates, the system is inherently unstable.

Again, the central bank can save the day by temporarily supplying its own safe assets to replace those that are being used as collateral but whose value is under suspicion. It does this by replacing private assets with its own liabilities. The scale of such transactions is very large.

The central bank's liabilities are useful as collateral as long as its solvency is unquestioned. This ultimately depends on the solvency of the government that owns the central bank and the government's willingness to underwrite potential losses. The "carve-out" must be credible.

For EM central banks, neither condition is met for dollar-denominated central bank liabilities. EM central bank dollar liabilities are not safe assets. Potential real exchange rate changes are just too large to make EM central bank and government solvency credible. This can be partially overcome by accumulating large dollar reserves. At the national level, the underlying trade is goods for dollars. This allows leverage, that is, two-way balanced gross capital flows. In my view this has permitted the recent entry of EMs into the system (see Appendix below). Moreover, I think this limited participation has been very beneficial to EM countries. The reserve base can be augmented by international lines of credit from the IMF and the Federal Reserve. But it seems to me unlikely that these will be unlimited and unconditional.

Conclusions? Since the ability of EM central banks to provide dollar collateral is limited, they must limit the scale of their residents' participation in international credit markets. My preference is for old-fashioned prudential regulation; new-style macroprudential regulation is just disguised taxation of financial intermediation and is too easy to avoid.

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## Appendix: Foreign exchange reserves are collateral to encourage FDI<sup>2</sup>

Within the Bretton Woods II system, the role of net capital flows (current account imbalances) is to support the pattern of gross capital flows needed for China's growth strategy. The logic here is that private capital flows that balance in an accounting sense generate an imbalance in political risk between countries. As a result, balanced private capital flows are likely to be constrained in magnitude. What is needed then is some form of protection or collateral for gross private capital flows to poor countries. Rich-country gross private claims on residents of poor countries do not provide the needed protection.

The only credible protection has been net goods already exported from the poor country. The powerful fact is that, in a severe political clash, rich countries can keep these goods by refusing to repay their net debt to poor countries. The most likely vehicle for such action would be to freeze the assets of the poor country's government that are held in rich countries, in particular, their international reserve assets. Our conclusion is that the net foreign assets of poor countries support risk-taking by foreign investors. Thus, the pattern of current account imbalances we observed was key to the success of the export-led growth strategy. We were perhaps overly optimistic in expecting this argument to be accepted, but continue to regard this as the most important analytical contribution of our Bretton Woods II papers.

That current account surpluses in the form of official reserves served as collateral was the most controversial and least accepted part of our analysis. Reserves are an important part of the story because they are the most likely type of geopolitical collateral, and they reflect the efforts of poor countries to distort the real exchange rate.

Indeed, this innovation of gross FDI flows to China and still larger gross capital outflows from China was vital to the system because of the potentially problematic geopolitical relationship between a large, geopolitically unsatisfied, and ever more powerful communist China and its trading partners. The "uphill net capital flow" serves de facto as a \$3.8 trillion hostage in case of a geopolitical break, and it underpinned the willingness of foreign capital to commit to China.

This was the only way to get China's development model to work on such a scale. The economic sanctions and threats to Japanese capital in China even in the minor disputes over the Senkaku/Diaoyu Islands underscore the vital role of current account surpluses in China's current development model. Similarly, conflicting claims among countries with coasts on the East and South China Seas signal the potential for geopolitical strife. The net flows were vital to get the gross flows moving, and it was the supply side effects of the gross flows that generated the

<sup>2</sup> Excerpt from "The Revived Bretton Woods System's First Decade," Deutsche Bank Global Research, July 2014, by Michael Dooley, David Folkert-Landau and Peter Garber

industrial flowering. Thus, we had a theory that intimately connected gross and net capital movements.<sup>3</sup>

In 2004 we put together a “collateral table” where we assumed a 50% initial margin and 100% variation margin on FDI inflows. These collateral requirements were drawn from commercial rates for actively traded EM bonds. We arbitrarily assumed a steady 10% annual capital gain on FDI to determine the variation collateral required. With these assumptions, China’s reserves roughly matched the collateral a private entity would have required for the observed stock of foreign direct investment in China. We also extended this methodology to direct investment in all emerging markets and found similar results.

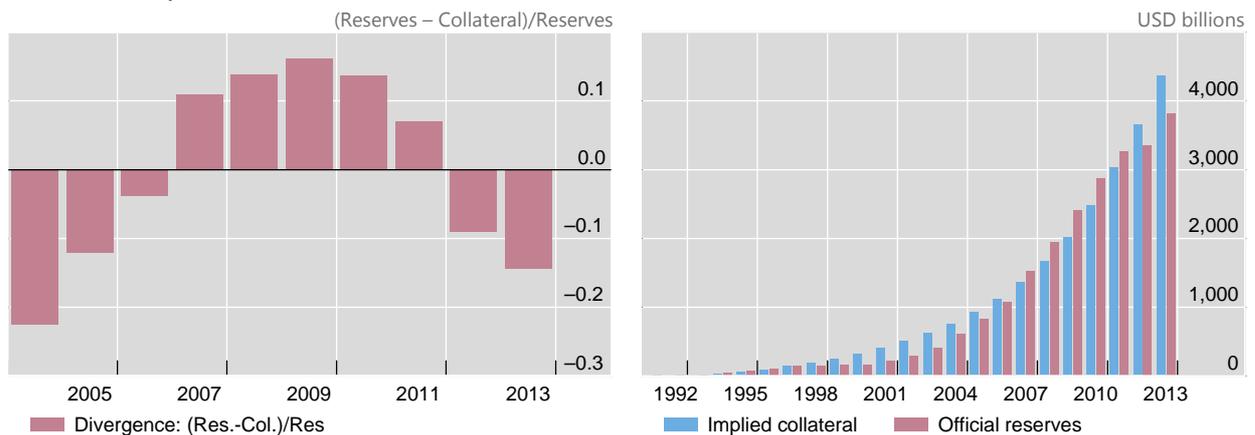
The left-hand panel of Graph 1 presents an updated collateral-reserves relationship.<sup>4</sup> In this thought experiment, we assume that the collateral theory is true. Then we solve for the constant annual capital gain under which the implied collateral best matches the actual reserve accumulation. For each rate of capital gain, there is a path of implied collateral. We can then observe the percentage deviation of actual reserves from this implied amount, ie  $(reserves - collateral)/reserves$ . We searched over a range of possible rates of capital gain from 0.1 through 0.15, and found the one that minimised the sum of squared deviations net of the mean deviation. The least-squares minimising rate is 13.7%. In the right-hand panel of Graph 1 we show the levels of reserves against implied collateral for 1993–2013, as well as the percent deviation for the same period and the percent deviation for the period 2004–13. An average return of 13.7% does not seem unrealistic and is quite close to the arbitrary 10% we used earlier. Some snapshot estimates from around 2005–06 put the returns to FDI at 20–25% per annum.

China’s foreign exchange reserves as collateral for FDI

Graph 1

Deviation of actual reserves from amount implied by the collateral theory

Collateral versus reserves



Sources: Dooley, Folkerts-Landau, P Garber (2004); author’s calculations.

<sup>3</sup> This is in contrast to the textbook model, which gets the net flow moving as a consumption-smoothing phenomenon, while the gross flows are an afterthought, tacked on from theories of financial diversification, that adds little to the growth story.

<sup>4</sup> M Dooley, D Folkerts-Landau and P Garber, “The Revived Bretton Woods System’s First Decade”, *NBER Working Paper*, no 20454, 2014.