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Comment

Philippe Martin, Sciences Po (Paris) and CEPR

The paper “International Reserves and Underdeveloped Capital Markets” by Kathryn M. E. Dominguez sheds light on an important puzzle that has appeared in the end of the 1990s, namely, the very high growth of international reserves held by emerging markets. Figure 1 below shows that the most dramatic increase has taken place in Asian and Middle East emerging markets. Up to the beginning of 2009, it appears that the financial crisis has reduced reserves in Latin America and emerging European countries but not in Asian and Middle East emerging markets. The puzzle is still here.

The paper analyzes the role of financial development in this story. This is certainly a complex role depending on the nature of financial development and its interaction with other variables. In this paper, reserves are interpreted as a possible response by authorities to a problem of sub-optimally low private insurance due to financial constraints on borrowing. Reserves in this paper are viewed as a way to counteract the relative underdevelopment of financial markets. The problem of private underinsurance against potential capital shortfalls (sudden stops) and the role of reserves as a potential mitigating answer have been analyzed by Caballero and Krishnamurthy (2001) and Caballero and Panageas (2007), on which the theoretical reasoning in this paper is based. In these models, for reserve accumulation (the purchase of foreign bonds) to alleviate the problem of private underinsurance, its effect on the home money supply must be sterilized by issuing domestic bonds with high interest rates. The government is essentially subsidizing savings to mitigate the problem of private underinsurance.

First note that the role of financial development in explaining reserves as a response to private underinsurance against sudden stops is necessarily nonlinear. At one extreme, with complete financial markets, there is no reason that public authorities intervene and subsidize private saving. At the other extreme, if the country is completely closed to financial

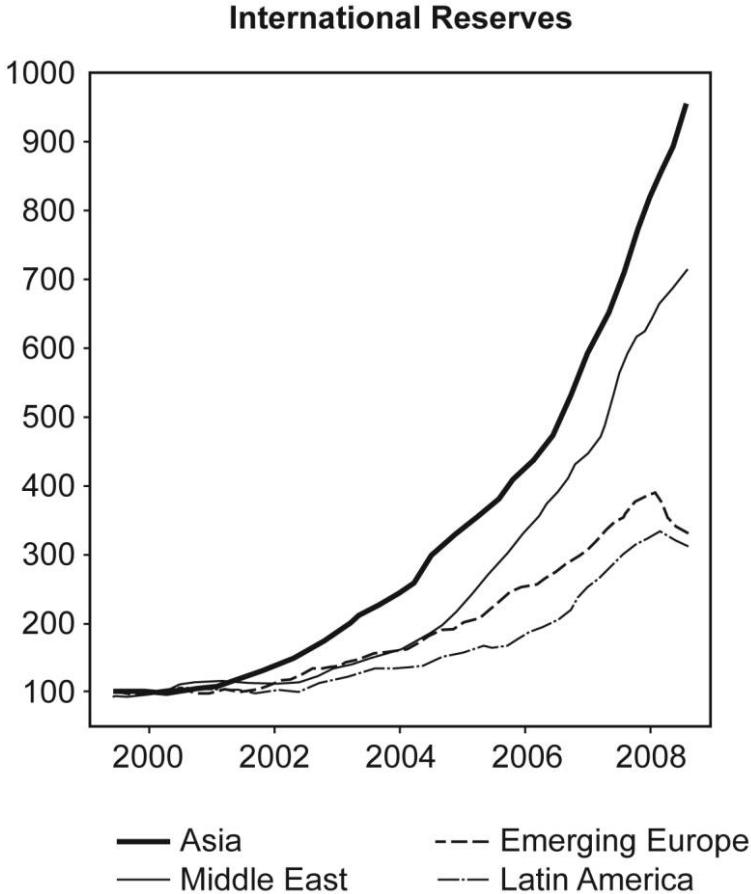


Fig. 1. Reserve accumulation by emerging countries. Source International Monetary Fund, International Financial Statistics 2009, index: 2000 = 100.

flows, there is no reason to insure against the economic consequences of sudden stops. Hence, in the context of this paper, reserve accumulation is a policy that must take place in situations of intermediate financial development. This is broadly consistent with the stylized fact that reserve growth has been highest among emerging markets.

Note also that the distinction between the precautionary motive and the financial underdevelopment motive on which the paper focuses is not clear-cut. The first stems from the desire to smooth consumption distortions intertemporally in the face of sudden reversals of international capital inflows. The second, at least as analyzed by Caballero and Krishnamurthy (2001) and Caballero and Panageas (2007), stems from the desire to subsidize suboptimally low private saving to insure against

the negative impact of sudden stops on firms' investment. The second motive looks very much like a precautionary one too, and in fact Caballero and Panageas (2007) use for reserves the term of precautionary resources. In a sense, financial underdevelopment in the form of domestic financial constraints increases the need for reserves that help increase private precautionary saving. The story tested in this paper is one in which reserves are a very indirect instrument for the ultimate objective, which is to subsidize firms' precautionary saving through a high interest rate. It is not completely clear why some more direct policy of subsidy on saving is not possible. This may be linked to the development of the financial system, and it would be interesting to better understand this issue on the choice of policy instrument.

The paper can also be seen as a counterargument to Obstfeld, Shambaugh, and Taylor (2008, 2009). In these papers, higher domestic financial development implies that the stakes in case of a financial crisis are higher and the consequences more dramatic. A larger banking sector (proxied by a higher M2/GDP) and a higher level of financial openness require more insurance against a bank run becoming a balance of payment crisis. In their reasoning, optimal reserves *increase* with the size of the banking sector and with financial openness.

In the story tested in this paper, as well as in Caballero and Krishnamurthy (2001) on which it is based, the roles of financial openness and domestic financial development are quite different. It is the combination of financial openness and domestic financial constraints that generates the private underinsurance problem, which in turn leads authorities to accumulate reserves. From this point of view, the empirical analysis is a bit disconnected from the theory since financial openness and domestic financial development are interpreted similarly. To better understand the determinants of reserve accumulation, it would be useful to derive theoretically the optimal level of reserves as a function of both domestic financial constraints and financial openness. These two should have a very different impact. In the empirics, one of the measures of domestic financial development is the ratio of external liabilities (portfolio equity and debt liabilities) to GDP. This looks more like a measure of financial openness than of domestic financial development. It is also not clear why for a measure of financial development only liabilities and not assets are included. The two other measures of financial development are closer to the tested story.

The results suggest that the role of financial development and openness in reserve accumulation is indeed complex. Capital controls that negatively affect financial openness do not have a robust impact on reserve

accumulation. As in Obstfeld et al. (2008, 2009), higher financial development in the form of a higher ratio of M2 to GDP increases accumulation of reserves. However, controlling for this measure of financial development, higher financial development in the form of private credit and stock market capitalization to GDP is correlated to a decrease in reserve accumulation. One interpretation is the one given in the paper, although my reading of Caballero and Krishnamurthy (2001) would lead me to add an interaction term between financial openness and domestic financial development. Again, I would expect that it is the combination of financial openness (which makes sudden stops possible) and financial domestic underdevelopment (which increases the economic cost of these sudden stops) that leads to reserve accumulation. From this point of view, there is a clear connection with some of the analysis of Caballero, Farhi, and Gourinchas (2008).

If one believes in the interpretation pushed in the paper, some interesting implications emerge. First, reserve accumulation by emerging countries should be a temporary phenomenon as these countries develop domestic financial markets. The global imbalances that can at least be partially linked to reserve accumulation by emerging markets should therefore also be a temporary phenomenon. The analysis of the political economy of financial development can also be informed by such results. One puzzle that emerges from this paper is that it implies that governments find it easier to insure against some economic costs of sudden stops through reserve accumulation rather than through domestic financial development.

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