

Discussion

1. James Morley

The paper by Marcel Fratzscher investigates capital flows to emerging market economies (EMEs) prior to, during and after the global financial crisis (GFC). It considers the relative importance of 'push' versus 'pull' factors in driving capital flows, where 'push' factors are external variables such as US macroeconomic news and 'pull' factors are internal variables such as a country's institutions and policies. The paper also considers the impact of changes in Brazil's capital controls on portfolio allocations.

To investigate the relative importance of push versus pull factors, a factor model of weekly net capital flows is estimated. A key feature of the model is that the factor loadings (i.e. the parameters governing the impact of various factors on net capital flows) are allowed to be different during the GFC between 2007 and 2009. A notable finding is that negative US macroeconomic news increases capital flows to emerging market economies during normal times, but it decreased these flows during the GFC due to 'flight to safety'. Also, push and pull factors are equally important for capital flows during normal times, but push factors became more important during the GFC. However, despite the importance of push factors in the GFC, US monetary policy appears to have played only a relatively minor role in driving capital flows.

To investigate the impact of changes in Brazil's capital controls, a regression model of portfolio shares for EMEs is estimated. The main empirical finding for this model is that the capital controls have a statistically and economically significant impact on portfolio allocations to Brazil, with an increase in controls reducing the weight on Brazil in portfolios. The capital controls are also estimated to create a positive externality in the sense of an increase in the weight on other Latin American and 'dragon play' economies, which are economies that are major commodity exporters or Asian export-oriented emerging markets.

The main policy conclusions from this analysis are that (i) US monetary policy was not the primary driver of capital inflows during the GFC and its immediate aftermath and (ii) the positive externality suggests cross-country coordination may be necessary to avoid a 'bubble-thy-neighbour' effect of capital controls, whereby dampening of flows for one economy such as Brazil only serves to increase flows to other similar economies.

This is a very useful paper in that it conducts careful empirical analysis to verify or challenge conventional wisdoms about the drivers of capital flows in the GFC and the effects of Brazil's capital controls on portfolio allocations.

In terms of the importance of push and pull factors during the GFC, I wondered how sensitive the results are to different timing assumptions? In particular, are the different estimates largely driven by an outlier effect of 2008:Q4 or do the different estimates during the GFC require inclusion of the

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whole 2007 to 2009 period in the sub-sample? I also wondered if the role of US monetary policy might be understated due to measurement error. Specifically, it is difficult to measure the stance of unconventional US monetary policy during the GFC just using announcements and interventions, but the structure of the factor model seems to be that it would attribute anything unobservable, including other aspects of monetary policy (e.g. communications other than announcements), to the idiosyncratic factor that is supposed to reflect pull factors.

In terms of the portfolio allocation results, I wonder to what extent the finding of a positive externality is a 'mechanical' result in the sense that any reduction in the weight on Brazilian assets will lead to an increase in weight on some other assets by construction? The fact that it turns out to be an increase in weights for closely related economies is notable. But the mere existence of an increase in weights for other countries does not necessarily mean that policy coordination would be useful. If the capital controls decrease the level of capital flows, then they could be employed unilaterally by all economies worried about excessive capital inflows. This is in contrast to currency adjustments, which cannot be employed by all economies in the same direction.

It would be interesting to know how the capital controls affect the nature of capital flows to Brazil and related economies. Do they reduce 'hot flows' that involve investment in highly liquid assets and can be reversed quickly? The desired effect of the capital controls may not be to reduce capital flows, but to alter the type of flows.

Also, there are other policies that can influence capital flows, including trade tariffs and subsidies (Jeanne 2013) and sterilised intervention (Prasad 2013). It would be interesting to see what effects these policies have had on portfolio allocations for EMEs and whether they are similar to those for capital controls. As Prasad (2013) argues, sterilised intervention has the benefit of flexibility in that it can be done quickly, while tariffs or capital controls often require major legislative changes, making them harder to reverse if the circumstances that motivated their use change. In terms of the analysis of Brazilian capital controls, I wondered whether some of the results could be confounded by concomitant changes in trade policies or sterilised interventions in Brazil and the other economies considered in the analysis.

One final note is that the paper focuses primarily on the effects of policy on capital flows as opposed to the exchange rate. However, some of the analysis in the paper suggests that unconventional US monetary policy since the crisis has worked to depreciate the US dollar, raising the possibility that monetary policy contributed to a 'currency war'. While the effects of US monetary policy on the US dollar exchange rate appears to be statistically significant, it is less clear from the results how economically important US monetary policy was for overall currency fluctuations.

Overall, the analysis in this paper is extremely helpful in shedding new empirical light on the sources of capital flows and effects of actual policies trying to restrict them. It seems likely that this line of research will continue as EMEs continue to worry about the effects of large, sudden capital flows and try different practical policies to mitigate their effects. This study and related work by its author will provide useful benchmarks for future research on the topic.

References

Jeanne O (2013), 'Capital Account Policies and the Real Exchange Rate', *NBER International Seminar on Macroeconomics 2012*, University of Chicago Press, Chicago, pp 7–42.

Prasad N (2013), 'Sterilized Interventions and Capital Controls', unpublished manuscript, University of Wisconsin-Madison.

2. General Discussion

The discussion began with participants asking about policy coordination across economies, including questions about the actual objective of coordination and the mechanism through which policy coordination can affect capital flows. One participant suggested that policy coordination is simply the clear explanation of policy. Marcel Fratzscher echoed this sentiment, asserting that policy coordination essentially reduces to clearly communicating about the policy tools that will be used in given situations. As an example, he referred to the Organisation for Economic Co-operation and Development's Code of Liberalisation of Capital Movements, which provides guidelines on the appropriate use of capital controls and promotes a transparent framework for the implementation of these controls. He went on to suggest that it would be useful for the International Monetary Fund or G20 to adopt a similar code. As an example of coordination, he also referred to the European Bank Coordination 'Vienna' Initiative, which played a role in discouraging western European banks from withdrawing capital from eastern Europe during the financial crisis.

Several participants commented on aspects of the EPFR Global (EPFR) portfolio flow data used in the paper. One participant questioned the relevance of portfolio flows to overall capital flows given the relative importance of bank-related flows for many countries. Related to this, another participant suggested that the representativeness of the portfolio flow data (with respect to overall capital flows) varies both over time, depending on what sort of shock is occurring, and across countries at any given point in time. Yet another participant noted that the portfolio flows data do not necessarily line up with balance of payments data over short periods. Professor Fratzscher admitted that capital flows related to portfolio flows and bank flows are different, but pointed out that they are generally positively correlated and that, at least for EMEs, there is a good match between the dynamics and magnitudes of the flows as measured in the EPFR and balance of payments data. There was also discussion around the usefulness of weekly flow data, with one participant asserting that it may be more useful to assess the effectiveness of policy interventions over longer time horizons. In response, Professor Fratzscher explained that most of the impact of changes in capital controls on asset prices and capital allocations tends to occur within 6–8 weeks. He also noted that the effects are quite large even at this relatively short horizon. Professor Fratzscher acknowledged that it may be interesting to look at longer-term effects, but that it is econometrically difficult to identify these effects at longer horizons.

Picking up on the question about the effect of capital controls on the composition of capital flows, one participant noted that Brazil's implementation of capital controls was associated with an increase in foreign direct investment (FDI), which only partially offset the decrease in portfolio flows. In response, Professor Fratzscher noted that investors will always attempt to circumvent

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capital controls, but that he was unable to assess the effects of capital controls on FDI or bilateral bank lending using his dataset. The same participant also noted that most of the post-crisis capital flows into EMEs have been from countries other than the United States, Japan and Germany, and that US capital outflows have fallen since the crisis (with the exception of flows from the United States to Canada and Mexico). Following on from this, the participant suggested that it may be interesting to analyse the source of portfolio flows into EMEs.

Another participant noted that countries face a challenge in achieving an appropriate policy mix, with various combinations of fiscal, monetary, exchange rate and macroprudential policies available, and that it is difficult to disentangle the appropriateness of a policy mix empirically. The same participant also referred to the fact that the IMF has recently been more open to considering capital controls as an appropriate policy tool. Professor Fratzscher agreed in principle with the IMF's stance, but went on to argue that capital controls cannot constitute a permanent solution to capital flow volatility in cases where 'pull' (i.e. country-specific) factors are driving capital flows. However, capital controls can 'buy time' for policymakers to implement other more appropriate domestic policies. Related to this, one participant highlighted the importance of strong fundamentals for being able to manage changes in capital flows. The participant drew on the example of Canada, which was highly exposed to capital outflows to the United States during the financial crisis. The participant argued that Canada's strong fundamentals allowed stimulatory monetary and fiscal policies to offset the effects of these capital outflows.

One participant questioned the policy relevance of capital flows, arguing that changes in the relative prices of existing positions are more important than capital flows themselves when it comes to external imbalances. In response, Professor Fratzscher emphasised that his analysis abstracts from price changes and thus represents the active portfolio rebalancing of investors, and that including price changes would result in much larger overall portfolio changes.