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Surges

Atish R. Ghosh [a,*], Mahvash S. Qureshi [a], Jun Il Kim [a], Juan Zalduendo [b]

[a] Research Department, International Monetary Fund, USA
[b] Western Hemisphere Department, International Monetary Fund, USA

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ABSTRACT

This paper examines when and why capital sometimes surges to emerging market economies (EMEs). Using data on net capital flows for 56 EMEs over 1980—2011, we find that global factors, including US interest rates and investor risk aversion act as "gatekeepers" that determine when surges of capital to EMEs will occur. Whether a particular EME receives a surge, and the magnitude of that surge, however, depends largely on domestic factors such as its external financing need, capital account openness, and exchange rate regime. Differentiating between surges driven by exceptional behavior of asset flows (repatriation of foreign assets by domestic residents) from those driven by exceptional behavior of liability flows (nonresident investments into the country), shows the latter to be relatively more sensitive to global factors and contagion.

1. Introduction

After collapsing during the 2008 global financial crisis, capital flows to emerging market economies (EMEs) surged in late 2009 and 2010, only to recede rapidly in the second half of 2011. A fresh wave of inflows in 2012 then ended in sharp outflows in mid-2013, leaving EMEs grappling with depreciating currencies in their wake.[1] While historically capital flows to EMEs have often been episodic (Fig. 1), the magnitude and volatility of recent flows have posed particular macroeconomic policy challenges, and raised financial-stability concerns. A first step in dealing with such large flows is to understand their characteristics and determinants, which is the purpose of this paper.

The literature on cross-border capital flows has a long tradition of trying to identify global "push" and domestic "pull" factors that influence flows to recipient countries.[2] Yet, in equilibrium, capital flows must reflect the confluence of supply and demand, so there must be both push (supply-side) and pull (demand-side) factors, and it is hard to attribute the observed flows to one side or the other. It may therefore be more meaningful (and, from a policy perspective, more important) to consider the determinants of inflows that are abnormally large, which may occur when push factors are different than normal, or when pull factors are particularly strong (or some combination of the two). This is the tack taken here, where we define surges as exceptionally large net capital inflows (positive flows on a net basis) to the country—specifically, flows that are in the top 30th percentile of both the country-specific and of the full sample's distribution of net capital flows, expressed in percent of GDP—and examine the correlates of their occurrence and magnitude.[3]

It is common to think of inflow surges as being the result of foreigners pouring money into the country (thereby increasing the country's stock of foreign liabilities), but they could equally result from the asset side—residents selling their assets abroad and repatriating the proceeds, or simply not purchasing as many foreign assets as before. Since we define surges as instances of exceptionally large net capital inflows, they must be associated with some exceptional behavior of liability flows or of asset flows (or of both). We therefore classify our surge observations into those that are predominantly *liability-flow* driven (and likely reflect the investment decisions of nonresidents) and those that are *asset-flow* driven (and reflect the investment decisions of residents), and also examine their determinants.[4] The distinction is worth making because the properties of these two types of

* Corresponding author at: HQ1-09-612, 700 19th Street, NW, Washington DC, 20431, USA. Tel.: +1 202 623 6288; fax: +1 202 589 6288.
E-mail address: aghosh@imf.org (A.R. Ghosh).

[1] For example, in the two months following the US sovereign debt rating downgrade in August 2011, the currencies of Brazil, Korea, India, and Russia depreciated by about 8–12% in nominal terms, which largely offset earlier gains that had cumulated between end-2009 and mid-2011. More recently, after the US Fed announcement in June 2013 of tapering its quantitative easing program, currencies of these EMEs fell by 6–7% relative to the beginning of the year.

[2] See, e.g., Chuhan et al. (1993), Fernandez-Arias (1996), Taylor and Sarno (1997), and Fratzscher (2011).

[3] Reinhart and Reinhart (2008), Cardarelli et al. (2009), and Forbes and Warnock (2012) also examine the characteristics of large capital flows. Our work, as discussed below, differs from theirs in several respects.

[4] Some recent papers (e.g., Milesi-Ferretti and Tille, 2011; Forbes and Warnock, 2012) stress the need to distinguish between gross asset and gross liability flows. This distinction is, however, more relevant for advanced economies where gross flows far exceed net capital flows.

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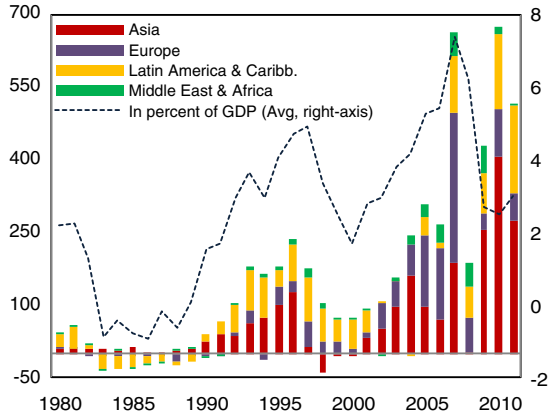

Source: IMF's IFS database.
Note: Net financial flows excludes reserves and other investment liabilities of the general government.

Fig. 1. Net capital flows to EMEs, 1980–2011 (in USD billions).

surges may be quite different—for instance, domestic investors may be more responsive to changes in local conditions because of informational advantages, while foreign investors may be more sensitive to global factors—thereby calling for different policy responses.

To conduct our empirical analysis, we use annual data for 56 EMEs over 1980–2011. Before looking at surges, however, we first establish (through quantile regressions) that large net flows are indeed distinct phenomena that behave differently from more normal flows, thus justifying our focus on surges. We then apply our definition of surges, which yields 326 surge observations (around one-fourth of the panel)—roughly synchronized in the early 1980s (prior to the onset of the Latin American debt crisis); the early 1990s (as these countries emerged from crisis); and the mid-2000s, as capital flows to EMEs recovered from the Asian crisis and the Russian default, and accelerated in the run-up to the global financial crisis. Next, using conventional probit models, we identify the correlates of the occurrence of surges, and also examine the factors associated with the magnitude of the flow during the surge. Finally, we further classify our 326 net inflow surge observations into those associated with the exceptional behavior of liability flows and those with the exceptional behavior of asset flows, and examine the similarities and differences of both types of surges using regression techniques as well as binary recursive tree analysis to flesh out interactions and threshold effects.

The very synchronicity of surge episodes across countries over the decades suggests that global factors might be at play. Indeed, we find that global factors, including US interest rates, and global risk (as captured by the volatility of the S&P 500 index returns)—are key factors associated with large net capital flows to EMEs. At the same time, whether a particular EME experiences a surge also depends on its own attractiveness as an investment destination. Thus, country fundamentals, including external financing need, financial openness and interconnectedness, real economic growth, and institutional quality, are also associated with the likelihood of experiencing an inflow surge. Conditional on the surge occurring, moreover, domestic pull factors, including the country's external financing need, financial openness, and exchange rate regime are strongly related to its magnitude. Broadly speaking, therefore, global push factors act as "gatekeepers," controlling whether capital will surge toward EMEs at all, but domestic pull factors determine where—and in what magnitude—they will end up. This explains why inflow surges tend to be synchronized, but also why not all countries experience a surge when, in aggregate, capital flows toward EMEs.

Our analysis also shows that most (two-thirds) of the surges in EMEs are associated with the exceptional behavior of liability rather than of asset flows. The correlates of the two types of surges turn out to be quite similar: global factors matter for both, with lower US interest rates and greater global risk appetite encouraging both foreigners to invest more in EMEs, and domestic residents to invest less abroad. Yet some differences are discernible. Foreign investors are equally attuned to local conditions as domestic investors, but tend to be more sensitive to changes in global conditions, and are also more subject to regional contagion than residents. These conclusions are reaffirmed by the binary recursive tree analysis, which shows that global factors are relatively more important for liability-flow surges than for asset-flow surges.

These findings—which are robust to different surge definitions, estimation methodologies and specifications, as well as to the potential endogeneity of domestic macroeconomic factors to the inflow surge—hold important policy implications. First, inasmuch as surges reflect exogenous supply-side factors that could reverse abruptly, or are driven by contagion rather than by fundamentals, the case for imposing capital controls on inflow surges that may cause economic or financial disruption is correspondingly stronger. Second, to the extent that advanced economy interest rates are a key determinant of capital flow surges to EMEs, there may be a need for multilateral surveillance to ensure that spillovers are taken into account. And third, if the aggregate volume of capital flows to EMEs is largely determined by supply-side factors, but the allocation of flows across countries depends on local factors (including capital account openness), there may also be a need for coordination among recipient countries to ensure that they do not pursue beggar-thy-neighbor policies in an effort to deflect unwanted surges to each other.

Our findings complement those of previous studies. Earlier work on large capital flows by Reinhart and Reinhart (2008) and Cardarelli et al. (2009) mainly catalogs stylized facts surrounding capital inflow "bonanzas" but does not undertake formal analysis of their determinants. A recent paper by Forbes and Warnock (2012) is the closest to our study, but there are some important differences in focus, methodology, findings, and policy implications. Forbes and Warnock identify surges on the basis of *gross* flows of assets or liabilities, rather than on the basis of *net* flows.[5] Many of their identified surges in EMEs, therefore, do not necessarily correspond to periods of exceptionally large net flows.[6] While gross flows matter for some purposes, it is the net surge that matters for competitiveness, macroeconomic management, and the economy's aggregate foreign currency exposure that are of key concern to EMEs. Forbes and Warnock also pool advanced economies and EMEs in their analysis, yet capital flow dynamics for the two groups may be quite different (e.g., unlike advanced economies, EMEs typically borrow in foreign currency and are much more susceptible to sudden stops). This may account for their result (in contrast to ours) that advanced economy interest rates are not important for determining surges to EMEs, with the corresponding policy implication that advanced economy monetary policy has no spillovers.[7] Finally, Forbes and Warnock only study the occurrence of a surge, whereas we also look at why the magnitude of the flow varies across surges, and find that global factors act as "gatekeepers" but local factors determine where, and in what magnitude, flows end up.

Our contribution to the existing literature is thus three-fold. First, we focus on surges of net capital flows, and establish that they behave differently from more normal levels of net flows. Second, we examine the determinants of both the occurrence of surges, and their magnitude. To this end, we systematically account for the plausible drivers of

[5] Their surges in gross asset flows (residents repatriating foreign assets) and gross liability flows (nonresidents acquiring domestic assets) are not the same as our asset- and liability-flow surges. Our surges represent large *net* capital flows, which are then classified based on whether they are driven by changes in the behavior of asset flows or of liability flows.

[6] For example, 49% of their inflow "surge" observations also correspond to their "capital flight" (residents buying foreign assets) observations, so the net inflow should be small; likewise, 58% of their "retrenchment" observations are also "sudden stop" (nonresidents selling or no longer buying domestic assets) observations, again implying small net inflows.

[7] Higher advanced economy interest rates would have two offsetting effects in their sample: decreasing the surge likelihood to EMEs, while increasing it in advanced economies, leading to a small or no average effect.