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# International capital flows to emerging markets: National and global determinants \*



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#### ABSTRACT

Using a novel dataset for emerging markets, we empirically investigate the nature and determinants of aggregate and disaggregate capital inflows. We present formal statistical evidence of commonalities in capital inflows, with the strongest evidence for the level of equity and bank flows. Advanced economy long-run bond yields and commodity prices are identified as determinants of global capital flows. We also consider the national determinants of capital flows, finding that financial openness and institutions matter for country flows. Finally, we identify important commonalities in the volatility of bank inflows.

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#### 1. Introduction

Historically, capital flows to emerging markets have mainly comprised foreign direct investment. Recently, however, portfolio equity and bank-related flows to emerging markets have increased substantially. Policy makers and academics are increasingly interested in the nature and causes of these flows. For example, are international or domestic factors important for capital flows? An existing strand of the literature highlights global characteristics, see Calvo et al. (1993) and Reinhart and Reinhart (2009). Although different types of portfolio flows, whether this be equity, bond and bank portfolio

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inflows, behave differently, see Contessi et al. (2013). As well as focusing on global and disaggregate behaviour this paper also considers the nature and relevance of country-specific factors. Domestic structural characteristics may also be important for emerging market capital inflows, such as financial openness, human capital or institutions, see Lucas (1990), North (1994) and Alfaro et al. (2008). This study makes use of a novel panel time series dataset and innovations in panel methodology to examine both global and national determinants of gross capital inflows.

According to Rothenberg and Warnock (2011) net capital flow dynamics may be driven by capital inflows or outflows, which in turn may be related to different factors. Hence capital in- and outflows require to be studied separately. Forbes and Warnock (2012) suggest few papers have studied gross capital inflow data, previously focusing upon the more readily available net flow data. Given Reinhart and Reinhart's (2009) ocular evidence on common capital inflow bonanzas, we statistically test for commonalities in our Bondware capital inflow data. The extent of commonalities in global capital flows and their nature is assessed by Bai and Ng (2004)'s Panel Analysis of Nonstationarity in Idiosyncratic and Common components (PANIC) methodology. The PANIC approach deals with potential nonstationarity by first differencing the data, identifying a principal component and then re-cumulating the principal component as a common factor. This avoids the identification of spurious common factors based upon nonstationary data. When used in conjunction with Ng's (2006) test for cross sectional correlation and Bai and Ng's information criteria, PANIC is useful since it allows us to examine the existence and nature of common factors in global capital flows. This is important in the current context for two reasons: if shocks to capital inflows are temporary they are quickly reversed and thus less worrisome from a policy makers' perspective. If shocks are permanent this is more problematic. For example, if there is a permanent increase in volatility of capital inflows following openness this would be highly disadvantageous, making economic growth volatile. Moreover, from a statistical perspective whether shocks are permanent or temporary is important since it shall decide whether our methodology should be robust to nonstationarity when assessing the determinants of commonalities in capital flows.

We examine the drivers of the common component in capital flows, and whether economic developments in the global environment are important for common trends in capital flows. This is related to the work by Levchenko and Mauro (2007), Reinhart and Reinhart (2009) and Forbes and Warnock (2012). Mackowiak (2007), Uribe and Yue (2006) and Neumeyer and Perri (2005) emphasize international factors in driving interest rates and output in emerging markets. Forbes and Warnock (2012) also identify important global variables that drive extreme movements in capital inflows and outflows. However, we go beyond the existing work on capital flows since we focus on identifying the global component which, by construction, is orthogonal to idiosyncratic characteristics, such as country-specifics or the domestic policy in a particular recipient country. These idiosyncratic movements in flows are not truly global capital flows and indeed may mask important global determinants. We think the common component in global capital flows may be influenced by international economic activity and we test this hypothesis in our paper.

In this paper we extend existing work on capital flows in several regards: we first assess the degree of commonality in capital flows, which provides a gauge for the importance of common factors in determining the global supply of capital. We then extract this common factor and relate it to economic fundamentals. As the level of aggregation of capital flow data may impact both on the time series and economic determinants, we provide evidence for both aggregate capital flows as well as disaggregated data based on portfolio equity, bank and bond flows. We next explain the national determinants of aggregate capital flows. This is important as it allows us to consider different conjectures as to how individual countries are impacted by financial openness (Chinn and Ito, 2008), human capital (Lucas, 1990) and institutional characteristics (North, 1994). We also consider standard recipient country explicators like economic growth and interest rates.

To preview our main results, we identify important commonalities in capital inflows, but these commonalities depend upon whether we consider aggregate or disaggregate capital flows. Shocks have long lasting consequences for the common element in capital inflows. For bank flows we find US long-run real interest rates are an important determinant of this common element, in parallel with Bernanke's et al. (2011) suggestion that financial globalization operated through assets of a longer maturity. Also, there is a role for commodity prices and uncertainty in driving equity flows, consistent with the evidence from Reinhart and Reinhart (2009) and Forbes and Warnock (2012). Using panel econometrics

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