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Implications for saving, investment, and  
growth (a comment)**

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## **Capital Flows to Developing Economies: Implications for Saving, Investment, and Growth**

by Barry Bosworth and Susan Collins

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**Carmen M. Reinhart:** Capital flows to developing countries have been the subject of much discussion in recent years, in both academic and policy circles. In the early 1990s much of the discussion focused on the welcome resurgence of capital inflows to emerging markets after a decade during which many of these countries had limited, if any, access to international capital markets. The Mexican peso crisis in late 1994, the Asian crises in 1997–98, the Russian default in 1998, and Brazil's current woes have, however, shifted the tone of the discussion. Fickle portfolio flows and short-term bank loans have come to be widely perceived as a source of instability.

The literature of the 1990s on capital flows to emerging markets falls into four broad categories. The early literature attempted to examine the causes of these inflows. It was widely debated whether inflows were driven by “push” factors, such as interest rates and the stage of the business cycle in the United States, or by “pull” factors, which were largely taken to be privatization, structural reform, and inflation stabilization in the capital-importing countries. The majority of researchers concluded that external factors mattered a great deal.<sup>1</sup> A second, very large body of literature considered the policy challenges posed by a surge in capital inflows. These studies discussed the relative merits of a menu of policy responses to capital inflows, ranging from selective capital controls (a topic to which I will return) to changes in exchange rate policy. A third, rather slim strand of analysis focused on the behavioral characteristics of different types of

1. Dooley, Fernandez-Arias, and Kletzer (1994) find the strongest effect for external factors among researchers who have studied this issue.

capital flows. The questions posed by these studies included the following: Does foreign direct investment (FDI) behave differently from portfolio flows? Are short-term flows more volatile and subject to sudden reversals? The answers to these questions have been mixed. The fourth category, taking the causes of the flows as given, turned its attention toward gauging their effects on the recipient countries. More often than not, these studies examined the link between foreign saving (the source of capital inflows) and domestic saving.<sup>2</sup>

The paper by Bosworth and Collins is a welcome contribution to the capital flows literature in that it merges the issues raised in the last two strands in the literature. On the one hand, the handful of papers that have examined the effects of capital flows on saving or growth in the capital-importing countries make little or no distinction among the various types of flows. On the other, the literature on behavioral differences has largely ignored the effects of capital flows on capital accumulation. If the received wisdom is correct and there are important behavioral differences across types of flows, then their effects on economic activity, such as saving and investment, are also likely to differ. This is the central issue investigated in this paper.

The paper begins with an overview of recent trends in capital flows to emerging markets. Along the way the authors examine capital inflows by type and use; they note that a substantial share of these inflows has been funneled into reserve accumulation, and that an equally large share found its way back out of the country. Neither of these observations should be particularly surprising. As regards outflows, the recent string of currency crises in emerging markets reminds us that international capital is volatile and prone to drastic reversals. Yesterday's inflows often become today's outflows. To illustrate with a recent example, in 1996 Thailand had a surplus in its capital account amounting to over 10 percent of GDP, yet one year later it ran a capital account deficit of 15 percent of GDP. That is a 26 percent swing in the course of a year—probably a record.

Similarly, it is not surprising that over a third of inflows to emerging markets financed the buildup of foreign currency reserves in the central bank, in light of the fact that very few developing countries allow their cur-

2. See Reinhart and Talvi (1998) for a recent review of this literature, as well as for evidence from Asia and Latin America on the relationship between domestic and foreign saving.

rencies to float freely. Indeed, the most common policy response to capital inflows in the earlier part of this decade was sterilized intervention. The authorities intervened in the foreign exchange market to stem the currency appreciation associated with capital inflows and sold bonds in the domestic market to offset the monetary consequences of that intervention.

What is both surprising and interesting in the descriptive statistics presented in this paper is the extent to which different types of inflows show little correlation with one another. Although this kind of correlation analysis may face some limitations, particularly as regards portfolio flows (which are a phenomenon of the 1990s), these low correlations in a sense anticipate one of the paper's later results, namely, that not all capital flows are created equal. Low correlations may well arise if different types of capital flows respond to different factors. Montiel and Reinhart also present evidence in that regard.<sup>3</sup> Among the findings in that paper is that portfolio flows, particularly to Latin America, are extremely sensitive to the level of international interest rates, whereas FDI flows are little affected by such considerations. Hence these two types of inflows need not covary.

In their regression analyses of the impact of capital flows on saving and investment, the authors pool their cross-country and time-series data and, allowing for fixed effects, estimate a variety of reduced-form specifications, while recognizing that the capital inflow measures themselves are likely to be endogenous. After experimenting with various external (U.S.) variables, the authors settle on total gross capital flows to developing countries as the preferred instrument. This choice is not altogether surprising. As several studies have shown, U.S. interest rates have historically influenced capital flows, particularly to Latin America. Private capital flows to Asia, on the other hand, have tended to respond more to Japanese interest rates than to U.S. interest rates.<sup>4</sup> This observation would have simply argued for the inclusion of both interest rates in the vector of instruments. Yet the full "push" story of the 1990s also had to do with an exogenous, "latent" variable from the vantage point of emerging markets, namely, regulatory changes in the United States and Europe that made it easier for emerging markets to place equity and debt instruments in international capital markets.<sup>5</sup> Hence total capital flows to developing countries

3. Montiel and Reinhart (forthcoming).

4. See Montiel and Reinhart (forthcoming).

5. See El-Erian (1992).

may be the "catch-all" that incorporates these unobservable variables, while from the vantage point of an individual country it is still exogenous.

One set of regressions in the paper controls for lagged GDP and the change in the terms of trade, in addition to a measure of total financial flows. A second set disaggregates total flows into FDI, portfolio flows, and bank flows. I will discuss the saving regressions first. My main criticism of these specifications is their failure to control for demographics. Other papers on the determinants of saving have used varied techniques and data samples. Although many of these studies have also employed a broad array of regressors, a common thread has been the inclusion of demographic variables in the standard set of regressions.<sup>6</sup> Bosworth and Collins acknowledge the role of demographics in their discussion, but they dismiss it as a variable on the grounds that dependency rates vary little over time. Their regression analyses, however, span twenty-seven years. Even if demographic changes are gradual, the cumulative changes over such an extended period can be dramatic. Indeed, a paper published by the International Monetary Fund that analyzed saving trends in Southeast Asia traced much of the increase in saving in that region to a marked secular increase in the working-age share of the population (see figure 1 below).<sup>7</sup> This positive demographic profile was not shared by other regions, and the stagnation of saving rates in Africa and Latin America has been linked in part to the persistence of high dependency ratios.

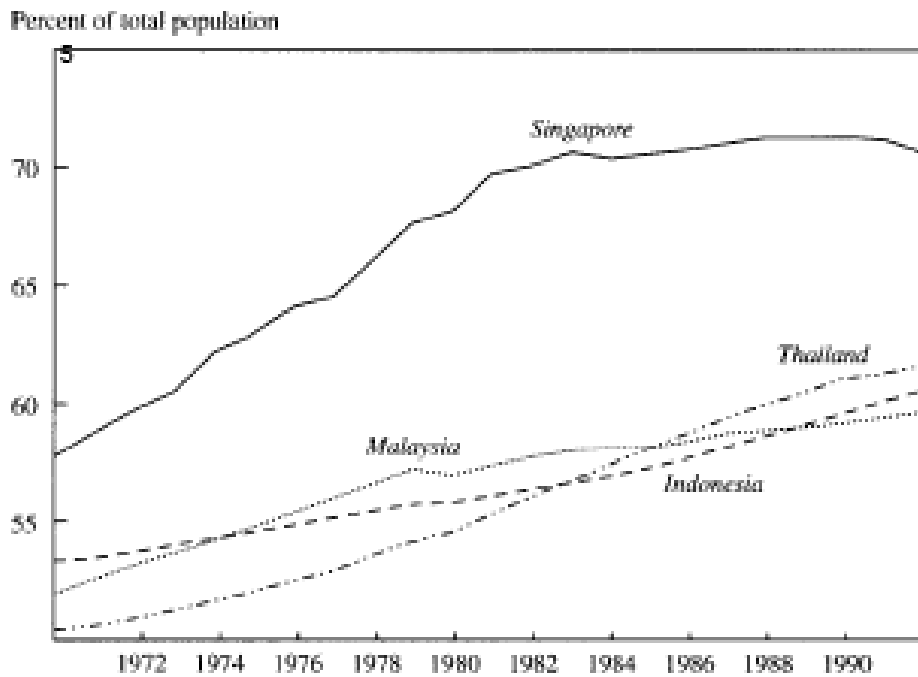
Other omissions from the authors' specification are the usual financial deepening, real interest rates, and fiscal deficits (owing to the Ricardian equivalence proposition) regressors often used in this literature on saving. However, the consequence of omitting these variables is less clear, as the evidence on their significance is rather mixed.

Concerns about a possible misspecification problem in the saving regressions notwithstanding, the results are consistent with the view that foreign saving tends to displace domestic saving. The coefficients on the capital flow variables are uniformly negative (with the exception of FDI), although they are not always significant, and they are between zero and minus one, which suggests that the offset is partial. The results on aggregate flows are in line with the results of several earlier studies, whereas the results for the disaggregated capital flow measures suggest that the

6. See Edwards (1995).

7. Faruquee and Husain (1995).

Figure 1. Working-Age Population in Four Southeast Asian Countries, 1970–92



Source: Farnage and Husain (1995). Reprinted with permission of the International Monetary Fund.

strongest negative link comes from bank loans, at least for the full sample of countries. This is quite interesting and intuitively appealing in light of the household consumption and saving story stressed in Obstfeld (1998) and discussed in this paper. If foreign banks lend to banks in emerging markets, households may find themselves with access to credit that was previously denied them. Indeed, booms in consumer loans have often characterized capital inflow episodes.<sup>8</sup> The result that FDI increases saving is somewhat puzzling and much harder to interpret on theoretical grounds, nor does the paper offer any explanation for it. Perhaps future research should aim at studying a more disaggregated measure of saving that disentangles corporate from household saving.

Turning to the investment regressions, the main result that emerges is that FDI shows the strongest link to aggregate investment, with a coeffi-

8. See Kaminsky and Reinhart (forthcoming).

cient close to one. Bank flows are also positively linked to investment, although the coefficient of this variable is about half of that of FDI; there is little evidence that portfolio flows have any effect on investment. Again, I would place less weight on the role of portfolio flows, given their brief history in developing countries. On the basis of these results, one is inclined to believe that FDI is the “preferred” type of flow for promoting growth. This, of course, assumes that the investment projects being undertaken are productive. As the recent Asian crises have revealed, that is not always the case. I will return to this issue later.

Although their results on investment have a clear intuitive appeal, I would urge the authors to extend their analysis of the links between investment and capital flows and to examine the role of capital flow volatility on investment. Such an exercise can be easily justified on theoretical grounds, as recent models of investment have stressed the role of uncertainty.<sup>9</sup> Uncertainty, in this case as regards the continued availability of finance, may be a powerful deterrent to the undertaking of investment in projects that take time to come to fruition.

As table 1 highlights, reversals in capital flows can be drastic. Furthermore, the evidence from many of the recent crises suggests that FDI has been more resilient than portfolio and other types of flows. Decomposing various types of capital flows into their stochastic trend (permanent) and cyclical and irregular (temporary) components, Sarno and Taylor find evidence that FDI has a higher permanent component than other types of flows.<sup>10</sup> Taking these observations together, some proxy for volatility, such as the change in capital flows from one year to the next, or their variance over a moving narrow window over the sample (say, five to seven years), may be worth investigating for its link to investment.

On the regressions of the current account and the trade balance I have little to say. An accounting identity tells us that capital inflows either finance a current account deficit or add to reserve accumulation, so the negative coefficients on all the capital flow variables are hardly surprising. What is puzzling is that the relationship between FDI and the current account (and, perhaps more surprisingly, the trade balance) is so imprecise so as to render the coefficient statistically insignificant. No obvious explanations for this result come to mind.

9. Dixit and Pindyck (1994).

10. Sarno and Taylor (forthcoming).

**Table 1. Selected Large Reversals in Net Private Capital Flows to Developing Countries**

Percent of GDP

<i>Country and date of episode</i>	<i>Reversal</i>
Argentina, 1982–83	20.0
Argentina, 1993–94	4.0
Mexico, 1981–83	12.0
Mexico, 1993–95	6.0
Venezuela, 1992–94	9.0
Thailand, 1996–98	26.0

Source: International Monetary Fund, *World Economic Outlook*, various issues.

Finally, let me turn to some of the policy implications raised by this analysis. This paper has suggested that the implications of a capital inflow for saving and investment depend importantly on the nature of that inflow. FDI is strongly linked to aggregate investment and appears not to displace domestic saving (although I am puzzled as to why it should *increase* saving). Bank flows have a smaller impact on investment and, at least for the full sample, are negatively related to domestic saving. Portfolio flows seem to matter little for either saving or investment. Evidence from other studies suggests that portfolio and bank flows are more prone than FDI to sudden reversals. Taken together with those findings, the evidence presented here not only suggests, as the authors note, that there may be good reasons for selective liberalization of the capital account. It also suggests an equally plausible rationale for the taxation of short-term and portfolio flows along the lines adopted. If we add to these arguments the fact that high levels of short-term debt exacerbated the recent crises, the case for discouraging short-term capital flows, whether in the form of bank loans or of bonds, is that much more convincing.



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