

FRBSF ECONOMIC LETTER

2000-22 | July 21, 2000

[Subscribe](#) [RSS Feed](#) [Share](#)
[« More Economic Letters](#)

What Explains Capital Flows?

Ramon Moreno

- [Capital flows to developing countries](#)
- [Trend factors](#)
- [Boom and bust cycles](#)
- [Conclusions](#)
- [References](#)

Capital flows between countries can yield significant benefits. They allow investors to diversify their risks and increase returns, and they allow residents of recipient countries to finance rapid rates of investment and economic growth, as well as to increase consumption. However, sudden shifts in capital flows can be devastating for recipient countries. For example, the boom and bust observed in South Korea in the 1990s where the economy grew 5% in 1997, contracted nearly 7% in 1998, and grew nearly 11% in 1999 is partly attributable to the abrupt reversals of capital flows. This experience, shared to varying degrees by a number of other developing countries in the 1990s, illustrates the importance of understanding the factors that explain capital flows to developing countries. This *Economic Letter* reviews some of the stylized facts of capital flows in the 1990s and discusses factors that may account for their behavior.

Capital flows to developing countries

As the [figure](#) illustrates, there has been a strong upward trend in capital flows since the 1970s, despite recent reversals. The dollar value of inflows quadrupled between the early 1980s and early 1990s, peaking at close to \$200 billion in 1996. At the same time, the figure shows that capital flows are distinctly cyclical: A boom in capital flows to developing countries in the 1970s was followed by a sharp reversal in the 1980s. Another much larger boom and reversal occurred in the 1990s.

Finally, the figure reveals dramatic changes in the composition of capital flows. Bank lending and other flows (which largely reflect bank loans) dominated capital flows to developing countries in the 1970s, while foreign direct investment and portfolio investment dominated such flows in the 1990s. However, it is apparent from the figure that even in the 1990s, capital flow reversals largely reflected the sudden interruptions in bank lending associated with the Mexican crisis of 1994-1995 and the East Asian crises

of 1997-1998.

Trend factors

The dramatic increase in international capital flows in the 1990s reflects the opening of two major pathways to international portfolio diversification. First, developing countries have encouraged globalization by liberalizing their domestic financial markets and opening them to foreigners. For example, according to the World Bank (1997), the proportion of emerging stock markets allowing free entry to foreign investors roughly doubled to nearly 60% between 1991 and 1994. Developing countries also have expanded investment opportunities by privatizing government enterprises and encouraging the development of deeper and more liquid financial markets.

Second, advances in information and communications technology have made it much easier to evaluate and monitor investments around the globe. Lack of information about the quality of investment projects has traditionally discouraged cross-border lending by creating greater incentives for borrowers with very risky projects to apply for financing (a phenomenon known as adverse selection). This problem is particularly severe in developing countries, where reporting and accounting practices are generally less transparent. Lending also may be limited because borrowers can shift part of the risk of their projects to lenders, creating an incentive for borrowers to engage in riskier activities once they have received credit (this is known as moral hazard). In addition to attenuating these effects, technological advances also have contributed to the development of financial instruments that more effectively manage risk, and also make it easier to circumvent remaining barriers to foreign investment. Such advances also may have reduced the comparative advantage of banks in obtaining information about the quality of borrowers, contributing to the observed decline in the importance of bank lending in international capital flows.

Even with the sharp increases in capital flows in the 1990s, international portfolio diversification is far from complete. Standard models of capital asset pricing imply that investors seeking to diversify their portfolios should hold equities in different markets roughly in proportion to the share of these markets in total market capitalization. The shares of foreign assets in investment portfolios are still much lower than indicated by this rule, a phenomenon known as “home bias.” For example, according to Tesar and Werner (1998), in 1996, U.S. investors held nearly \$880 billion, or about 10% of their total stock portfolios, abroad. This was up from 4% in 1987, but still well below the 55% share they would have held in foreign stocks if they had had fully diversified portfolios. The home bias in bond markets is even greater: U.S. investors held \$398 billion, or 3.4% of their total bond holdings, in foreign bonds, well below the approximately 60% share of foreign bond markets in global bond market capitalization. Similar home bias in investment occurs in other countries. In addition to home bias, a general reluctance towards geographic diversification is indicated by the fact that capital flows to developing countries are concentrated in a small group of “emerging markets.” Between 1990 and 1997, about 75% of private capital flows went to a dozen countries, of which 60% went to six countries: China, Brazil, Mexico, Thailand, Indonesia, and South Korea.

The reasons for “home bias” or lack of geographic diversification are not fully understood. However, apart from impediments to market access and difficulties in assessing and monitoring investments cited earlier, exchange rate uncertainty is likely to have played an important role. This is suggested by the wave of cross-border mergers and acquisitions observed in Europe since the introduction of its common currency, the euro, which eliminated currency risk in that region.

Boom and bust cycles

While it is generally agreed that financial liberalization and technological innovations have contributed to the strong trend increase in capital flows to developing countries, there is much less agreement on the causes of the “boom and bust” cycles in capital flows. One possibility is that fluctuations in capital flows

reflect external, or “push,” factors, such as movements in U.S. interest rates, which alter the relative attractiveness of investments in developing countries. Domestic “pull” factors also may be important. For example, better macroeconomic policies encouraged capital flows into developing countries in the 1990s, contributing to economic booms. However, the perception that governments in recipient countries would prop up the financial sector in case of adverse outcomes encouraged excessive risk-taking as reflected in declining foreign reserve cover for the short-term liabilities of the financial system and in lending to highly volatile and ultimately unproductive sectors. The resulting financial fragility made these economies vulnerable to sudden changes in investor sentiment and capital flow reversals.

The relative importance of external or domestic factors in driving capital flows has important implications for policy. If capital flows are driven largely by domestic factors, developing countries can attract a steady and predictable flow of foreign capital and minimize cycles by adopting sound macroeconomic and financial policies. However, if capital flows are driven largely by external factors, developing countries are vulnerable to unexpected external shocks even if they maintain prudent policies, and they must take measures to insulate themselves. Research suggests that both external and domestic factors contribute to capital flows, but their relative importance appears to vary over time. Calvo, Leiderman, and Reinhart (1993) found that declines in U.S. interest rates were correlated with increases in proxies for capital inflows (foreign reserve accumulation and real exchange rate appreciation) to Latin America in the early 1990s, suggesting that external factors were the primary determinant of capital inflows to developing countries in that period. Fernandez-Arias (1996) studied a broader sample of developing countries (mainly so-called emerging markets) and estimated that global interest rates accounted for nearly 90% of the increase in portfolio investment flows for the “average” emerging market in 1989-1993. However, domestic factors apparently became more important determinants of capital flows in 1993-1995 (World Bank 1997), as rising U.S. interest rates did not interrupt continued flows to developing countries. Indeed, the negative correlation between capital flows and U.S. interest rates originally identified by Calvo, Leiderman, and Reinhart, turned positive over this period.

Taking a longer perspective, Milesi-Ferretti and Razin (1998) studied sudden reversals in capital inflows in 86 countries from 1971-1992 and found that both external and domestic factors, particularly those affecting the sustainability of external borrowing, play a role in explaining sudden reversals of capital inflows (as measured by an increase in the current account of a recipient country). External factors that increase the likelihood of capital flow reversals include worsening terms of trade (the ratio of export to import prices), high U.S. interest rates, and low official transfers to the developing country. Among the domestic factors likely to be associated with a reversal in capital inflows are larger current account deficits or foreign borrowing, a smaller ratio of exports plus imports to GDP, lower foreign reserves, and a smaller proportion of concessional debt. Additional perspectives on the causes of sudden capital inflow reversals are provided by the literature on currency crises. Moreno and Trehan (2000) found that global and regional shocks explain a large proportion of the global incidence of sharp depreciation episodes over the period 1974-1998. However, a study by Berg and Pattillo (1998) suggests that domestic factors may have played a larger role in the most recent East Asian currency crises that began in 1997. Their study of the ability of existing “early warning” crisis models to predict these crises identifies the following predictors: external competitiveness (as measured by the real exchange rate), the sustainability of external borrowing (as measured by the current account deficit), the liquidity of the external sector (as measured by the ratio of M2/foreign reserves or short-term debt/foreign reserves), and the fragility of the financial sector (as measured by the rate of domestic credit growth).

Conclusions

International capital flows appear to be driven in part by growing international portfolio diversification, which is still at an early stage. This implies a continued underlying trend towards global financial market integration, or equivalently, a reduction in the observed “home bias” in investment portfolios. Capital flows also are influenced by global and domestic factors whose relative importance tends to vary over

time. While capital flows provide significant benefits to investors and recipients, their sensitivity to economic conditions makes recipient countries vulnerable to sudden reversals.

Developing countries thus face the challenge of designing economic policies that secure the most benefits from capital inflows while reducing their vulnerability to sudden reversals. Countries have sought to reduce vulnerability in several ways. Some have adopted more flexible exchange rates, which tend to dampen boom and bust cycles by regulating the volume of capital flows. Others have strengthened their domestic financial systems to improve the intermediation of sudden capital inflows or to cope with sudden capital outflows. In a number of cases, countries have restricted capital inflows or outflows.

Ramon Moreno
Senior Economist

References

- Berg, Andrew, and Catherine Pattillo. 1998. "Are Currency Crises Predictable? A Test." [📄 International Monetary Fund Working Paper WP/98/154](http://www.imf.org/external/pubs/ft/wp/wp98154.pdf). <<http://www.imf.org/external/pubs/ft/wp/wp98154.pdf>> accessed July 2000.
- Calvo, Guillermo, Leonardo Leiderman, and Carmen Reinhart. 1993. "Capital Inflows and Real Exchange Rate Appreciation in Latin America." *IMF Staff Papers* 40(1) pp. 108-151.
- Fernandez-Arias, Eduardo. 1996. "The New Wave of Private Capital Inflows: Push or Pull?" *Journal of Development Economics* 48 (March) pp. 389-418.
- Milesi-Ferretti, Gian Maria, and Assaf Razin. 1998. "Current Account Reversals and Currency Crises: Empirical Regularities." NBER Working Paper 6620.
- Moreno, Ramon, and Bharat Trehan. 2000. "Common Shocks and Currency Crises." Federal Reserve Bank of San Francisco Working Paper 2000-05. <<http://www.sf.frb.org/economic-research/workingp/index.html>>
- Tesar, Linda, and Ingrid M. Werner. 1998. "The Internationalization of Securities Markets since the 1987 Crash." In *Brookings-Wharton Papers on Financial Services, 1998*, eds. R.E. Litan and A.M. Santomero, pp. 281-372. Washington, DC: The Brookings Institution.
- World Bank. 1997. *Private Capital Flows to Developing Countries. The Road to Financial Integration*. Washington, DC: The World Bank and Oxford University Press.

[📧 Subscribe](#) [📡 RSS Feed](#) [📄 Share](#)

[More Economic Letters](#)

Opinions expressed in FRBSF Economic Letter do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco or of the Board of Governors of the Federal Reserve System. This publication is edited by Sam Zuckerman and Anita Todd. Permission to reprint must be obtained in writing.

Please send editorial comments and requests for reprint permission to

[Research Library](#)
Attn: Research publications, MS 1140
Federal Reserve Bank of San Francisco
P.O. Box 7702
San Francisco, CA 94120

