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Sudden stops: Are global and local investors alike? ☆

César Calderón [a,*], Megumi Kubota [a,b]

[a] The World Bank, 1818 H Street NW, Washington, DC 20433, USA
[b] The World Bank, Office of the Chief Economist, Latin America and the Caribbean region (LCRCE), USA

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ABSTRACT

Our main goal is to characterize the determinants of sudden stops caused by domestic vis-à-vis foreign residents. Are the decisions of domestic investors to invest abroad or of foreign investors to cut off funds from the domestic economy governed by the same set of determinants? Given the distribution of different types of sudden stop episodes over time and its different macroeconomic consequences, we argue that their determinants may not be alike. One of the novel aspects of this paper is to characterize sudden stops in capital flows (frequency, consequences and determinants) using quarterly data on gross flows for a wide array of countries from 1975 to 2010. We find that foreign investors are less likely to stop bringing capital when the domestic economy is growing and its performance is leveraged by positive external shocks. Domestic agents, on the other hand, are more willing to invest abroad if there are high external savings (current account surpluses), especially in natural-resource abundant countries. Rising financial openness makes the domestic country more vulnerable to sudden stops caused by either local or global investors. Finally, rising risk aversion in world capital markets tend to reduce the likelihood of outflow-driven stops—which may signal a larger propensity towards capital repatriation by domestic investors.

1. Introduction

The paths of development, growth and crisis among developing countries have been tightly related to patterns of abundance and scarcity in foreign financing. Sudden stops in capital flows tend to trigger or occur around crisis episodes and have been more likely to happen in the 1990s than in the 1980s (see Cavallo and Frankel, 2008) with deleterious effects on economic performance (Becker and Mauro, 2006; Cerra and Saxena, 2008). This phenomenon of sudden stops in capital flows, however, can be driven by the behavior of either global or local investors. When driven by a sharp decline in gross inflows, sudden stop episodes may render the domestic economy vulnerable to the decisions of foreign investors. In contrast, when sudden stops are largely attributed to sharp increases in gross outflows, they are not necessarily consistent with the view that the domestic country is cut off from international financial markets. These episodes may be related to local investors switching to larger positions in foreign securities. If this is the case, the distinction may play a crucial role in assessing the effects of sudden stops on economic performance and their policy implications. Therefore, it is essential for policymakers to identify the relative importance of the shocks underlying sudden stops. If a certain type of sudden stops is mainly attributed to declining gross inflows by foreigners, the policy implications should aim at reducing the vulnerability of the domestic economy to external financial shocks (i.e. country insurance). The policy recommendation would be different if the reversal in net flows is driven by gross outflows of local residents which, in turn, are usually triggered by policy mismanagement or better risk-taking opportunities abroad.

The empirical literature has typically identified sudden stops as episodes where *net* reversals of capital flows take place (Calvo et al., 2004). However, as we argue above, the observed decline in the financial account could be driven by decisions of either foreign investors (where foreign capital ceases to flow into the domestic economy) or domestic investors (where there are sudden increases in investors' international investments). A non-trivial number of sudden stop episodes do not appear to be driven by the interruption of flows to the domestic economy from global investors but arise due to sharp increases in gross capital outflows (Rothenberg and Warnock, 2011; Cowan et al., 2008).[1] If a decline in financial account is explained by rising gross outflows (rather than a decrease in gross inflows), we are unable to characterize the domestic country as being cut off from the international financial markets. In this context, Cowan and De Gregorio (2005) and Faucette et al.

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* Corresponding author at: The World Bank, Office of the Chief Economist, Finance and Private Sector Development (FPDCE), USA. Tel.: +1 202 458 7214; fax: +1 202 522 1604.
E-mail addresses: ccalderon@worldbank.org (C. Calderón), mkubota@worldbank.org (M. Kubota).

[1] Frankel and Schmukler (1996) find that local investors rather than foreign ones are the first to flee the countries in the run up to the 1994–1995 Mexican sudden stop.

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(2005) argue that large increases in the position of Chilean residents in foreign equities, bonds and foreign bank deposits explain the sudden-stop behavior observed in Chile during the period 1998–1999. Chile was not cut off from international markets, but it was affected by a sudden desire of local residents to accumulate and diversify their portfolios in foreign assets.

A world economy with more intense "two-way capital flows" has shifted the focus of analysis from net financial flows to gross financial flows (Lane and Milesi-Ferretti, 2001, 2007). This concept has become increasingly significant in emerging markets due to recent patterns of reserve accumulation along with current account surpluses.[2] Focusing our analysis solely on net capital flows may neglect significant nuances of the data on gross flows, thus leading to misinterpretations of the empirical evidence. Therefore, the data on gross capital flows will enable us to distinguish between episodes in which foreign investors cut the access of emerging markets to international markets vis-à-vis those episodes in which domestic residents pull their funds out of the country.

The numerous phases of euphoria and drought in external financing for developing countries have led to polarizing views on the benefits of capital flows.[3] One strand of the literature argues that capital flows may propel economic growth and development through different channels: (a) a wider access to foreign capital may lift credit constraints and allow firms to undertake more productive and riskier investments (Acemoglu and Zilibotti, 1997), (b) direct investment inflows may not only facilitate the diffusion of technology and managerial know-how but also improve the skill composition of labor (Grossman and Helpman, 1991; Haskell et al., 2007), (c) higher international financial integration may raise the depth and the scope of domestic financial markets by improving efficiency and enhancing access to financial services (Chinn and Ito, 2006; Calderón and Kubota, 2009b), and (d) the free flow of foreign capital may have a "discipline effect" on macroeconomic policy—although the evidence is robust for monetary policy rather than fiscal policy (Tytell and Wei, 2005; Kose et al., 2009b). Others argue that the inherent volatility of these flows bring instability and uncertainty. In particular, business cycles might become amplified, relative prices might get distorted, and crises might be more frequent. All these effects could have an adverse impact on long-run income levels. Rising financial openness appear to elevate the frequency and the severity of currency and banking crisis (Kaminsky and Reinhart, 1999). Finally, the pro-cyclicality of capital flows has a perverse effect on macroeconomic stability. Consumption and government expenditure grow excessively during periods of capital flow bonanza and they tend to adjust drastically when foreign capital stops coming into the domestic economy. This lack of access to world capital markets during bad times may hamper the ability of governments to conduct counter-cyclical fiscal policies (Kaminsky et al., 2005; Reinhart and Reinhart, 2009).

Capital flows pose serious challenges for policymakers. For instance, in bad times, when countries face disruptions in international capital markets (as those experienced in the late 1990s), the scope and effectiveness of monetary policy usually become seriously contested. The key policy question would be how countries ensure the flow of international credit to finance trade. How does the private sector finance their investment? How do they guarantee that ongoing infrastructure projects remain on track? Alternatively, in good times, when foreign capital flows into the domestic economy, policymakers typically ask what type of policies are effective to manage this surge of capital inflows. How can countries limit the real appreciation of the domestic currency to avoid a loss in competitiveness? How can countries tailor the structure of capital flows that they receive to their development needs? Should they strengthen their institutional and financial infrastructure? As a result, the effects of capital flows on policy-making are large both in bad times and in good times.

The main goal of this paper is to re-examine the determinants of sudden stops by distinguishing the different sources of the decline in the financial account of the balance of payments. We evaluate whether the determinants of sudden stops may differ by type—that is, whether the same set of forcing variables have different impact on the drop in the financial account when driven by either a reduction in inflows from foreign investors or a larger outflow by domestic residents. This paper argues that the decision of foreign investors may be different from that of domestic ones due to information asymmetries. For instance, foreign investors may have informational disadvantages relative to domestic investors regarding the investment climate of the domestic economy, differences in regulatory frameworks, intricate tax systems, and differences in the efficiency of the judiciary system, among others. The differences in the decision making process of foreign vis-à-vis domestic investors can also be attributed to the differences in reading and evaluating information—which, in turn, is determined by the costs of processing information on the domestic economy. However, advances in information and communication technology (ICT) may narrow those differences. Finally, foreign investors may be more sensitive than local investors to push factors of capital flows into the domestic economy. For instance, global investors are more prone to invest their capital in the domestic economy if the returns (say, the interest rate in the foreign country) are lower in their economies. If local investors may still invest in the foreign country despite the lower world interest rate, considerations on foreign assets as safe assets (i.e., US T-bills) may prevail. The different time-bunching of sudden stops by source and their dissimilar impact on the macroeconomy may indicate differences in the determinants of sudden stops driven by foreign investors (*inflow-driven*) vis-à-vis those driven by decisions of local investors (*outflow-driven*). If this is the case, preventive policies implemented by governments may differ.

For our empirical analysis we gather *quarterly* information on gross capital flows for 99 countries from 1970 to 2010. One of the novel aspects of this paper is to examine the determinants of inflow- and outflow-driven sudden stops using higher frequency data. We follow the procedure outlined in Guidotti et al. (2004) to define a sudden stop as the reduction in the financial account that is at least one standard deviation below the mean and exceed 5% of GDP. To ascertain whether the sudden stop in net inflows is caused by either local residents or foreign residents, we follow Cowan et al. (2008) in calculating the contribution of gross inflows to the decline in the financial account. These authors distinguish between: (a) inflow-driven sudden stops as drops in the financial account caused by foreign residents who cut off the domestic economy from foreign capital, and (b) outflow-driven sudden stops as the reduction in the financial account due to local residents who take their money abroad.

This paper consists of five sections. Following the introduction in Section 1, Section 2 reviews the literature on the determinants of sudden stops while Section 3 describes the data and presents stylized facts on sudden stops, its sources and consequences. Section 4 presents the empirical evidence with limited dependent variable techniques. These techniques evaluate whether a certain set of indicators can help determine and predict the likelihood of a sudden stop. Section 5 finally concludes.

2. Brief literature review

In a series of seminal papers, Calvo (1998) and Calvo and Reinhart (2000) argue that, unlike developed economies, emerging market economies may frequently lose their access to the international capital markets. These large negative swings in capital inflows, labeled by Calvo as sudden stops, result from unexpected changes in relative prices and

[2] Lane and Milesi-Ferretti (2007) document that emerging market economies have been accumulating large stocks of US treasury bills going into official reserve assets and have been receiving large inflows of FDI and portfolio equity, as well as private bond market inflows.

[3] Kose et al. (2009a) argue that the benefits of financial globalization can be better understood by their indirect effects on important growth drivers. For instance, local capital markets are deeper in financially integrated economies (Klein and Olivei, 2008). Public and corporate governance also improve in countries with higher financial openness (Stulz, 2005).