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Sovereign defaulters: Do international capital markets punish them?☆

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ABSTRACT

We empirically study whether countries that default on their debt experience a reduction in their capital inflows, as suggested by the literature. Our data contain information on (i) the defaulter countries and their creditors and (ii) bilateral foreign direct investment (FDI) flows. With these we can study how FDI flows are affected by sovereign default by distinguishing between those flows coming from defaulters' creditor countries and others. According to our estimations, this distinction is crucial since the decline of FDI in flows after default is markedly concentrated on those flows originating in defaulters' creditor countries. The decay in FDI flows is higher in the years closer to the default date and for countries that have defaulted more times. We do not find evidence that countries shut their doors to defaulters' investment abroad, which is also a cost of default suggested in the literature.

1. Introduction and motivation

From time to time some countries restructure or default on their sovereign foreign debt. The fact that in sovereign markets there are no analogues to the bankruptcy laws and procedures that exist in domestic debt markets raises a number of interesting issues. One is the well known question of why countries ever repay their debts given that their creditors don't have expeditious tools to recoup the defaulted amount and impose a penalty on the defaulter. Since cross-border lending to sovereign entities is actually observed, it seems obvious that default is deterred through some mechanism. Our goal in this paper is to provide empirical evidence on one of the potential costs that defaulter countries might suffer: a decrease in capital inflows. This channel might serve as a punishment to deter future defaults and thus help explain why cross-border sovereign debt markets actually exist.

Several papers in the theoretical literature have identified the reduction in capital flows, whether permanent or temporary, as a possible punishment for default (see Eaton and Fernandez (1995) for a survey of the literature). In some of these papers default is a possible equilibrium outcome while in others the threat of exclusion from capital markets prevents observing voluntary defaults and punishment in equilibrium. The seminal contribution of Eaton and Gersovitz (1981) and their followers (e.g. Arellano (2008)) could be included in the first group. In these models markets are incomplete and countries may prefer to default and be excluded from access to capital markets under some circumstances (e.g. following a negative shock). The second group of articles uses the exclusion from capital markets to derive, in a complete markets setting, constrained efficient contracts where the threat of exclusion from capital markets prevents debtor countries from voluntarily defaulting on their debts. Thus, voluntary default and punishment are not actually observed in equilibrium (e.g. Grossman and Van Huyck (1988) and Aguiar et al. (2009)). However, in these settings it is possible to observe defaults that are associated with justified contingencies (e.g. bad shocks). In the words of Grossman and Van Huyck (1988), these are "excusable defaults" and would not be punished since they are contingencies considered in the contract. Consequently, these models predict that punishment would not actually be observed.

In the real world defaults are observed and it remains an open empirical question to see whether they are followed by a punishment through decreased capital flows to the defaulting country. The goal of this paper is not to examine if these defaults are excusable or voluntary but simply to establish whether or not there is exclusion from capital

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markets as a consequence of default. However, if there were a correctly identified reduction in capital flows as a consequence of a default, it could be interpreted as evidence in favor of non-excusable default.[2]

We study if exclusion from capital markets is a relevant channel considering different characteristics of the debtor–creditor relationship, of the default and of defaulting countries that may affect their access to international capital markets. To conduct the analysis we use data on FDI flows and defaults which are both of a bilateral nature. The data on FDI allows us to identify which country is the source and which country is the host or recipient of FDI flows. Following Rose (2005), Martinez and Sandleris (2008) and Arteta and Hale (2008), we use data on debt restructured at the Paris Club to date default episodes. This source gives information on the countries that restructured their debts and the specific creditors that were involved in the renegotiation process. Combining these two data sources we are able to distinguish if the reduction (if any) of capital inflows to defaulter countries comes from those countries directly affected by the default or from all countries that could be suppliers of foreign capital.

The ability to make this distinction allows us to deal with some identification concerns that could be present in previous papers that have studied the existence of punishment through capital flows. These articles identify the presence of a default with a dummy variable that takes the value of one in periods of default. Since it is likely that these periods are associated with other phenomena, such as the worsening of debtors' economic outlook or an increase in the fear of future expropriation, the effect of the default dummy on capital flows may suffer from omitted variable bias. In contrast to this, in our work, we would observe a reduction from all sources if the causes of this reduction were factors such as an increase in the debtor's political or institutional stability, its appetite for expropriation or a negative shock in the debtor country. On the contrary, a reduction in capital flows coming only from the creditors involved in the renegotiation would be associated with a punishment mechanism.[3]

The other advantage of the data assembled in this paper in comparison to previous work in the literature is that it reduces the problem of reverse causality that might hamper the identification of a punishment through capital inflows to defaulter countries. Since the countries to which the debtor country defaults were "selected" when the debt contracts were signed, the composition of this group of countries is already defined at the moment of default. This feature of the data indicates that our default measure is unlikely to be affected by current FDI flows. Thus, we believe that a valuable contribution of this paper is to use bilateral information on FDI and default to alleviate the problems of identification mentioned above.

The experience of Russia provides an interesting case study for the dynamics of FDI observed after sovereign default and it is illustrative of the motivation of our paper. As is well known, the Russian default of 1997 is one of the largest in recent memory. Germany and Japan were two of the creditors of the Russian government and among the biggest sources of FDI in the first part of the 1990s. After the default Germany's stock of FDI in Russia declined 10% in spite of the fact that the total FDI stock of German ownership in the world increased by 20%. On the other hand, the value of Japan's investment in Russia stood at 18 million dollars in 1999, in sharp contrast to its value of 940 million dollars at the end of 1997. This is in contrast to the case of Korea, which was not a creditor of Russia's and whose FDI investment in Russia increased in the year following the default. The purpose of this paper is to uncover whether this pattern that suggests a punishment for the defaulter is observed in a broader sample.

Indeed the evidence we present in this paper suggests that countries directly involved in the default reduce their capital flows to the defaulting country. On the contrary, there is no evidence that capital flows from those countries to which the debtor does not default diminish in the aftermath of sovereign default. This seems to indicate the existence of a punishment to defaulting countries imposed by their creditors. We also analyze if the amount of debt defaulted is important for the punishment. The premise is that higher defaults would cause more harm to the international financial community and therefore would be more heavily punished. We find some evidence that defaults of larger amounts lead to lower capital inflows.

Next we analyze if capital *outflows* from defaulting countries are reduced after a default event, since a possible punishment is that countries close their doors to a defaulter's investment abroad. This empirical exercise is inspired by the work of Bulow and Rogoff (1989) and Wright (unpublished). Bulow and Rogoff (1989) show that exclusion from capital markets as default punishment is not relevant when defaulters have access to an investment technology abroad, while Wright (unpublished) shows that this punishment is indeed relevant when international creditors collude to punish the defaulter preventing it from investing abroad. Our empirical findings do not support this conjecture since we do not find evidence that defaulter countries' investment abroad is reduced after a default.[4]

If there are costs derived from default it is likely that they last only for a limited number of periods as suggested by anecdotal and empirical evidence discussed below. In this respect we find that the longer the time elapsed since a default, the larger the capital inflows to the defaulting country. We also study whether the history of a country as a defaulter affects the capital flows of the country after a default. Here the premise is that countries with a higher number of defaults would have a worse reputation than countries with fewer defaults. The results we obtain confirm this: countries with a long default track record receive lower capital flows.

Since Paris Club debt includes only official debt we are considering only *sovereign* defaults in our analysis.[5] On the other hand, there are many kinds of cross-border capital flows and we focus our study on one of them, FDI flows, which have become the main source of capital flows to developing countries. FDI flows are mainly transactions among private parties so it might not be immediately apparent why a sovereign default would affect them. There are several channels through which a sovereign default affects FDI Flows. For example, governments can exert pressure on firms to stop doing business with defaulter countries (see Somerville (1990)) or they can stop providing insurance to firms investing in the defaulting country.[6]

The rest of the paper is organized as follows: Section 2 presents a review of the related empirical literature, Section 3 describes the data on FDI flows and defaults that we use in the paper, Section 4 discusses the empirical methodology and some econometric issues that arise. Section 5 presents the results and Section 6 concludes the paper.

2. Related empirical work

In this section we will review previous work that has studied the cost of sovereign default. Eichengreen (1989) and Lindert and Morton (1989) are two representative pieces of the literature that surfaced following the Debt Crisis of the 1980s. Their results show no evidence

[2] Some of the theoretical works where non-excusable defaults are not observed in equilibrium are motivated by empirical works that do not find evidence of punishment after default.

[3] Aguiar et al. (2009) present a model where when a participation constraint binds, capital is lower after a bad shocks than after good ones. This suggests that the reduction in FDI could be assigned to a default when it is really the consequence of a bad shock. Both Aguiar et al. (2009) and Thomas and Worrall (1994) are examples of models where the risk of expropriation affects investment in a country.

[4] In Wright (unpublished) repudiation is not observed in equilibrium and thus the model predicts that punishment allowed by the collusion among foreign creditors would not be observed in equilibrium. However, we think that it is a relevant empirical exercise to see if this punishment is actually observed.

[5] As noted below there are many definitions of defaults and one of them has to be chosen in order to conduct the analysis.

[6] This mechanism has been highlighted in the aftermath of the Argentinean crisis in 2001. See *La Nación*, an Argentinean newspaper on August 17 and 22 of 2007.