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# Sovereign default and the sustainability risk premium effect

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## Abstract

We analyze the joint determination of interest rate risk and debt sustainability for governments with fiscal imbalances. Because higher interest rates imply increased debt services, they worsen the government's financial situation and increase the probability of sovereign default. Thus, higher interest rates eventually lead to a decrease in the real demand for government bonds, which imposes an additional constraint on government debt sustainability.

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## 1. Introduction

Government bond interest rates in less-developed countries (LDCs) are often higher than those in other countries because LDC bond rates typically reflect a premium due to the greater risk of sovereign default. However, this default risk premium is itself a function of the government bond interest rate, especially in countries with fiscal imbalances. Higher interest rates imply higher debt services, which aggravate fiscal imbalances and decrease

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the government's ability to sustain debt. In this paper, we examine this endogeneity and develop a theory of sovereign default risk for financially troubled governments, and the impact of that risk on the real demand for government bonds.

We develop a formal model in which we demonstrate that, in addition to the effect of higher interest rates on the fiscal debt burden, higher interest rates eventually lead to a decrease in the real demand for government bonds, due to the increase in default risk. We describe this effect on real demand as a "sustainability risk premium" effect. One implication of our results is that interest rates may be of limited use in fending off fiscal crises, especially in circumstances where interest rates and government debt levels are already high.

It appears that this endogeneity between interest rates and default risk may have been operative in some recent balance-of-payments crises where governments tried, unsuccessfully, to defend their currencies by increasing interest rates. One reason for this lack of success appears to have been that the new interest rates were so high that the market did not expect that the governments would be able to service their debts. For example, in 1999 a Deutsche Bank Research Report stated, "In Brazil, the existing link between high interest rates and fiscal deficit through the domestic debt pose a limit to the policy of tight monetary policy. High interest rates are reaching a point where they are inefficient to prevent economic agents from running out of the currency."<sup>1</sup> Similarly, The Economist magazine described the Brazilian situation as follows: "The Government clearly hopes that maintaining a tough monetary stance will check the *real's* fall, while acting as a stick to encourage recalcitrants in Congress to approve tough fiscal measures. . . . Nearly all debt pays floating interest rates—adding further to the Government's fiscal troubles and creating what Alan Greenspan has called 'a vicious cycle'. . . . If things go well, falling interest rates will soon ease the debt burden; if they go badly, it could become unmanageable."<sup>2</sup>

There are various constraints on a government's ability to sustain debt. Put somewhat differently, there are certain criteria that must be satisfied in order for any particular level of debt to be sustainable. One of these is the "solvency" criterion, which is satisfied when the government is able to generate sufficiently large future surpluses in order to repay existing debt. Some authors have argued, however, that in the context of international capital markets, the solvency criterion is not appropriate for evaluating the sustainability of a government's fiscal policy.<sup>3</sup> Because lenders have only a limited ability to "punish" sovereign borrowers for default, these authors argue that the binding constraint on debt repayment will often be the government's *willingness* to repay its debt rather than its *ability* to do so. The literature has typically modeled the government's willingness to repay its debt as a function of the government's concern for its reputation.<sup>4</sup> In this context, the government is willing to repay its current debt in order to ensure access to capital markets in the future. Thus, a level of debt is sustainable when the immediate benefits to the government of defaulting do not exceed the costs to the government of being unable to borrow in the future.

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<sup>1</sup> Deutsche Bank Research Report (1/29/99).

<sup>2</sup> The Economist (1/23/99).

<sup>3</sup> See, e.g., Obstfeld and Rogoff (1996).

<sup>4</sup> See, e.g., Eaton and Gersovitz (1981), Grossman and van Huyck (1988) and Chari and Kehoe (1993).

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