Journal of International Money and Finance 31 (2012) 709–725

Contents lists available at SciVerse ScienceDirect

Journal of International Money and Finance

journal homepage: www.elsevier.com/locate/jimf

The effect of IMF lending on the probability of sovereign debt crises

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JEL classification:
F33
F34
C25
C35

Keywords:
IMF programs
Sovereign defaults
Bivariate probit
International financial architecture

A B S T R A C T

This paper explores empirically how the adoption of IMF programs affects sovereign risk over the medium term. We find that IMF programs significantly increase the probability of subsequent sovereign defaults by approximately 1.5–2 percentage points. These results cannot be attributed to endogeneity bias as they are supported by specifications that explain sovereign defaults and program participation simultaneously. Furthermore, IMF programs turn out to be especially detrimental to fiscal solvency when the Fund distributes its resources to countries whose economic fundamentals are already weak. Our evidence is therefore consistent with the hypothesis that debtor moral hazard is most likely to occur in these circumstances. Other explanations that point to the effects of debt dilution and the possibility of IMF triggered debt runs, however, are also possible.

1. Introduction

When the banking panic of the years 2007/2008 endangered the stability of the world-wide financial system governments stepped in by providing a mixture of generous public guarantees and fiscal stimulus. Since then, the resulting large primary deficits and swollen debt burdens of many countries have brought sovereign risk back on the agenda of investors, policy makers and economists alike. Even among developed economies some countries - most notably Greece - experienced a dramatic loss of market confidence and saw the interest rates on their debt skyrocketing. In the search for a solution to the problem of looming debt crises politicians of the European Union (EU) turned toward the International Monetary Fund (IMF or Fund). Albeit its Articles of Agreement do not

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doi:10.1016/j.jimonfin.2012.01.010

provide the IMF with an explicitly stated mandate to fight sovereign debt crises[1] the Fund's Executive Board answered the calls by approving a € 30 billion Stand-By Arrangement for Greece on May 09, 2010 which was supplemented by further EU loans. Spreads on Greece's ten year government bonds relative to Germany's, however, did not return to pre-crisis levels, a mere 0.5 percentage points in the average, measured from the introduction of the Euro in 2001 to the end of 2009. Instead, in August 2010 the spread averaged 8.5 percentage points, not far below its maximum of 10.4 recorded on the last trading day before the announcement of the rescue package.[2]

What has gone wrong? Surely, markets did not fail to realize that the exceptional large lending amount covers Greece's estimated liquidity needs for an extended period. Are there therefore other reasons to expect that IMF program participation is detrimental to fiscal solvency over a longer horizon? Have previous IMF programs exerted a positive or a negative influence on sovereign risk? Only few authors have addressed these important questions explicitly, which is surprising in face of the vast literature on the economic effects of IMF interventions.[3] Consequently, our paper aims to fill this gap by providing a first empirical study that relates program participation to actual default incidences.

Before turning to our empirical analysis it is useful to review the theoretical literature on the relationship between IMF interventions and sovereign risk. This literature identifies four channels through which the IMF's presence alters the probability of subsequent sovereign defaults. These channels focus on the direct effects of liquidity provision, its influence on the governments' adjustment effort and on the role of conditionality and seniority respectively. Our analysis, however, does not provide us with a clear-cut answer to the question whether we should expect default probabilities to rise or to decrease in the aftermath of IMF programs. Rather, the sign of the effect is disputed even at the level of the individual channels. Liquidity provisions for example may as well prevent (Fischer, 1999) as trigger a run on sovereign debt (Zettelmeyer, 2000). Furthermore, even if emergency lending successfully fends off looming liquidity crises, it will also change the incentives of local policy makers regarding their own adjustment effort. The strength of economic fundamentals partly determines whether this results in a more prudent or a laxer macroeconomic policy with corresponding consequences for long run sovereign risk (Corsetti et al., 2006; Morris and Shin, 2006). The IMF therefore typically links the disbursement of money to conditions which are designed to guarantee a sustainable policy path, their impact, however, is often impaired by a lack of compliance. Finally, its role as a de facto senior creditor enables the IMF to lend at lower interest rates which clearly benefits the sovereign debtor and private creditors alike (Saravia, 2010). Large additional amounts of official lending, however, also increase the risk of future solvency crises in the same way private lending does. A default on more junior private debt may therefore become more and not less likely (Boz, 2011).

While the specific characteristics of IMF lending programs affect sovereign risk in several ambiguous ways even less is known on the aggregate effect of program participation on the likelihood of sovereign debt crises. We therefore investigate the IMF-default relationship empirically using univariate and bivariate probit methods. Summarizing our main results, we find that IMF programs significantly increase the risk of subsequent sovereign defaults by approximately 1.5–2 percentage points. This finding can not be attributed to endogeneity bias since the results for a specification that explains sovereign defaults and program participation simultaneously strengthen our conclusions. Neither can the results be explained by a lack of compliance with IMF conditionality. Further empirical exercises show that the magnitude of the effect depends on economic fundamentals in a way consistent with economic theory. However, we do not find a default-risk reducing effect of IMF interventions in any of our specifications. Hence, we conclude that the adoption of an IMF program seems to be no good news at all for private long-term creditors.

The present paper is organized as follows: Section 2 reviews the theoretical and empirical literature on the relationship between IMF programs and sovereign debt crises. Our empirical framework and our data basis are laid out in Section 3. Section 4 presents the results. Section 5 concludes this paper.

[1] An indirect mandate may be deduced from the Fund's mission to help member countries with balance of payment needs since these often coincide with sovereign debt service problems.

[2] Data on spreads refers to Reuters' Ecowin Government Benchmarks.

[3] Bird (2007) and Steinwand and Stone (2008) offer extensive surveys on this topic.