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Effects of Eurobonds: A stochastic sovereign debt sustainability analysis for Portugal, Ireland and Greece

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ABSTRACT

This paper assesses the impact of Eurobonds on sovereign debt dynamics for selected European member states (Greece, Ireland and Portugal). For each member state, we produce sovereign debt fan charts of (i) a baseline scenario (no Eurobonds) and (ii) a Full-Fledged Eurobond introduction. The key building blocks of our methodology are (i) a debt framework (which embeds the traditional recursive debt equation), (ii) a vector autoregressive model to take into account and parametrise macroeconomic uncertainty and (iii) a fiscal reaction function. Conditional on the absence of moral hazard, we find Eurobonds to be a good instrument to absorb macroeconomic shocks and to diminish uncertainty over future debt forecasts; for Ireland and Portugal, we find debt to be 20 percentage points lower than under our baseline scenario, by 2020.

1. Introduction

Since the onset of the European sovereign debt crisis, ample literature has claimed to provide a definite solution to temper the current crisis and prevent a similar one altogether. Hindsight has proven to be an important source of insight. Many reforms have already been implemented (e.g. the European Stability Mechanism (ESM)) whereas other propositions are still on the drawing board. Perhaps the most applauded, but equally controversial proposition, is the issuance of a Stability Bond (often called “Eurobonds” in the academic discourse). Several (albeit often only slightly divergent) Stability Bond proposals have found their way into the policy discussion. Our focus is on a Full-Fledged Eurobond design where (new) sovereign debt is issued under a joint and several guarantee from all other participating member states. This implies that every participating country is up to the full amount responsible for the reimbursement of the claimants, should the original obligor default.

A recent Green Paper authored by the EC (2011) provides a case for the introduction of such a financial instrument. Among the benefits claimed to ensue, two are of importance for this paper. The first argument provides a case for Stability Bonds as a way out of the current sovereign debt crisis through its impact on debt dynamics. Pooling European debt would

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prevent the current adverse debt feedback effect on the risk premium, allowing the sovereign to get its debt back on a sustainable trajectory more easily (paragraph 1.2.1., EC (2011)). Second, a Stability Bond would shelter future sovereign debt from sudden shifts in risk aversion, unwarranted market volatility or animal spirits. Hence, by enabling member states to continually tap capital markets at a stable borrowing rate, a more resilient and less volatile debt trajectory should ensue (paragraph 1.2.1., EC (2011)). The first effect could be seen as a beneficial ''level'' effect, the second a beneficial ''volatility'' effect.

The goal of this paper is to assess to what extent Stability Bonds deliver these claimed benefits. First, how large is the impact of Stability Bonds on sovereign debt dynamics of distressed member states? Second, are they able to reinforce stability in sovereign debt dynamics? We investigate this by means of comparing (i) a baseline sovereign debt scenario with (ii) a Full-Fledged Eurobond sovereign debt scenario. The member states under consideration are Greece, Ireland and Portugal (for economy of notation, hereafter referred to as ''GIP''). Obviously, these countries are, at present, likely to gain the most from a Eurobond issue (the rationale for considering only GIP is elaborated on later). Crucial to the introduction of Eurobonds is that they might engender adverse incentive problems. Potential moral hazard problems will require that Eurobonds are embedded very carefully in an efficient and effective institutional framework that provides enough incentives to tackle moral hazard problems. We relate the theoretical moral hazard problem to the specific context of our Eurobonds analysis, showing that this is indeed an important aspect of the analysis.

The contribution of the paper is twofold. First, it adds to the vociferous discussion concerning the introduction of Eurobonds. As of this writing, the Eurobond literature is mainly conceptual in nature and at best based on ''back-of-the-envelope calculations'' when illustrating the merit of Eurobonds on sovereign debt dynamics. Our aim is a more profound and formal investigation. Second, with respect to sovereign debt analysis, our methodological approach builds on recent recommendations by the ECB (2012) and IMF[1] and diverges from the traditional deterministic approach.

The paper is organised as follows. Section 2 briefly reviews the rationale for Eurobonds in the light of the sovereign debt crisis. The treatment is balanced, but not meant to be exhaustive.[2] Section 3 elaborates the methodological framework. In Section 4 we build a narrative around the empirical results and provide some additional insights. Section 5 concludes and identifies three policy implications.

2. The sovereign debt crisis: a rationale for Eurobonds

Since the onset of the crisis, (i) financial sector bailouts, (ii) rising unemployment, (iii) falling tax receipts and (iv) stimulus spending all contributed to a deterioration of public finances (ECB, 2011; Young and Semmler, 2011). The Euro area government debt-to-GDP rose from a pre-crisis level of 66,4% in 2007 to 92,6% in 2012 (AMECO Database). The elevated debt positions raised concerns on the sustainability of sovereign debt (mainly in peripheral member states). The latter in turn led to increased yield spreads which additionally burdened sovereign debt dynamics.

From an academic perspective however, the assessment of debt sustainability is neither firmly established nor standardised. A distinction is often made between (i) the long term, when assessing debt sustainability and (ii) the short term, when analysing liquidity (ECB, 2012; Giammarioli et al., 2006; IMF, 2006). Informally, the former requires that the present value of expected future primary balances equals (or surpasses) the current sovereign debt position. The latter implies that the sovereign is able to meet all upcoming liabilities in the short run. The two are linked through financial markets, where a sustainable debt outlook (long term) implies investors are willing to provide liquidity (short term). Whenever sustainability concerns arise, a sudden stop in market access can hamper the ability to roll-over debt (liquidity). If the sovereign was de facto solvable, market sentiment can push a sovereign into insolvency (a ''bad equilibrium''). These mechanisms are well documented in the theoretical literature. Kopf (2011) labels it the self-fulfilling nature of the sovereign debt crisis, whereas Giammarioli et al. (2006) call it the creditor coordination problem. The underlying mechanisms largely parallel that of a bank run (Diamond and Dybvig, 1983). It can be argued that the recent solvency problems of several sovereigns were of this nature.

This self-fulfilling mechanism is absent in a Eurobond scenario. Assume a hypothetical sovereign ''A''. A's debt is financed in full through the issuance of Eurobonds. Now suppose investors have doubts regarding the solvency of A (which de facto has a sustainable debt position). However, questionable solvability of A does not incentivise investors to sell Eurobonds issued by A: claimants can always turn to other participating member states (B, C, D, ...) to pursue A's obligations. Hence borrowing rates will not rise as before, which saves A from a bad equilibrium.

The observed solvency issues in the euro area, however, are not unequivocally of a self-fulfilling nature (De Grauwe, 2011). In effect, it can be argued that Greek sovereign debt was already unsustainable long before investors withdrew from Greek national bond markets (Afonso, 2005). In the latter case, the observed risk premium is based on de facto insolvency (the ''Fundamentals-Based Argument'', Giammarioli et al., 2006). Presume a hypothetical, initially solvable, sovereign ''E'' which finances its debt through the issuance of Eurobonds. Suppose E is hit by a shock that causes its debt to no longer be sustainable (e.g. as a result of a domestic banking crisis). Previously, such a situation would lead to a sale of government

[1] Cherif and Hasanov (2012).

[2] For a more detailed account on the various Eurobond proposals, see Claessens et al. (2012), De Grauwe and Moesen (2009), EC (2011) and Hellwig and Philippon (2011).