Summary for non-specialists
Economic Papers No. 466 / 2012
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Sovereign debt sustainability scenarios based on an estimated model for Spain

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Doubts about the sustainability of peripheral European countries' public debt have heightened in the recent year, and have been reflected in significant increases in sovereign yields in these countries. As spreads on sovereign interest rates increased, large financial assistance packages were negotiated for the most severely affected euro area countries and a permanent mechanism, the European Stability Mechanism (ESM), has been agreed upon to provide assistance to euro area Member States in the future. Funding to countries is under strict conditionality and, crucially, only available after a fiscal sustainability assessment shows the country to be solvent. This highlights the need for a framework to assess sustainability of public debt.

The standard sovereign debt sustainability assessment framework used by international organisations, like the European Commission, the ECB and the IMF, is based on an analysis of debt and debt service dynamics derived from projections of a number of indicators over a medium to long-term horizon. This paper shows how an estimated structural model could be used to complement the standard approach to debt sustainability assessments and applies this to the case of Spain. The main advantage of this model-based approach is that it allows taking into account feedback effects of debt ratios, spreads and fiscal measures on growth and tax bases. For example, unsustainable debt developments may give rise to increasing interest rate spreads which could further reduce growth and tax revenue and worsen debt dynamics, while fiscal austerity measures are likely to reduce growth through reducing domestic demand and

thus lower tax revenues in the short run, but can also reduce spreads if the policy is credible and thus can dampen the negative longer-term impact on growth. With estimated shock variances, a risk assessment can also be given on the basis of probabilities of (un)sustainable paths.

As an example, the paper takes an estimated model for Spain. While at first sight Spain's public debt might not appear as pressing a problem as its external indebtedness - Spain's sovereign debt was at 68% of GDP in 2011 still below the Euro area average - sovereign debt sustainability has become a concern for Spain and spreads vis-à-vis German Bunds have risen dramatically. Although our analysis is limited to a direct extrapolation of the 2011 fiscal position and thus abstracts from possible interventions to support financial institutions, we are able to show how a model can be applied to assess alternative scenarios of lower growth projections, an increase in the sovereign risk premium, and frontloaded fiscal consolidations and discuss their impact on long term debt developments.

It is shown how lower growth projections can have significant negative impact on debt projections. This underlines the need for structural reforms to raise the growth potential of the economy. Fiscal consolidation measures that reduce debt and deficits faster towards sustainable targets may have short term costs in terms of lower growth, but can avoid the costs associated with permanently higher risk premia. The speed of fiscal consolidation is a major and rather controversial policy choice in European countries with high public debt and weak structural fiscal position. Model-based analysis as illustrated in this paper can help to choose the least harmful ways of keeping public debt on a sustainable path.