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ARTICLE

Fiscal fatigue and debt sustainability: Empirical evidence from the Eurozone 1980–2013

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Abstract The sharp rise in debt and the long fiscal consolidation process in some Eurozone countries has not always led to a reduction in debt-to-GDP ratios. As a result, some authors suggest that the primary balance may stop adjusting once debt has reached a certain limit. We show that the reaction of the primary balance to rising debt depends on the underlying growth and institutional dynamics. In particular, economic growth can have an exponential effect on the primary balance. Also, we show that rising debt, when accompanied by growth and a favorable political context may lead to an improvement in the primary balance.

PALABRAS CLAVE
Sostenibilidad fiscal;
Fatiga fiscal;
Crecimiento

Fatiga fiscal y sostenibilidad de la deuda: evidencia empírica de la Eurozona de 1980 a 2013

Resumen La subida pronunciada de la deuda y el largo proceso de consolidación fiscal en ciertos países de la Eurozona no siempre ha conducido a una reducción de los ratios deuda-PIB. Como resultado, algunos autores apuntan a que la balanza primaria puede dejar de ajustarse una vez que la deuda haya alcanzado un cierto límite. Queremos reflejar que la reacción de la balanza primaria con respecto al crecimiento de la deuda depende del crecimiento subyacente y de la dinámica institucional. En particular, el crecimiento económico puede tener un efecto exponencial sobre la balanza primaria. De igual modo, queremos reflejar que el crecimiento de la deuda, cuando se ve acompañado de crecimiento y de un contexto político favorable, puede comportar una mejora de la balanza primaria.

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1. Introduction

The sharp rise in debt and long fiscal consolidation process in Eurozone countries has led some authors to consider the existence of fiscal fatigue. This happens when countries that face rising debt stop adjusting their primary balance once debt reaches a high level. This can be the case if long fiscal consolidation processes do not bear fruit.

Generally, the literature (see in particular Ghosh et al., 2013) considers that the relationship between the level of debt and the primary balance goes through three phases. In the first phase, when debt is low, the primary balance does not react to a rise in debt because increases in debt are considered irrelevant at those levels. Secondly, once rising debt reaches a level that, for instance, markets react and price in a higher probability of default, sovereigns will start a fiscal consolidation process aimed at stabilizing the debt-to-GDP ratio. Fiscal fatigue happens in the third phase of fiscal adjustment: when debt reaches a threshold in spite of the adjustment. The sovereign may stop adjusting, thus prompting further increases in the debt-to-GDP ratio.

This concept is related to the fiscal limit in the sense of Leeper (2013). The fiscal limit is reached when governments do not react to increases in debt with further adjustment. This can be either because markets do not deem further adjustment credible or, because the economic situation has deteriorated so much that further budget cuts are not revenue-generating. Ghosh et al. (2013) focus on the former phenomenon, and calculate the level of debt at which markets would stop financing the government, as debt would become unsustainable.

This paper tries to contribute to the literature by shedding light on how macroeconomic and institutional aspects may halt fiscal consolidation efforts. According to the narrative above, once a country reaches a certain level of debt, the government does not, ceteris paribus, react to the rise in debt, regardless of whether it is growing or not or the institutional circumstances at that point. These factors may change the level at which debt triggers a lack of adjustment, but they will not affect the policy reaction once the debt limit is reached.

Our hypothesis is that, in fact, whether a country stops adjusting when debt is at high levels depends on factors that pertain to the country's economic and institutional situation. When faced with large debt, if the government is strong or if the underlying growth momentum is improving, the primary balance is more likely to continue adjusting. These factors will have an impact on their own but also when they are interacted with growing debt.

To test this hypothesis, we introduce a series of interaction terms in the classic fiscal reaction function. In our equation, the level of debt is interacted with institutional and growth variables. For instance, we control for growth using a variety of specifications. If the output gap is positive, fiscal consolidation may be less costly for governments, if only because fiscal multipliers are lower (see Egert, 2014). In such a context, governments may be more willing to adjust than in recessions.

In order to properly capture the reaction to rising debt we consider the nonlinearities in the effect of the output gap on the primary balance. These nonlinearities may affect the fiscal fatigue result: Highly indebted countries tend to grow less (Herndon et al., 2014; Baum et al., 2013; Kempa and Khan, 2015) and have higher output gaps (in absolute value). Regardless of the direction of causality, that relationship alone can alter our results. The negative effect of growth on the primary balance may not be due to the reaction of the primary balance to rising debt, but rather, the effect of growth, which may not be captured correctly by a linear output gap term.

These nonlinearities arise for different reasons: for instance, they may be due to the fact that cutting spending in a downturn can be particularly damaging to the economy. Also, the asymmetry may stem from a government's myopia, which leads to the fiscal balance not being neutral over the cycle.

Finally, the asymmetry could be due to the fact that agents change their behavior at different points in the cycle. For instance, they may increase the proportion of expenditure allocated to basic goods in the downturn. To the extent that these goods are less heavily taxed than regular goods, the result could be a more procyclical fiscal balance. Also, tax compliance has a cyclical component (Sancak et al., 2010): in a downturn, there may be more incentives to evade taxes than in an upturn, when the marginal cost in terms of welfare of paying taxes may be lower.

There is reason to believe that government strength (in terms of political support in Parliament) may affect the primary balance reaction near the debt limit. Governments that are strong enough to carry out a fiscal adjustment may only be willing to do it when they do not have another option, as in general they want to avoid restrictive fiscal policies that may be electorally costly. Therefore, government strength may be particularly relevant when interacted with the level of debt.

Our main result is that growth and institutional factors are important determinants not only by themselves, but also when interacted with rising debt. We do find some evidence that there is fiscal fatigue, in the sense that the higher the level of debt, at the margin, fiscal adjustment will be lower. However, the reaction of the government to higher debt levels is greatly mitigated if the economy is growing and if the government has broad parliamentary support and does not have to worry about elections when the debt limit is reached.

Our sample is a panel of the Eurozone countries. From a policy perspective, the fiscal fatigue results are important for the subset of countries with high debt and that have gone through large fiscal adjustments, i.e. the periphery. In order to check the impact of our results on debt sustainability, we will test the effect of our results on debt forecasts in three peripheral European countries. In these scenarios, we will model the fiscal balance through the fiscal reaction function we estimate in the study. The estimated path of debt will be compared with the forecast from the IMF World Economic Outlook as of end 2014. This comparison will illustrate that the magnitude of the effects estimated is strong enough to alter substantially the expected path of the public debt-to-GDP ratio.

The rest of the paper is organized as follows. Section 2 reviews the relevant literature. Section 3 introduces the data and the model we use, while Section 4 analyzes the