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The impact of government debt on private consumption in OECD countries

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Abstract

This paper establishes a non-linear relationship between private consumption and government debt. In OECD-countries with high government debt, a fiscal expansion is partly crowded out by a fall in private consumption. In contrast, in low debt countries, private consumption is insensitive to changes in government debt. Thus fiscal policy is less effective in stabilising business cycle fluctuations at higher levels of government debt.

Keywords: consumption; government debt; panel data

JEL classification: E21; E62; C23

1. Introduction

Can fiscal stimulus boost domestic demand, as some argue? At first glance, the three major economic blocks of the OECD provide a mixed picture. The Japanese government has run high deficits to stimulate the economy, but private consumption failed to pick up markedly in response. Fiscal policy was exceptionally loose in the US, and according to conventional belief, this fiscal stimulus has helped to pull the US out of recession (cf. Johnson et al., 2004). Lastly, European policymakers have had limited scope for fiscal stimulus due to higher debt levels and constraints posed by the Stability and Growth Pact.

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Leaving aside the legal constraints of the SGP, would more fiscal stimulus have stirred up private spending in EMU?

In this paper we assess the extent to which the level of government debt can explain observed differences in private consumer reactions to fiscal policy. From a theoretical perspective, the evidence is mixed. In modern intertemporal macroeconomics, significant movements in net wealth are associated with movements in consumer spending (Lettau and Ludvigson, 2001). However, from a Ricardian point of view, government debt is irrelevant for private consumption, at least in a closed economy, since government bonds simultaneously represent an asset for the owners of bonds and a liability for tax payers (Barro, 1974). It is well known, though, that Ricardian equivalence only applies under strict assumptions.[2] Whether or not there is a role of government debt in explaining private consumption is essentially a matter of empirical testing.

Recent empirical studies of the relationship between government debt and private consumption have also produced mixed results. Peersman and Pozzi (2004) find that the observed excess sensitivity of private consumption to current income in the US depends positively on government debt. Pozzi et al. (2004) present similar evidence for a panel of OECD countries. Hogan (2004) demonstrates for 18 industrial countries that if public consumption is reduced in response to a fiscal crisis (as defined by a high level of debt), private consumption tends to increase.

To our knowledge, this is the first paper that relates private consumption to disposable income, equity wealth, and housing wealth, and then assesses whether government debt has an additional role to play as a determinant of private consumption. The remainder of this paper is structured as follows. Section 2 discusses the model and the data. Section 3 presents the empirical results. Section 4 concludes.

2. Model and data

Lettau and Ludvigson (2001) show that in a representative agent economy in which all wealth, including human capital, is tradable, consumption, labour income, and household wealth move together over the long term. Basically, this follows from a first order approximation of the consumers' budget constraint.[3] We assess whether the level of government debt can play a role as an additional determinant of private consumption.[4] An identical form of the long run consumption function is assumed for all countries in our sample, where the long run relationship between consumption, labour income, equity wealth, housing wealth and government debt is given by

$$c_{i,t} = \alpha_i + \beta_1 y^{\mathrm{d}}_{t,i} + \beta_2 w^{\mathrm{e}}_{t,i} + \beta_3 w^{\mathrm{h}}_{t,i} + \beta_4 g_{t,i} + \varepsilon_{t,i}, i = 1, 2, \ldots, N, t = 1, 2, \ldots, T, \quad (1)$$

and the subscripts i and t denote the country and time, respectively. c is private consumption, y^d is disposable household income, w^e is equity wealth, w^h is housing wealth, and g refers to government debt.[5] All variables are in logarithms, real terms and per capita. ε is the error term. Following Pesaran et al.'s (1999), in order to reduce bias, we restrict the coefficients on the right hand side of Eq. (1), except

[2] See, for instance, Elmendorf and Mankiw (1999) and Ricciuti (2003).

[3] We refer to Lettau and Ludvigson (2001) for further details.

[4] The impact of equity and housing wealth on consumption has received increased attention in recent years, see Ludwig and Sløk (2002), and the references therein.

[5] The variables are deflated by total population to make them comparable across countries.