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Public debt and private consumption in OECD countries

Periklis Gogas*, Vasilios Plakandaras, Theophilos Papadimitriou

Department of Economics, Democritus University of Thrace, Greece

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ABSTRACT

The recent ceiling of U.S. federal debt and the European sovereign debt crises raised once again the interest upon balanced government budgets. The Ricardian Equivalence proposition appears as an attractive alternative for policy makers, since postponing taxes to be paid once growth is restored seems a very efficient scheme that relieves public discomfort. This paper attempts to investigate the long-run relationship between public debt and private consumption in order to test for the potential validity of the Ricardian equivalence proposition. We use a wide dataset of fifteen OECD countries using annual data for the period 1980–2010. For the empirical estimation we employ both a univariate time series and a panel cointegration approach. Our empirical findings fail to provide empirical evidence in support of the Ricardian equivalence proposition for all countries of the sample, since the assumptions proposed by theory cannot be fulfilled.

1. Introduction

Sustaining a high public debt is a common feature among many developing and industrialized countries. Frail expansionary fiscal contractions experienced by European countries in the 90's led to the European sovereign debt crises and many of them faced the threat of default within the last four years. The resulting rescue plans that financed the troubled economies through inter-country loans (among others) and the decision of E.U. officials to tax all deposits above €100 000 in Cyprus, revived the general interest on viable ways to fund and sustain public debt. Moreover U.S. federal debt soaring with U.S. government asking from U.S. Congress to raise the debt limit in mid-2013 re-stimulated the interest on balanced government budgeting.[1]

There is a vast literature regarding the impact of public deficits on basic macroeconomic variables. The nature of this influence depends on the way government budget deficits are financed; by imposing new taxes or by issuing new debt. The decision of how we finally choose to finance deficits lies on the economic approach that a society chooses to follow. Among a vast variety of theories we focus on three paradigms, the neoclassical, the Keynesian and the Ricardian one.

The neoclassical school of thought examines government deficit through borrowing (i.e. we don't examine an increase in taxes since a stabilized, tax based government budget is indifferent to future evolution of debt) as a direct increase on money demand. An augmented money demand due to increased government expenditure will push interest rates up, crowding out investment and eventually lowering output. These events will ultimately decrease aggregate demand and real national income, diminishing private consumption and savings.

* Corresponding author. Tel.: +30 2531039825.
E-mail addresses: pgkogkas@ierd.duth.gr (P. Gogas), vplakand@ierd.duth.gr (V. Plakandaras), papadimi@ierd.duth.gr (T. Papadimitriou).

[1] See among others IMF (2013).

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Under a different perspective, Keynesians consider government expenditure as an instrument for establishing social welfare. When consumers are sluggish or unable to consume, an appropriate public intervention makes citizens more proponent to consumption (increase on government expenditure without an analogous increase in taxes), boosts aggregate demand, lowers interest rate and thus strengthens the output and growth rates. On the other hand, when consumption is above the desired level, public spending is cut back as surpluses finance previous periods' deficits. Overall, Keynesians consider deficits and surpluses as a zero-sum game employed by the government as a policy instrument to stir the economy towards full employment.

The last framework under examination is the Ricardian Equivalence (RE) proposition. Stated in the 19th century by David Ricardo (1771–1823) on his *Essay on the Funding System* discusses possible viable paths of funding a war via new government debt or the imposition of a temporary tax, concluding that debt is just deferred taxes. Specifically, his propositions claim that consumers internalize government's budget constraints and thus perceive government deficits as future tax liabilities. In other words as stated by James Buchanan (1976), it makes no difference (debt neutrality) on the long run to public consumption and wealth whether government chooses to finance its deficits through borrowing or taxes, since in the first case taxes are just postponed to be paid later. The motivation of this paper was the decision by the E.U. / I.M.F. officials to tax deposits in Cyprus that may be perceived as a direct implementation of the Ricardian proposition through the implementation of a postponed tax, even though it is imposed on savings and not on tax-payers. The potential validity of the RE theorem would provide an attractive policy instrument to government officials. Within a fragile world economy with insignificant or negative growth rates, FED and ECB interest rates near the zero lower bound and tax payers of the northern European countries unwilling to bear expensive bail-out programs for their southern counterparts, postponing taxes for when the economy will recover seems a rather attractive alternative to a large number of potential policy suggestions towards growth (Choi, 2013).

Nevertheless, the Ricardian Equivalence requires a number of key assumptions to hold and these include a) perfect capital markets with no liquidity constraints on consumers, b) all taxes have non-distortionary effect on income, c) full certainty about the path of future taxes, government budget policies and taxes imposed on future generations, d) equal planning horizon for public and private sector and e) agents being dynamic optimizers (e.g. choose their current consumption based on current disposable income). The aforementioned strong assumptions demanded by the RE proposition are rarely fully met. As Martin Feldstein (1982) points-out, RE fails to incorporate economic and population growth, while the argument that the current taxpayer will save the entire future tax liability for his descendants is ambiguous.

Drakos (2001) studies the effect of public deficits in Greece on private consumption from 1970 to 2000 and rejects the validity of the RE, based on the liquidity constraint argument. On a similar path Feldstein (1982) regresses consumption to public debt for the U.S. on annual data, spanning the period 1930–1971, with empirical findings against the potential value of Ricardian suggestions on fiscal policy. Hamilton and Flavin (1986) through various econometric tests on U.S. post war time series conclude that no government is expected to run constantly budget deficits and permanent growing debt, since private lenders feel insecure about recollecting their borrowed capital. This insecurity about future reimbursement can give rise to speculative attacks: increased perceptions about default risk induces investors to demand higher yields for refinancing debt (Corsetti, Dedola, & Viani, 2012) leading an economy into a debt vicious cycle as reported by Baltas (2013) for the Greek financial crisis.

Motivated by the European sovereign crises, the scope of this paper is to provide empirical evidence with respect to the validity of the RE proposition in 15 OECD countries and thus to test for the potential value of such policy propositions. In doing so we examine the response of real private consumption to changes on the level of public debt.

2. Econometric methodology and empirical findings

2.1. The data

We restrain our research framework to a direct implementation of the theory, as we try to examine the potential linkage between public debt and private consumption. The dataset consists of the natural logarithms of real annual observations from 1980 to 2010 on public debt and private consumption for 15 OECD countries compiled from the OECD StatExtracts database.

Following Drakos (2001), the selection of real household consumption is made as a proxy to real private savings, due to data limitations in the full sample.

2.2. Cointegration analysis

2.2.1. Univariate cointegration tests with annual data

The scope of our research is to test the null hypothesis that public debt and private consumption follow an intertemporal and coordinated path under the RE framework, or in other words that public debt growths cause domestic private consumption diminutions. Granger (1986) and Engle and Granger (1987) suggest that long term equilibria between variables can be examined using cointegration techniques. The potential validity of the RE proposition under this direct linkage has