New Methods for Testing the Sustainability of Government Debt[1]

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Abstract

Recently, several countries, which include not only developing, but also developed ones, face the severe sovereign crisis. In this circumstance, we introduce the new method for testing the sustainability of government debt. Previous studies which investigate the sustainability of government debt satisfies or not to test the Transversality condition of government debt. But, these studies are criticized by Bohn (1998, 2008) as "ad-hoc" sustainability, because the situation which satisfies transversality condition (in other words, the intertemporal government budget constraint is bind) is merely chance. Bohn (1998, 2008) suggest the sufficiency condition which satisfies the sustainability of government debt if the debt stabilization rule of government debt and primary surplus is satisfied. But, we do not know whether the government debt is really sustainable, at least in view of "Locally Ricardian" which Woodford suggests. Therefore we connect these discussions to apply the covariate augmented Dickey-Fuller (CADF) test to the government debt, and check whether the government debt is unit root or not using U.S data. Moreover, we apply the estimation method Hamilton and Flavin (1986) with covariates to check whether "Globally Ricardian" is really satisfied. In our results, U.S cannot obtain the sustainability at all time, even if the policy stabilization rule á la Bohn (1998, 2008) is satisfied. We show the sustainability rule is not sufficient condition empirically. On the other hand, "Globally Ricardian" is satisfied, and then the result is consistent with Woodford (1995, 1998).

Key Words: the sustainability of government debt, unit root test with covariate.
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