Dynamic Optimal Taxation Problem with Fiscal Constraints

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Abstract

The empirical tax rate on capital income is between 0.4 and 0.6 while the tax rate on labor income is between 0.2 and 0.4 in OECD countries. This paper presents the optimal taxation problem in an one-sector dynamic general equilibrium model where the government is confronted with fiscal constraints (that is, the ratio of the government expenditure to GDP is exogenously given) while households and firms do not recognize the fiscal constraints. By solving the optimal taxation problem by means of using "Primal approach to Ramsey problem in continuous time", we derive analytically the positive optimal tax rates on capital income and on labor income. Our model not only can verify that the optimal tax rate on capital income is the larger than the optimal tax rate on labor income, it but also can generate the country-specific optimal tax rate on capital income (0.2 to 0.4) and on labor income (0.1 to 0.2) under the valid parameters. Thus the empirical data of tax rate in OECD countries are the higher than the results predicted by our model.

Keyword: *Optimal taxation problem; Primal approach in continuous time; Implementability condition; Fiscal constraints*

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