EC413 Update, Week 6

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Our topic for the next couple of weeks is **fiscal policy**. The relevant lecture notes are entitled "Ricardian Equivalence and Overlapping Generation Models" and "The Diamond Model and The Savers-Spenders Theory of Fiscal Policy". We will assess fiscal policy in **three** distinct models:

- the representative agent and the government have the same time horizon (Ricardian Equivalence; Barro 1979)

- an overlapping generations setting (Diamond 1965)

- Savers-Spenders model (Mankiw)

The different models give us very different results (even within the first of these models as we will see in Problem Set 4 in class this week).

1 Representative agent with same time horizon as government

When the horizon of the representative agent and the government are identical (perhaps because of bequests) and under some assumptions (the government and representative agent can borrow and lend any amount at rate r), we have Ricardian Equivalence. Ricardian Equivalence states that the choice between debt and lump-sum tax finance of a given amount of government spending has no (first-order) effect on private consumption, private saving and r. In other words, given a plan for government spending, the timing of lump-sum taxation is irrelevant.

In problem set 4 we follow Barro 1979 (http://hubcap.clemson.edu/~sauerr/classes/805/barro_79.pdf). In the infinite horizon setting, Barro introduces a quadratic (i.e. second order) dead-weight loss of taxation (arising from tax collection cost and/or allocative inefficiency). It should be clear that in this setting the benevolent government will want to smooth taxation. Your job is to show this formally. Proceed by writing down the Lagrangian for the government's maximisation problem (there are two Lagrange multipliers, one for the IBC of the agent and one for the IBC of the government). The controls are C_{t+s} and T_{t+s}, $\forall\ s \geq 0$. Note, you must not substitute out the PDV of T with the PDV of G using the government's IBC because a given PDV of G leaves open the determination of the time pattern of taxes, which is a control. You then can answer the question whether Ricardian Equivalence still holds, i.e. is the timing of taxation irrelevant?

2 Overlapping Generations

In the lecture note entitled "Ricardian Equivalence and Overlapping Generation Models" we study fiscal policy in an Overlapping Generations (OLG) model (here r is exogenous). Importantly, the time horizon of the representative agent (two periods: young and old) differs from that of the government (infinite horizon). It is perhaps unsurprising then that in this setting Ricardian Equivalence no longer holds, the timing of taxation for given government expenditure matters because the government can shift the tax burden to future generations. In the following lecture entitled "The Diamond Model and The Savers-Spenders Theory of Fiscal Policy", we look at the OLG model in general equilibrium (Diamond 1965). In general equilibrium, government spending induces crowding out of private investment (assuming the government runs a balanced budget each period, the higher is G the lower is the after-tax income of the young, and since only the young save the capital stock is lower [the savings rate is constant under log utility] and r is higher).

3   Savers-Spenders model

See Mankiw (2000).