Fiscal Policy

Ricardian Neutrality of Fiscal Policy by David Ricard with later work by Antonio de Viti de Marco and Robert Barro: Government debt has to be repaid with taxes at some point in the future

Ricardian Proposition

Given government expenditures $\{g_t\}_{t=0}^{\infty}$, it is irrelevant for households whether those expenditures are figured by current taxes on current debt and future taxes: the path of taxes does not matter.

This "neutrality" or "equivalence" holds under very strict assumptions.

Two-Period Endowment Economy

Given times $t \in \mathcal{T} = \{1, 2\}$, interest rate r, and government expenditures $\{g_t\}_{t\in\mathcal{T}}$.

Assume taxes are lump-sum in period 1 or period 2. Then consider $\forall t \in \mathcal{T}, \tau_t = g_t$ using taxes to finance expenditures in every period. Then the government budget constraint is $g_1 + \frac{g_2}{1+r} = \tau_1 + \frac{\tau_2}{1+r}$. Then given optimal consumption choices $\{c_t^*\}_{t\in\mathcal{T}}$ such that $c_1^* + a = y_1 - \tau_1$ and $c_2^* = (1+r)a + y_2 - \tau_2$ we have the budget constraint $c_1 + \frac{c_2}{1+r} = y_1 + \frac{y_2}{1+r} - \left(\tau_1 + \frac{\tau_2}{1+r}\right) = y_1 + \frac{y_2}{1+r} - \left(g_1 + \frac{g_2}{1+r}\right)$.

Similarly, when $g_1 = \hat{b} + \hat{\tau}_1$ and $g_2 + (1+r)\hat{b} = \hat{\tau}_2$ note the government budget constraint is $g_1 + \frac{g_2}{1+r} = \hat{\tau}_1 + \frac{\hat{\tau}_2}{1+r}$ as before. Still, $c_1 + \frac{c_2}{1+r} = y_1 + \frac{y_2}{1+r} - \left(\tau_1 + \frac{\tau_2}{1+r}\right) = y_1 + \frac{y_2}{1+r} - \left(g_1 - \hat{b} + \frac{g_2 + (1+r)\hat{b}}{1+r}\right) = y_1 + \frac{y_2}{1+r} - \left(g_1 + \frac{g_2}{1+r}\right)$.

All we must show is $\forall t \in \mathcal{T}, c_t^* = \hat{c}_t$. Note from the Euler equation $u(c_2) = \beta u((1+r)c_1)$ so for most sane u we can substitute for c_2.

Assumptions

1. We assume the debt is repaid within the lifetime of the individual.
2. Only holds for lump-sum taxes because they are non-distortionary.
3. No Redistribution from Fiscal Policy
4. No Credit Constraints on Households

Social Security