Ricardian Equivalence

Graduate Macroeconomics I
ECON 309 – Cunningham
Assumptions

1. Agents are rational and farsighted.
2. Agents either live forever, or care about their progeny as much as they care about themselves.
   - This implies that agents are linked to the past and the future (by immortality or bequests), and have an infinite time horizon.
3. The belief that current budget deficits imply future taxes is correct.
4. Taxes are lump sum.
5. The availability of the deficit spending does not alter the political process.
6. No distributional effects. Households are homogeneous, so that a representative agent model can be used.
7. No liquidity constraints.
8. Capital markets are perfect.
The Argument (1)

- Question: Does it matter whether government finances current spending through taxes or debt?
- Assume the gov’t decreases lump-sum taxes in the current period and finances the change with debt:

\[ - \Delta T = \Delta B \]
According to Keynesian theory, AD should rise because current disposable income increases.

According to portfolio selection theory, the result is due to an increase in the net wealth of the private sector.

- Households own gov’t bonds, which they view as an asset, hence they feel richer.
- Therefore, households increase consumption. This is a form of fiscal illusion.
The New Classical Economists argue that agents are not fooled. They recognize that:

- In future periods, gov’t will have to pay interest on the additional debt, and
- Gov’t will eventually have to repay the debt (assuming it does not have an infinite maturity).
- For a given level of gov’t expenditures, the gov’t will have to increase future taxes to pay the debt service and repay the debt.
The Argument (4)

- Therefore, households will not view the bonds as an increase in net wealth.
- They will subtract the present value of the future taxes from it.
- For simplicity, let’s consider a bond of infinite duration:

\[ \Delta T_t = r \cdot \Delta B; \ t - 1, \ldots, \infty \]
The Argument (5)

- If the bonds and other assets are perfect substitutes, then the subjective discount factor (for time preference in the PV) is equal to the interest rate, and the present value of the tax burden is:

\[ \Delta T_0 = \sum_{t=1}^{\infty} \frac{\Delta T_t}{(1 + r)^t} = \sum_{t=1}^{\infty} \frac{r \cdot \Delta B}{(1 + r)^t} = \Delta B \]

- It turns out that the present value of the additional taxes is equal to the debt.

- Hence there is no difference between tax and debt finance in terms of the effect on the economy. Gov’t borrowing is not perceived as an increase in private wealth, and consumption demand is not stimulated.
The Argument (6)

- Agents increase saving in anticipation of future tax increases.
- This causes a reduction in private sector spending that is exactly equal to the increase in government spending.
- **Deficit spending is not stimulative. It has no effect whatsoever. Thus fiscal policy is useless at best. Activist policy cannot work!**
The Opposing View

- Tobin and Buiter (1980) argue that the assumptions are unrealistic, and that if the assumptions are relaxed, then the Keynesian view is supported.
- Additionally, suppose that the bonds were sold entirely to the central bank. (The new debt was fully accommodated.)
  - The money supply would be increased to finance the debt.
  - Inflation would ensue. This is referred to as an inflation tax. If wages move with prices, then there would be no real effect.
The Opposing View (2)

More from Tobin and Buiter:

- The inflation tax will fall only on those who hold the new money.
- Any individual can reduce their inflation tax by reducing monetary holdings. Hence it is not a lump-sum tax.
- With an infinite horizon, the increase in money supply would not cause an increase in the price level. How can this be right?
Barro’s Response

- In his later work, Barro makes it clear that he views the “equivalence result” as a benchmark—an extreme case that makes it clear that the effects of deficit spending are not as clear-cut nor as large as Keynesians had suggested.