

2.3.1 First Model of the Macroeconomy: Equilibrium and Inefficiency

References:
Williamson, Ch. 5.

Inefficient Equilibrium: Failure of the 1st Welfare Theorem

Causes of inefficient equilibrium:

1. Externalities
Byproducts of activities that are not factored into prices.
2. Distorting taxation
3. Monopoly (or monopsony) power
Uncompetitive behavior.

An Example: Failure of the 1st Welfare Theorem under proportional Taxation

- Consider an economy in which the government uses a proportional labor-income tax to finance expenditures G :
 - G is given
 - Government is assumed to choose $0 < t < 1$ so that
$$t^*w^*NS = G$$
- NOTE! Eq'm value of t depends on behavior of consumer and firm!! (unlike T in lump-sum model)
- We will see (by example) how this induces inefficiency in equilibrium!

The Laffer Curve: Can tax receipts be increased by reducing the tax rate?

Extending the last example:

- Without giving specific utility fn, suppose that the labor supply function of the household in the last example is

$$NS(atw) = h \cdot atw / (1 + atw)$$

where $atw = \text{after-tax real wage} = (1-t) \cdot w$.

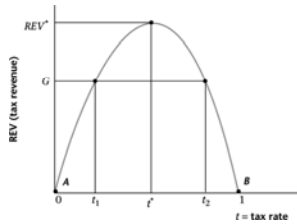
- Then gov't tax revenue (as fn of t) is

$$REV(t) = t \cdot w \cdot NS((1-t) \cdot w)$$

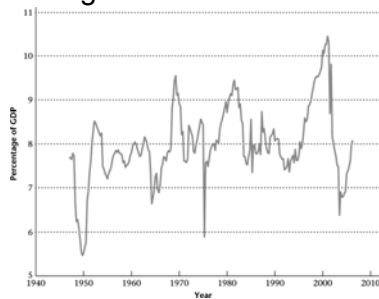
$$= t \cdot z \cdot NS((1-t) \cdot z)$$

$$= t \cdot z \cdot h \cdot (1-t) \cdot z / (1 + (1-t) \cdot z)$$

A Laffer Curve



Federal Personal Taxes as a Percentage of GDP



Laffer Curve

Conclusions (with a bit of opinion mixed in):

- No convincing evidence that the economy is operating on the “wrong side of the Laffer curve”.
- Supply side tax reforms will not raise tax receipts.
- If you want to support tax reform, find another reason!
