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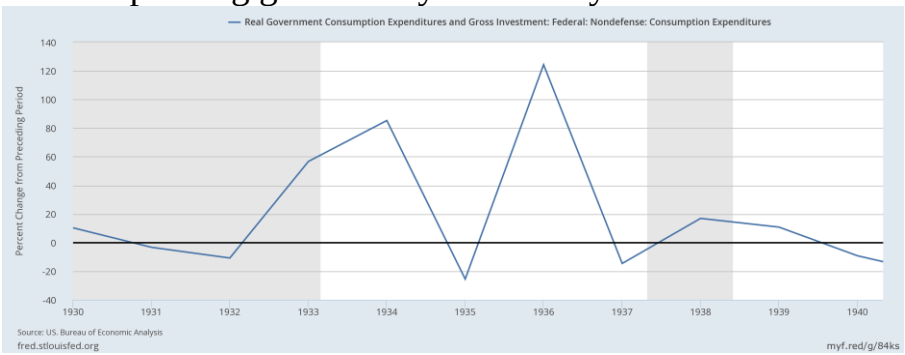
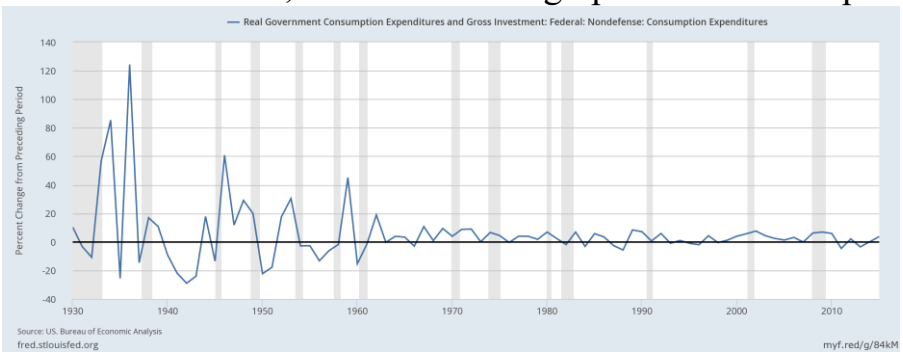
LECTURE 22: THE GREAT DEPRESSION AND THE MULTIPLIER

I. The New Deals
   a. Popular history credits the end of the Depression with President Roosevelt's (FDR) New Deal. It included, but wasn't limited to, the creation of Social Security; the establishment of the minimum wage; expanded regulations on agriculture, industry, and finance; and massive increases in government spending.
      i. How big where those increases? Here's a snapshot of the GD era, marking the growth of nondefense government spending from the previous year. FDR took office in 1933. Nondefense spending grew nearly 60% that year.



      ii. For context, here's the same graph from 1930 to present:



   b. The New Deal(s) did not end the Depression.
      i. Many of President Hoover's high wage/high price policies[1] (remember, they were fighting deflation!) were repeated in the

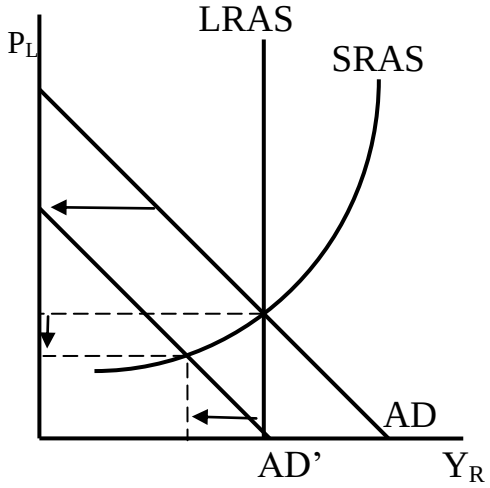
[1] Hoover doubled real government spending during his four years in office. Some of this money was spent to keep food prices high (farmers were paid to not grow crops). He virtually halted all immigration and encouraged businesses to *not* cut salaries. The Davis-Bacon Act (1931), for example, required all government-funded projects to pay the union wage. The Norris-LaGuardia Act (1932) made union-free contracts unenforceable, among other pro-union provisions.

First New Deal[2] until they were struck down by the Supreme Court in 1935.

ii. However, the Second New Deal, using wording the Court would find approving, repeated a lot of the same policies.[3]

II. AD-AS and the Great Depression[4]

a. First, imagine a reduction in the money supply.



i. This creates a recessionary gap. A *recessionary gap* occurs when AD and SRAS intersect at a real GDP below LRAS. It suggests the economy has excess capacity and the current employment level is below full employment. As the name suggests, it represents a recession. Because of how we got this gap (shift AD), there's deflation.

ii. Not to be confused with an inflationary gap. An *inflationary gap* occurs when AD and SRAS intersect at a real GDP above LRAS. It suggests the economy is running "too hot" and that the current employment level is above full employment. This scarcity of workers puts upward pressure on wages across the board, encouraging—as the name suggests—inflation.

b. We could close the recessionary gap by shifting AD back to the right (perhaps by increasing the money supply or reducing taxes). But that didn't happen.

c. Instead industries were informally cartelized under Hoover and formally cartelized under FDR. FDR's spending increases, though large, had a dual effect. Some of that spending went to things we think

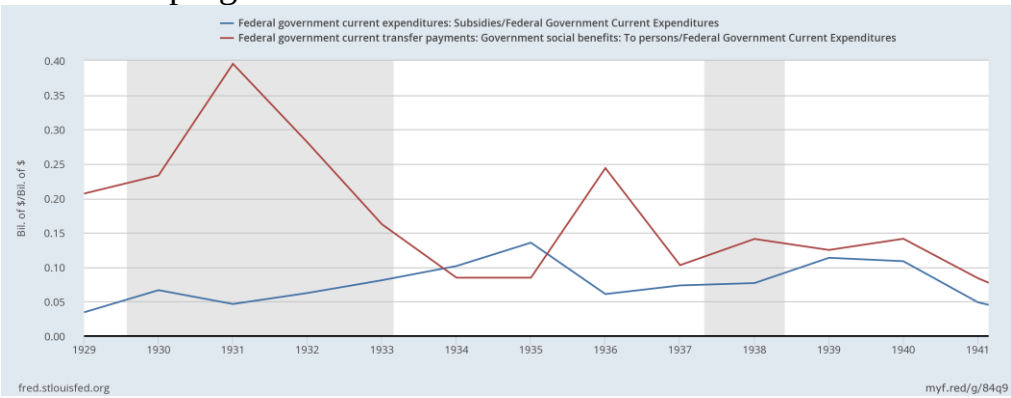
[2] Largely captured by the Agricultural Adjustment Act (AAA) and the National Recovery Administration (NRA) which cartelized industries and reduced competition.

[3] For example, the National Labor Relations Act (1935) allowed union workers to force all other workers for that industry to join the union, effectively creating a monopoly of workers.

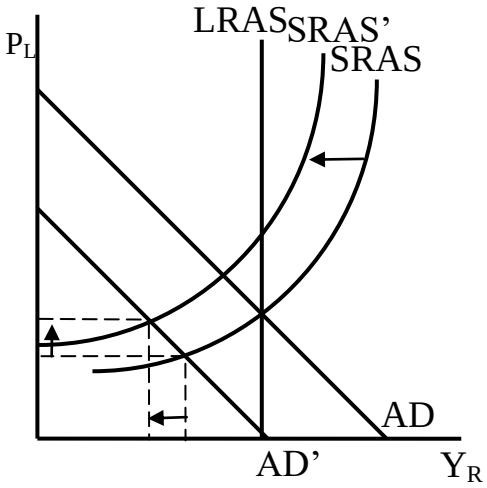
[4] Economist Arnold Kling has a nice overview here: https://www.youtube.com/watch?v=4zybZ8cvAIw

of like social programs but other spending were subsidies often used to increase prices (such as paying farmers to not grow crops).

i. In 1934 and 1935 (year the first New Deal was struck down), the federal government spent more on subsidies than on social programs!



ii. While this had the desired effect of pushing up prices, it did so in a very counterproductive way: making it harder to produce things. This shifted SRAS to the left.



iii. Now it's really bad. FDR's policies turned a recession into The Depression. This analysis does a lot to explain why the GD last as long as it did.

III. Marginal Propensities

a. In order to understand what FDR should have done (and, to his credit, he did some of this), we must first understand some basic macroeconomic relationships.

b. One of the strongest relationships in macroeconomics is the relationship between disposable income (DI) and consumption (C). The more you make, the more you spend.

i. *Disposable income* is income after taxes.

c. *Savings* (S), or anything that's not spending, is also positively correlated with disposable income. It becomes investment.
    i. Or, S = DI – C
d. *Marginal propensity to consume* (MPC) describes what portion of an additional amount of income goes to consumption. It ranges from zero to one (but sometimes more).

$$marginal\ propensity\ to\ consume = \frac{\Delta C}{\Delta DI}$$

    i. Typically people with a low income have a high MPC. MPC decreases as income rises. The same is true for whole economies. But for simplicity, we will be assuming MPC is constant.
e. *Marginal propensity to save* (MPS) describes what portion of an additional amount of income goes to saving. Ranging from zero to one.

$$marginal\ propensity\ to\ save = \frac{\Delta S}{\Delta DI}$$

    i. Since you can either save or spend your income,

$$MPS + MPC = 1$$

IV. The Keynesian (or Fiscal) Multiplier
a. Suppose I give you $1. What could you do with it?
    i. Some of it you will save, some of it you will spend.
    ii. The portion you spend will be added to someone else's income.
    iii. This additional income will be partly spent as well, adding to someone else's income.
    iv. And so on…
b. All these individual transactions, added together, increase GDP and it increases it by <u>more</u> than the initial $1 I gave you. We call this the Keynesian Multiplier, after John Maynard Keynes (rhymes with brains), the father of macroeconomics.

$$Keynesian\ Multiplier = \frac{change\ in\ real\ GDP}{initial\ change\ in\ spending}$$

    i. How much more depends on the MPC.
    ii. If MPC = 0.9, GDP increases by $1+$0.90+$0.81+$0.73+…
    iii. If MPC = 0.8, GDP increases by $1+$0.80+$0.64+$0.51+…
    iv. This infinite series converges such that to total multiplier equals

$$Keynesian\ Multiplier = \frac{1}{1 - MPC} = \frac{1}{MPS}$$

    v. So a 0.9 MPC is a multiplier of 10; at 0.8, the multiplier is 5.

c. Economists estimate the actual multiplier is much lower that what we predict here. This equation gives us an upper bound. The actual value (somewhere between zero and 2.5) is lower because…
    i. New income is dissipated in the form of taxes and imports.
    ii. Inflation from extra spending reduces the real GDP gains.
    iii. Savings becomes investment, which is also spent but on different things. This process takes longer than spending, but it does decay the spending gains thanks to opportunity cost.
    iv. The equation derives from an infinite series, but it can take a long time for money to change hands that often! In practice, it might only change hands a few times before the year runs out. On the other hand such spending *will* increase real GDP; it's just a matter of time.