

LECTURE 23: THE GREAT DEPRESSION & THE MULTIPLIER

- I. LRAS Shifts Left
 - a. Remember, prices eventually would fall by one-third. That's huge, especially for banks who rely on people being able to pay back their loans. With so many defaults, 40 percent of U.S. banks failed by 1933. Bank runs, and subsequent failures, were common throughout the world.
 - b. The financial system broke down, and this had a real impact, one that's not simply about changing prices. Remember, banks connect savers with borrowers—they perform a valuable function by reducing transaction costs. When so many banks failed, the fundamentals of the economy changed, and LRAS shifted left. This was no ordinary recession. This was a depression.
 - c. The Great Depression illustrates the importance of maintaining the financial sector during economic downturns. It's why during the Great Recession, Bernanke (who was Fed chair at the time) bailed out banks. If the Fed had done something similar in the early 1930s, the Great Depression might well have been avoided altogether.
- II. SRAS Shifts Left
 - a. The key problem of the Great Depression was the gold standard and the tight money policy that it came with. It's hard to increase the money supply when you're limited by how much gold you have.
 - i. Bernanke and James (1990) showed that the faster a country left the gold standard, the faster it recovered. For example, Spain, which never got back on the gold standard after leaving it during World War I, largely avoided the Depression.
 - b. The U.S. left the gold standard in June of 1933.¹ Not long after, the Great Depression began a recovery, but the New Deal %\$&# it up.
 - c. The New Deal had both good and bad parts to it. We'll touch on the good parts (employing unemployed people, for example) when we do fiscal policy. But the bad parts help explain the length of the Great Depression.

¹ This might be confusing for anyone who thinks the U.S. left the gold standard in 1971. Both dates are correct. In 1933, FDR functionally ended the gold standard for the general public because citizens would no longer be allowed to exchange dollars for gold. The 1971 law signed by Nixon extended that prohibition to foreign governments and central banks.

- d. At the core of the bad parts were forcing wages higher. Higher wages seem like a good idea in general, but higher wages increase the cost of employment. Over the course of just two months in 1933, nominal wages rose by 22 percent.
- e. This shifted SRAS left and is a *terrible idea* during a depression. Higher wages were accomplished through a few ways:
 - i. The federal minimum wage was established.
 - ii. Unions were strengthened, giving workers more bargaining power.²
 - iii. Shorter work hours, induced by the National Recovery Act, increased the effective hourly wage.

III. The End

- a. Exactly when the Depression ended is a matter of debate but most economists put it around the start of World War II.
- b. While war isn't inherently good for economic growth, the government spending and the greater economic stability that resulted from the War allowed us to leave the volatile times of the 1930s.
- c. There was a massive increase in government spending, an increase in regime stability because wars create clear goals, and a repelling of many the anti-production policies.
- d. All of this helped with the recovery to such a degree that after World War II ended, people feared the economy would return to the Depression. Spoiler alert: it didn't.

IV. 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).

² 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.

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

- 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.

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

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

$$MPS + MPC = 1$$

V. 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 more than the initial \$1 I gave you. We call this the Keynesian Multiplier, after John Maynard Keynes (rhymes with brains), the father of macroeconomics.

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

- 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 total multiplier equals

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

- 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 than 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.