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LECTURE 32: FISCAL POLICY I

I. On Income
   a. 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.
   b. *Savings* (S), or anything that's not spending, is also positively correlated with disposable income. It becomes investment.
      i. Or, S = DI – C
   c. *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.
   d. *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,

$$MPS + MPC = 1$$

II. 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.

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

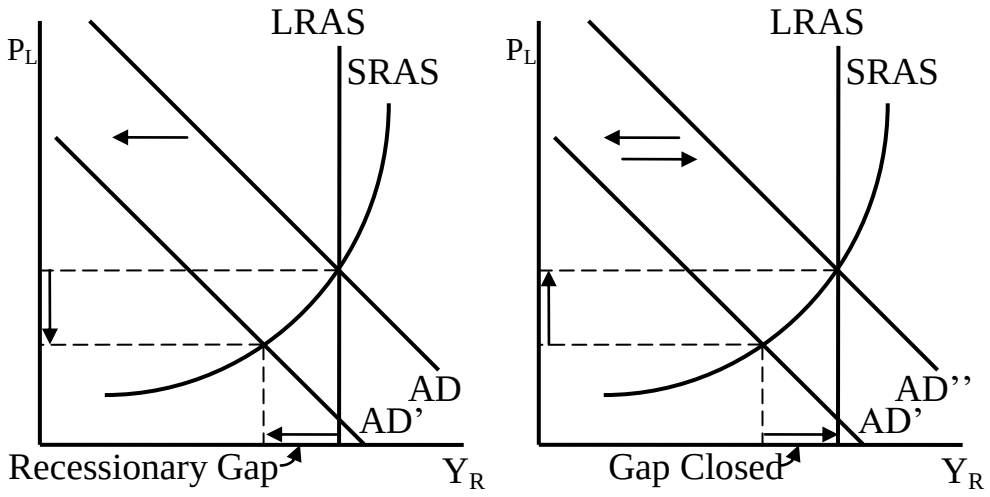
i. How much more depends on the MPC.
ii. If MPC = 0.9, GDP increases by \$1+\$0.90+\$0.81+\$0.73+…
iii. If MPC = 0.8, GDP increases by \$1+\$0.80+\$0.64+\$0.51+…
iv. This infinite series converges such that to total multiplier equals

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

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.

III. Fiscal Policy
   a. The Keynesian multiplier plays a big role in fiscal policy. Fiscal policy is when the government shifts AD using the budget.
      i. For this to work, lower taxes cannot be offset by reducing spending, nor can increased spending be offset by increasing taxes.
      ii. Thus, this is referred as *deficit spending*. The government responds to a leftward shift in AD (creating a "recessionary gap") by shifting AD back to the right.
      iii. The nice thing about this strategy is the Keynesian, or fiscal, multiplier. The government doesn't have to spend X, where X is the size of the recessionary gap. They have to just spend the much smaller Z, where Z equals X divided by the multiplier.
         1. The bigger the multiplier, the more effective fiscal policy. **The fiscal multiplier helps determine how far AD shifts; a larger multiplier means a larger shift.**



iv. Any spending the government does would be paid for later, when there's a recovery. Indeed, you'll need *surpluses* to combat any inflationary gaps.

IV. Automatic/Built-In Stabilizers

a. A *built-in stabilizer* is anything which increases deficit spending (either by cutting taxes or increasing spending) anytime when there's a recession and decreases the deficit when there's an expansion. It requires no explicit action from policy makers.

b. *Progressive Taxes*. A progressive tax means the higher your income, the larger percent of taxes you pay. When a recession hits, people's income falls and thus they pay a smaller percent in taxes. But they also pay a smaller portion to taxes, mitigating the drop of disposal income.

   i. This rate can even be negative. The earned income tax credit (EITC) means the government pays low income working individuals (especially ones with kids) rather than such individuals paying the government.

   ii. Economists generally agree that the EITC is a good system. Because one must be working to get it, there's a small disincentive effect of working. And because it's a cash payout, recipients can allocate based on their unique circumstances.

c. *Specific Entitlements*. Some entitlements—or a government benefit with guaranteed access—kick in more often when a recession hits. For example, welfare, food stamps, and unemployment insurance payouts skyrocket during recessions. Since these payments have a large MPC, many economists favor them since the resulting shift in AD would be quite large.