

## LECTURE 37: MONETARY POLICY II

- I. Types of interest rates and the multiplier
  - a. The Fed operates by altering the interest rate through the money supply. But there are multiple interest rates: rates banks borrow from the Fed, rates banks borrow from each other, rates banks grant savers, rates bank charge lenders, and so on.
  - b. The *federal funds rate (FFR)*—the interest rate which banks lend from one another on overnight loans of reserves—is the key interest rate for monetary policy. It’s the interest rate which seeps into all sectors of economy and thus directly relates to economic growth.
    - i. This is a short-term interest rate—banks get interest payments the next day.
    - ii. The FFR is also a market rate, determined by supply and demand. The Fed does not “set” this interest rate, but it does influence it.
  - c. In addition to the federal funds rate, we should be made aware of the *discount rate*—the rate at which banks borrow from the Federal Reserve.
    - i. This is a short-term interest rate—banks pay interest payments the next day.
    - ii. This rate effectively caps FFR because if a bank needed to borrow money for an overnight loan (perhaps to make sure it had enough deposits), it could always borrow from the Fed.
- II. What Actually Happens
  - a. In sum, changes to the IOR and the discount rate change the FFR. Changing this short-term rate then changes long-term rates, including mortgage rates, student loan rates, business loan rates, etc. Changes in these rates change behavior, shifting AD.
  - b. Here’s how expansionary monetary policy works:
    - i. The Fed lowers IOR;
    - ii. Thus, the federal funds rate decreases because banks would rather loan money to other banks;
    - iii. With FFR so low, banks are more willing to lend out to others, causing longer-term rates to fall and the money supply to increase,

1. Our monetary multiplier plays a big role here. A single increase in the money supply by the Fed results in *a lot* of money supply creation. Remember: banks create money when they make loans.
- iv. Thus, more people borrow money (AD shifts right),
- v. Thus, GDP increases and consumption and investment rise.



- c. Like in fiscal policy, the greater the multiplier (this time the monetary multiplier), the greater the shift in AD.
  - d. Note the Fed does *not* set interest rates. Interest rates are ultimately set by the market. The Fed merely influences interest rates.
  - e. The opposite occurs with contractionary monetary policy to fight inflation. The Fed increases IOR and the interest rate rises.
- III. Challenges
- a. Can't handle real shocks: just fiscal policy, because monetary policy shifts AD, it can't respond to recessions caused by real shocks.
  - b. Lags: the delay between problem and solution still exist here, but they are less severe.
    - i. Recognition lag—it takes time to identify the problem.
    - ii. Effectiveness lag—it takes time for investors to apply the new interest rates to investment and for that effect to be felt in real GDP.
  - c. Demand for Cash: the actual monetary multiplier is lower than the theory
    - i. The equation for the monetary multiplier assumes everyone puts 100% of their money in the bank.
    - ii. In fact many people, when they take a loan, get at least some of it in cash. Thus that portion never enters the banking system and is thus not multiplied.
    - iii. This highlights the point made earlier: the Fed doesn't set interest rates and does not have direct control over the resulting price. It merely influences that price and is thus subject to other factors.

- d. Liquidity Trap: when monetary policy doesn't work anymore.
  - i. The Fed's expansionary monetary policy is based on lowering interest rates. But interest rates have a floor; you can't have a negative interest rate.
  - ii. When there's a recession and interest rates are already low, economists refer to this as a *liquidity trap*—when adding more liquidity has little-to-no positive effect on lending.
  - iii. The Fed can make more reserves available, but it can't make banks lend the money. Banks might simply want liquidity in their coffers to assuage potential problems in the future.