David Youngberg
ECON 201—Montgomery College

LECTURE 35: MONETARY POLICY II

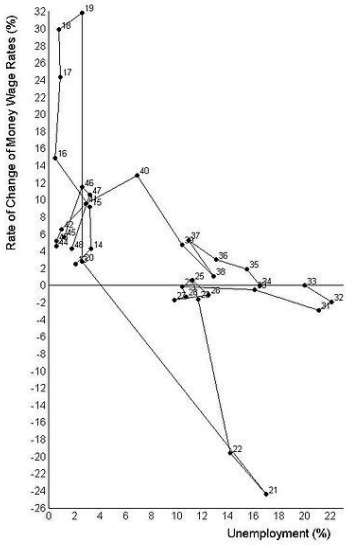
I. Tools of the Fed
   a. The Fed has a few tools in how it influences the economy. Each tool changes the federal funds rate.
   b. Open-Market Operations
      i. The Fed's most commonly used tool is directly changing the money supply through "open-market operations."
      ii. The Federal Reserve has the right to sell government bonds (to fund the government's debt) and has the right to print money.
      iii. If it sells government bonds, it collects dollars in return, lowering the money supply.
      iv. If it buys government bonds, it gives up dollars in return, increasing the money supply.
      v. Since the Federal funds rate is the price of borrowing money, more dollars means the interest rate falls. A smaller money supply means it rises.
      vi. As a general rule, the Fed keeps the discount rate (which they set) close to the Federal funds rate.
   c. Reserve Ratio (Reserve Requirement)
      i. Banks create money. When they loan out excess reserves (and charge interest), they are creating money.
      ii. By changing the reserve ratio/requirement, the Fed alters how much money a bank can create because it changes how much money the bank must hold in its coffers. By raising the reserve ratio, it decreases the money supply and the monetary multiplier.
      iii. This puts upward pressure on interest rates.
   d. The Discount Rate
      i. By changing the discount rate, the Fed changes how easy it is to borrow additional money from the Fed. Lowering the discount rate increases banks' reserves.
      ii. This is particularly effective because these loans are not subject to the reserve requirement. If a bank borrows $100 million, it can lend out all $100 million.

II. What Actually Happens
    a. If the Fed uses any of these tools to expand the money supply, it's expansionary monetary policy. Here's how it works:
        i. Banks will have more money. This results in a lower federal funds rate.
        ii. With a lower rate, banks are more eager to lend much more money out to others. 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.
        iii. With so much money available to lend, interest rates fall resulting in consumption and investment rising. AD shifts right.
    b. Like in fiscal policy, the greater the multiplier (this time the monetary multiplier), the greater the shift in AD.
    c. The opposite occurs with contractionary monetary policy to fight inflation.

III. Challenges
    a. Lender of last resort
        i. In order to assuage the possibility of a systematic bank failure, the Fed is sometimes employed as a "lender of last resort."
        ii. When a bank is in danger of failing or is in desperate need of assistance, the Fed acts as a safety net and lends the needed amount to help keep it afloat.
        iii. While this adds a great deal to stability and cultivates public confidence in the US banking system, it also creates a moral hazard problem.
        iv. Suppose you go to a business conference in Las Vegas and your company agrees to reimburse you for any money you lose while gambling. Even if you're hesitant about gambling, this safety net against losses completely changes the calculation. The smart thing to do is to gamble. A lot.
        v. This is the problem with the Fed's role as a safety net for banks. Knowing the Fed will save them if they really screw up, banks have an incentive to take risks they wouldn't otherwise take.
        vi. For example, in the wake of the subprime mortgage crisis the U.S. government bailed out several "too-big-to-fail" banks that faced a crippling number of defaults.
    b. Phillips Curve
        i. In the short-run, there is a trade-off between inflation and unemployment. High inflation means low unemployment and

vice-versa. We call this the Phillips Curve, after the economist who first articulated this historic relationship, William Phillips.

ii. This graph, from Phillips (1958), illustrates the relationship between inflation and unemployment from 1913 to 1948 in the United Kingdom.



c. 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.
d. 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.
e. 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.