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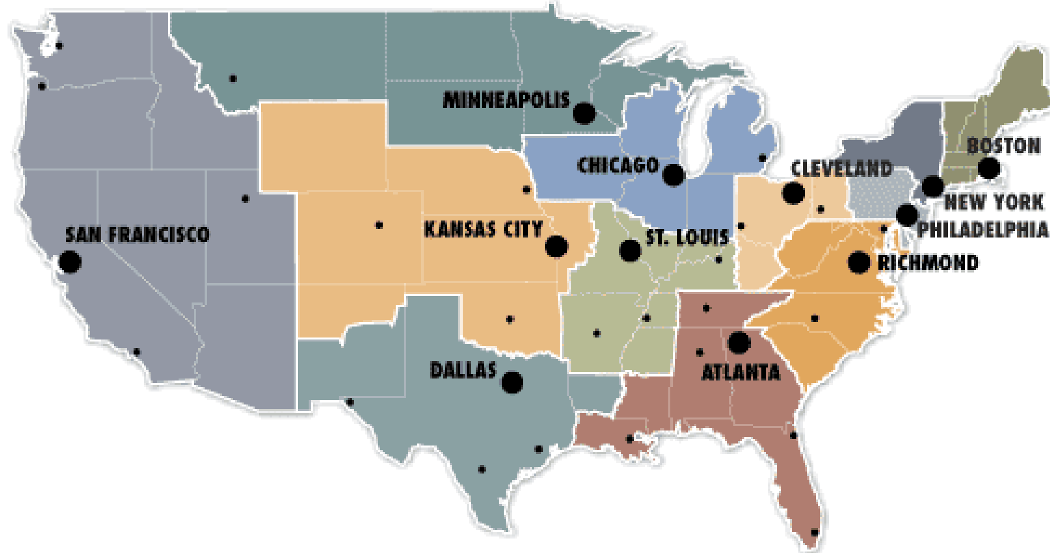
# LECTURE 36: MONETARY POLICY I

I. Monetary policy and the monetary multiplier
   a. Monetary policy is when the government shifts AD using the money supply/interest rates.
   b. Recall that the fiscal multiplier exists because the spending of one person becomes the income of another person. As we've discussed, a similar thing happens with money creation.
   c. When banks lend money, something similar happens. Some (not all due to required reserves) of the money you save in Bank A goes to someone else as a loan. They put that loan in Bank B to use while they spend it.
   d. Bank B uses a portion of this money to lend out to someone else who puts it in Bank C, and so on and so on.
   e. Like the fiscal multiplier, the *monetary multiplier* describes the how much the money supply expands with each dollar increase in reserves. It equals 1 / reserve ratio.
   f. If the reserve ratio is 5% (0.05) and there's an increase of $2,000 in reserves, the money supply increases by $40,000.

II. What is a central bank?
   a. A state-backed bank responsible for implementing monetary policy. (Engaging in actions that alter the interest rate, the exchange rate, how private banks are run, etc.)
   b. "Bank" in this case is a little deceiving; a central bank isn't trying to make loans or earn a profit. It is more of an authority than a bank. But the terminology "central bank" is the norm so we will use it here.
   c. Because all countries use a fiat currency, the bank must print new money—the government's the only one that can supply it.
      i. Some countries, like Nepal and Panama, use another country's currency (the Indian rupee and the U.S. dollar, respectively). Such countries still have a central bank to regulate commercial banks, but using another country's currency means you've lost the ability to conduct monetary policy.

III. The Federal Reserve System (the "Fed")
   a. This is a network of the U.S.'s central bank, managed by the Board of Governors.

        i. There are twelve Federal Reserve Banks in the U.S. spread throughout the country. Each bank is in charge of a District.




        ii. The Board makes policy decisions which determine the monetary control of the United States. When the government increases the money supply, the Board made the decision.
        iii. The chair of the Board of Governors is Jerome Powell.[1]

    b. The Fed has a dual mandate: keep prices stable and keep unemployment low.
        i. Keeping prices stable typically means fighting inflation. The Fed is concerned about deflation as well, but historically the major concern in inflation.
        ii. The Fed also tries to keep unemployment low. Money is incredibly powerful in how it affects the performance of the economy, and, by extension, the level of employment.
    c. While it has this dual mandate, the Fed is independent because there's strong political pressure to manipulate the economy through the money supply, even if it creates harm later on. Zimbabwe's historic hyperinflation, for example, was the result of a central bank beholden to politicians.
    d. Federal Reserve independence is achieved in various ways.
        i. Each board member is elected to a fourteen-year term. While the chair serves for a max of two four-year terms, they revert to board membership status when their term as chair is up.

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[1] As of February 2018; before Powell was Janet Yellen; before her was Ben Bernanke; and before him it was Alan Greenspan.

    ii. The Federal Reserve is self-funded. It owns trillions of dollars of U.S. securities so when the Treasury Department pays bond-holders, it pays the Fed. The Fed isn't part of the congressional appropriations process and is thus shielded from congressional threats to cut funding.
    iii. The Treasury-Fed Accord (March 4, 1951) reestablished the Fed's independence in the wake of World War II (during which time the Fed had formally committed to follow Treasury's request to keep interest rates low). The agreement formally ended that connection and affirmed the Fed's independence.

IV. Abundant reserves monetary policy
  a. Starting during the 2007-2009 financial crisis, the Fed started using a new framework for implementing monetary policy, moving from "limited reserves" to "abundant reserves." By the early 2020s, the abundant reserves framework is now how the Fed implements monetary policy.
  b. Before we dive into it, remember what the Fed is trying to do. Monetary policy works by adding money to or removing money from the economy.
    i. Less money means higher interest rates, shifting AD to the left and mitigating inflation. This is called contractionary monetary policy.
    ii. More money means lower interest rates, shifting AD to the right and mitigating unemployment. This is called expansionary monetary policy.
    iii. The Fed tries to strike the right balance. Shift AD too far to the right and you get inflation. Shift it too little, and you get needless suffering.
  c. The challenge is how to put money "in the economy." The Fed focuses on banks, as banks are the ones doing the lending and inherently touch all parts of the economy.
  d. They *used to* (and to some extent they still do this) influence the money supply by buying and selling government bonds that banks held. This is called open market operations.
  e. *Now* the dominate framework for monetary policy involves the Fed paying interest on reserves that banks hold at the Fed. The interest the Fed pays these banks is called interest paid on reserves balances (IORB).
    i. This is a short-term interest rate; banks get this money the next day.

ii. Critically, the Fed doesn't try to loan this money out. It just sits there in (electronic) vaults.
iii. *Contractionary*: When the Fed increases IORB, banks put more money in the Fed, effectively pulling the money out of the system, increasing interest rates, and shifting AD left.
iv. *Expansionary*: When the Fed decreases IORB, banks take money out of the Fed, effectively putting money into the system, decreasing interest rates, and shifting AD right.