Unit 6:
Monetary Policy

The New Classical View of Fiscal Policy

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"There is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits in open and free competition without deception or fraud.

Businessmen who talk about corporate social responsibility . . . are preaching pure and unadulterated socialism."

Milton Friedman
New York Times
13th September 1970

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Monetary Policy

- The Keynesian view dominated during the 1950s and 1960s.
  - Keynesians argued that the money supply did not matter much.
- Monetarists challenged the Keynesian view during the1960s and 1970s.
  - Monetarists argued that changes in the money supply caused both inflation and economic instability..

Fiscal Policy and the *Crowding-out* Effect

- The Crowding-out Effect:
  -- *indicates that the increased borrowing to finance a budget deficit will push real interest rates up and thereby retard private spending, reducing the stimulus effect of expansionary fiscal policy.*
- The implications of the *crowding-out* analysis are symmetrical.
  - Restrictive fiscal policy will reduce real interest rates and "crowd in" private spending.
- Crowding-out Effect in an open economy:
  -- *Larger budget deficits and higher real interest rates also lead to an inflow of capital, appreciation in the dollar, and a decline in net exports.*

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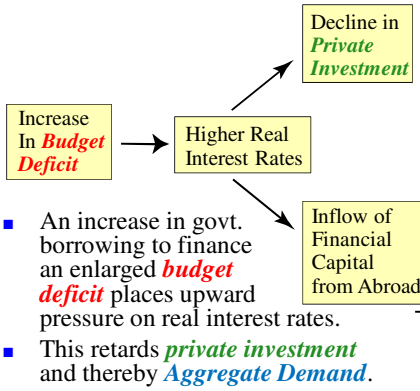
A Visual Presentation of the Crowding-Out Effect in an Open Economy



- An increase in govt. borrowing to finance an enlarged ***budget deficit*** places upward pressure on real interest rates.
- This retards ***private investment*** and thereby ***Aggregate Demand***.
- In an open economy, higher interest rates attract capital from abroad.
- As foreigners buy more dollars to buy U.S. bonds and other financial assets, the dollar appreciates.
- In turn, the appreciation of the dollar causes ***net exports*** to fall.
- Thus, as a result of increased budget deficits, higher interest rates trigger reductions in both ***private investment*** and ***net exports***, which weaken the expansionary impact of a ***budget deficit***.

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Fiscal Policy: *-- Problems with Proper Timing*

- Various ***time lags*** make proper timing of changes in discretionary fiscal policy difficult.
- ***Discretionary fiscal policy*** is like a two-edged sword; it can both harm and help.
  - If timed correctly, it may reduce economic instability.
  - If timed incorrectly, however, it may increase economic instability.

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Fiscal Policy:
-- Problems with Proper Timing

- **Automatic Stabilizers**:
  -- without any new legislative action, they tend to increase the budget deficit (or reduce the surplus) during a recession and increase the surplus (or reduce the deficit) during an economic boom.
- Examples of ***Automatic Stabilizers*:**
  - Unemployment Compensation
  - Corporate Profit Tax
  - A Progressive Income Tax

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What is Money?

- A *medium of exchange*:
  An asset used to buy and sell goods and services.
- A *store of value*:
  An asset that allows people to transfer purchasing power from one period to another.
- A *unit of account*:
  Units of measurement used by people to post prices and keep track of revenues and costs.

The Supply of Money

- Two basic measurements of the money supply are *M1* and *M2*:
  - The components of *M1* are:
    - Currency
    - Checking Deposits
  - *M2* includes:
    - Savings,
    - Money market funds.
  - *M3* includes:
    - Bonds
    - Long term frozen assets

Fractional Reserve Banking

- The U.S. banking system is a *fractional reserve* system where banks maintain only a fraction of their assets as *reserves* to meet the requirements of depositors.
- Under a *fractional reserve* system, an increase in *reserves* will permit banks to extend additional loans and thereby expand the money supply *(by creating additional checking deposits).*

The 3 Tools the Fed Uses to Control the Money Supply

- *Open Market Operations*:
  the buying and selling of U.S. securities *(national debt in the form of bonds)* by the Fed.
  - This is the primary tool used by the Fed.
  - *Fed buys bonds* – the money supply expands:
    - bond buyers acquire money
    - bank reserves increase, placing banks in a position to expand the money supply through the extension of additional loans.
  - *Fed sells bonds* – the money supply contracts:
    - bond buyers give up money for securities
    - bank reserves decline, causing them to extend fewer loans.

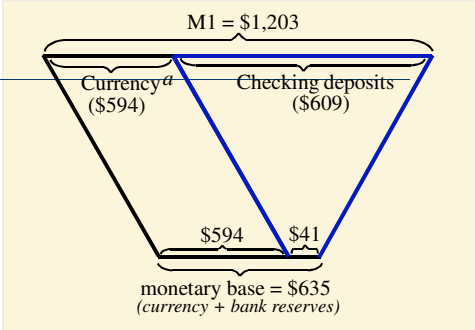
The 3 Tools the Fed Uses to Control the Money Supply

- *Discount Rate*:
  the interest rate the Fed charges banking institutions for borrowed funds.
  - An *increase in the discount rate* decreases the money supply *(restrictive)* because it discourages banks from borrowing from the Federal Reserve to extend new loans.
  - A *reduction in the discount rate* increases the money supply *(expansionary)* because it makes borrowing from the Federal Reserve less costly.

The 3 Tools the Fed Uses to Control the Money Supply

- *Reserve requirements*: a percent of a specified liability category *(for example transaction accounts)* that banking institutions are required to hold as reserves against that type of liability.
  - When the Fed *lowers the required reserve ratio*, it creates excess reserves for commercial banks allowing them to extend additional loans, expanding the money supply.
  - *Raising the reserve requirements* has the opposite effect.

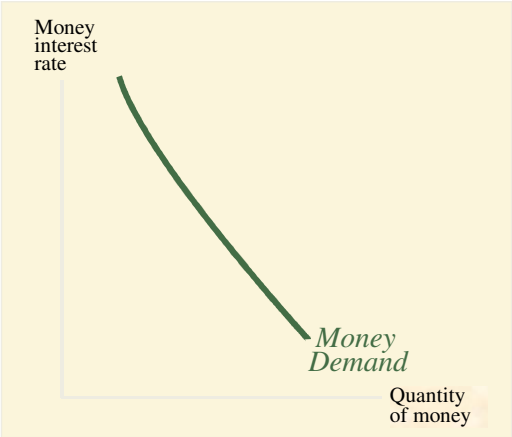
Monetary Base and Money Supply



[a] *Traveler's checks are included in this category.*

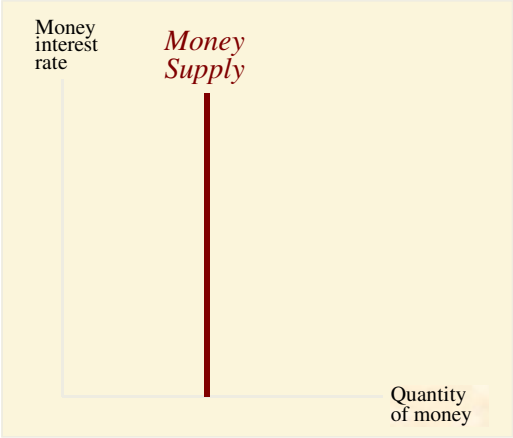
- The *monetary base* is currency plus bank reserves.
- Currency in circulation contributes directly to money supply while bank reserves provide the base for checking deposits.
- Fed actions that alter the monetary base affect money supply:
  - The Fed *reduces the money supply* by increasing reserve requirements, buying bonds, or increasing the discount rate.
  - The Fed *increases the money supply* by decreasing reserve requirements, selling bonds, or decreasing the discount rate.

The Demand and Supply of Money



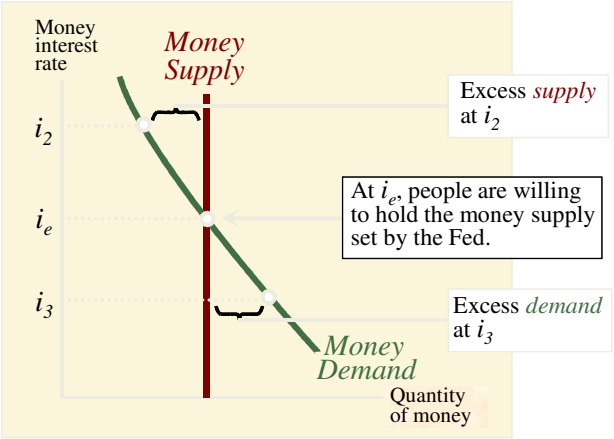
- The quantity of money people want to hold (the *demand for money*) is inversely related to the money rate of interest, because higher interest rates make it more costly to hold money instead of interest-earnings assets like bonds.

The Demand and Supply of Money



- The *supply of money* is vertical because it is established by the Fed and, hence, the same regardless of interest rate.

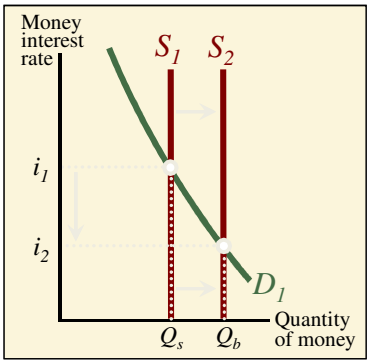
The Demand and Supply of Money

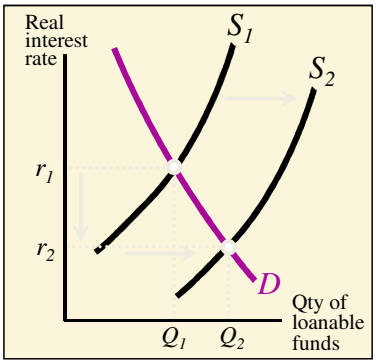


- *Equilibrium*:
  The money interest rate gravitates toward the rate where the quantity of money people want to hold (*demand*) is just equal to the stock of money the Fed has *supplied*.

Transmission of Monetary Policy

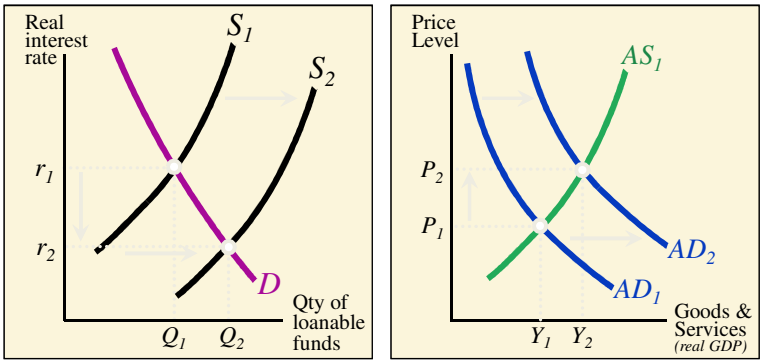
- When the Fed shifts to more expansionary monetary policy, it usually buys additional bonds, expanding the money supply.
- This increase in money supply (shifting S_1 out to S_2 in the market for money) provides banks with additional reserves.
- The Fed's bond purchases and the bank's use of new reserves to extend new loans increases the supply of loanable funds (shifting S_1 to S_2 in the loanable funds market) … and puts downward pressure on real interest rates (a reduction to r_2).





Transmission of Monetary Policy

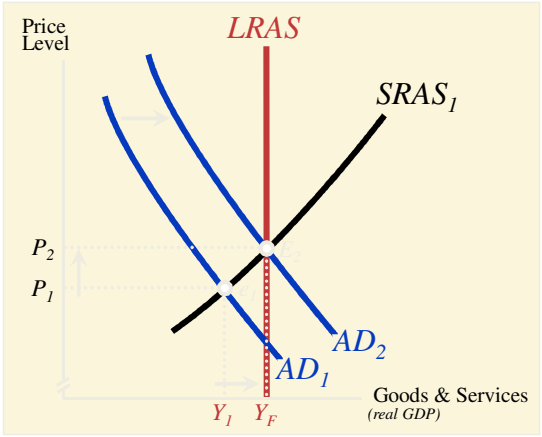
- As the real interest rate falls, *AD* increases (to AD_2).
- As the monetary expansion was unanticipated, the expansion in *AD* leads to a short-run increase in output (from Y_1 to Y_2) and an increase in the price level (from P_1 to P_2) – *inflation*.
- The impact of a shift in monetary policy is transmitted through interest rates, exchange rates, and asset prices.



A Shift to More Expansionary Monetary Policy

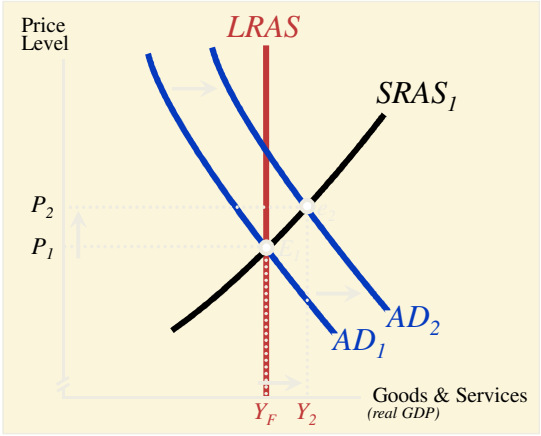
- During *expansionary monetary policy*, the Fed may buy bonds, reduce the discount rate, or reduce the reserve requirements for deposits.
- The Fed generally buys bonds, which:
  - increases bond prices,
  - creates additional bank reserves, and,
  - puts downward pressure on real interest rates.
- As a result, an unanticipated shift to a more expansionary policy will stimulate *aggregate demand* and thereby increase both output and employment.

Expansionary Monetary Policy



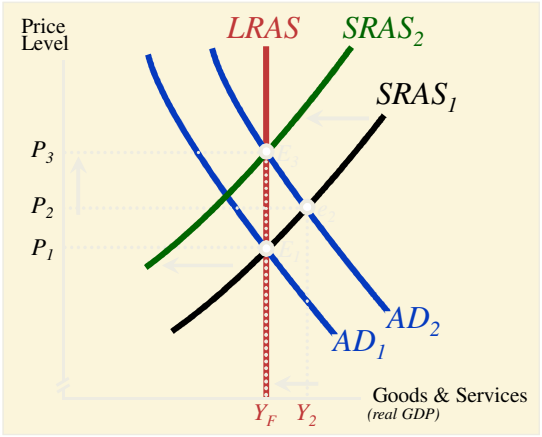
- If the increase in *AD* accompanying expansionary monetary policy is felt when the economy is operating below capacity, the policy will help direct the economy toward long-run full-employment equilibrium Y_F.
- Here, the increase in output from Y_1 to Y_F will be long term.

AD Increase Disrupts Equilibrium



- Alternatively, if the demand-stimulus effects are imposed on an economy already at full-employment Y_F, they will lead to excess demand, higher product prices, and temporarily higher output Y_2.

AD Increase: Long Run



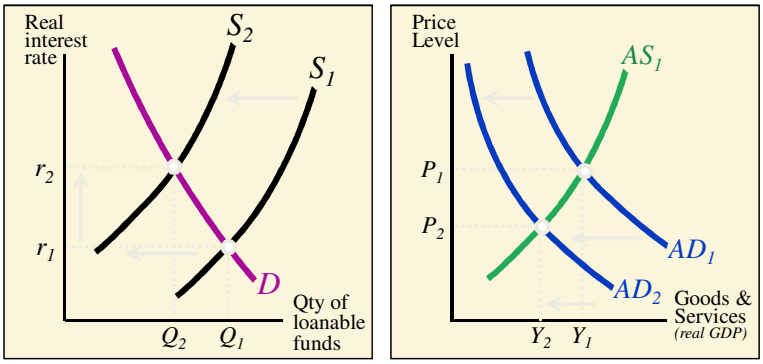
- In the long-run, the strong demand pushes up resource prices, shifting *short run aggregate supply* (from $SRAS_1$ to $SRAS_2$).
- The price level rises (from P_2 to P_3) and output falls back to full-employment output again (Y_F from its temporary high, Y_2).

A Shift to More Restrictive Monetary Policy

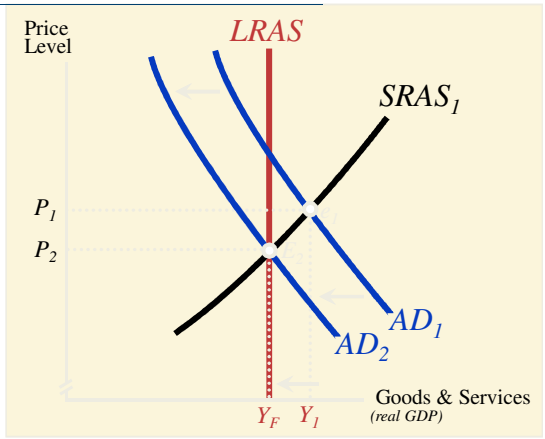
- The Fed institutes *restrictive monetary policy* by selling bonds, increasing the discount rate, or raising the reserve requirements.
- The Fed generally sells bonds, which:
  - depresses bond prices,
  - drains bank reserves from the banking system, while it, and
  - places upward pressure on real interest rates.
- As a result, an unanticipated shift to a more restrictive policy reduces *aggregate demand* and thereby decreases both output and employment.

Short-run Effects of More Restrictive Monetary Policy

- A shift to a *more restrictive monetary policy*, will increase real interest rates.
- Higher interest rates decrease aggregate demand (to AD_2).
- When the reduction in *AD* is unanticipated, real output will decline (to Y_2) and downward pressure on prices will result.

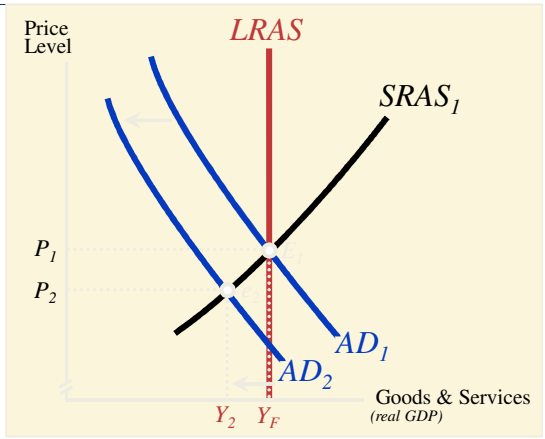


Restrictive Monetary Policy



- The stabilization effects of restrictive monetary policy depend on the state of the economy when the policy exerts its impact.
- Restrictive monetary policy will reduce *aggregate demand*. If the demand restraint occurs during a period of strong demand and an overheated economy, then it may limit or prevent an inflationary boom.

AD Decrease Disrupts Equilibrium



- In contrast, if the reduction in *aggregate demand* takes place when the economy is at full-employment, then it will disrupt long-run equilibrium, and result in a *recession*.

Proper Timing

- Proper timing of monetary policy is not an easy task.
- While the Fed can institute policy changes rapidly, there may be a substantial time lag before the change will exert a significant impact on *AD*.

End
Unit 5