Aggregate Supply and Aggregate Demand

ECO 301: Money and Banking

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1.1 Goals

Goals

- Specific Goals
  - Be able to explain GDP fluctuations when the price level is also flexible.
  - Explain how real GDP and the price level are related in the short run.
- Learning Objectives
  - LO9: Identify and analyze macroeconomic problems using graphical and computational models and prescribe appropriate monetary policy solutions.

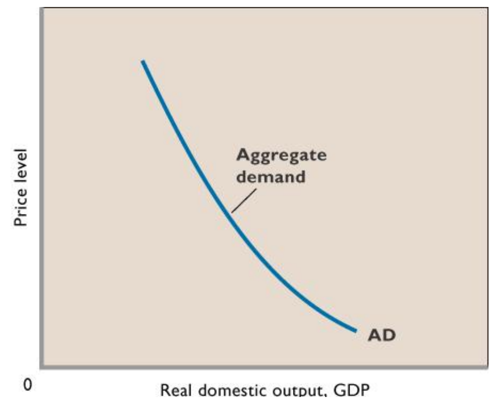
2 Aggregate demand

Aggregate Demand

- **Aggregate demand**: schedule or curve that shows the quantities of real GDP that buyers collectively desire to purchase at each price level.
- Expenditure breakdown: AD = C + I + G + X - M
- Aggregate demand is downward sloping - *but not for the same reason the demand curve for a single product is downward sloping.*

2.1 Downward sloping

Aggregate Demand



Downward sloping AD

- **Real balances effect**: when the price level increases, the purchasing power of the consumers' accumulated savings balances decreases.
  - With a lower real savings balance, consumers decrease consumption.
- **Foreign purchases effect**: When the price level rises relative to the price level in foreign countries, the foreign demand for U.S. products decreases. Similarly, the demand for imports increases.
  - This causes exports to fall and imports to rise.

2.2 Determinants of AD

Determinants of AD

- When something *besides the price level* affects the AD, this causes the AD curve to shift.
- The following affect *consumption* and therefore shift AD.
  - Consumer wealth: financial assets such as savings accounts, stocks, and bonds, and physical assets that consumers can borrow against like houses and land.
    - When consumer wealth increases, aggregate demand increases, causing it to shift to the *right*.
  - Household indebtedness: if household debt increases, AD shifts to the left.
  - Taxes: Increase in taxes decreases consumption, AD shifts to the left.
  - Consumer expectations: expectations about future income or future taxes can shift AD.
  - Interest rate: an increase in the interest rate decreases consumption which shifts AD to the left.

Determinants of AD

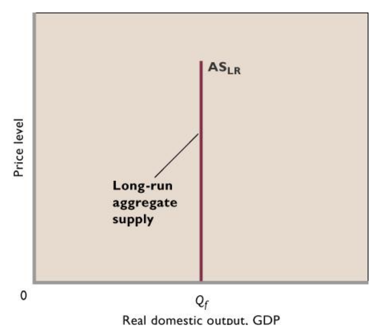
- The following affect investment and therefore shift AD.
  - Interest rate: increases the cost of investment, therefore shifts AD to the left.
  - Expectations: expectations about the return on an investment shift investment demand and therefore shift AD.
- Change in government purchases.
- The following affect exports or imports and therefore shift AD.
  - Foreign incomes: higher foreign incomes increase exports, shifts AD to the right.
  - Exchange rates: when the U.S. currency depreciates, this causes an *increase in exports / decrease in imports*, shifting AD right.

3 Aggregate supply

3.1 Long run AS

Long run aggregate supply

Long run aggregate supply: in the long run the economy uses all factors of production efficiently, therefore long run aggregate supply is a vertical line at **potential GDP**

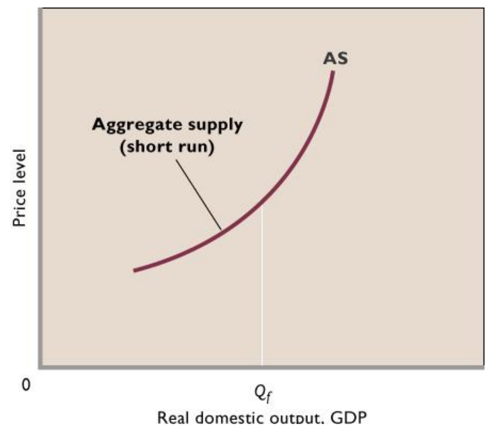


3.2 Short run AS

Short run aggregate supply

- In the short run, factor markets are slow to adjust. Wages are slow to adjust and there may unemployment or even excess employment.
- Therefore in the short run, the aggregate supply curve is upward sloping.
  - Increases in the price level without increasing wages create larger profits for firms, creates incentive to produce more.

Short run aggregate supply



3.3 Determinants of Short-Run AS

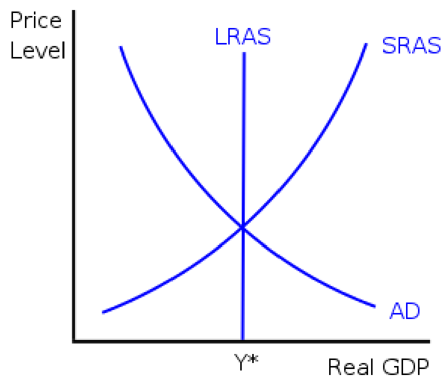
Determinants of Short-Run AS

- When something *besides the price level* affects AS, this shifts AS.
- Changes in costs of production
  - Prices of factors of production: when the price of labor, capital, or land increase, this shifts AS to the left.
  - Business taxes can affect output decisions of firms and shift AS.
  - Other government regulation.
- Technology: an increase in technology shifts AS to the right.
  - Also shifts LRAS (*long-run AS*) right

4 Equilibrium

Equilibrium

In equilibrium, real GDP and the price level are determined by the intersection of AS and AD



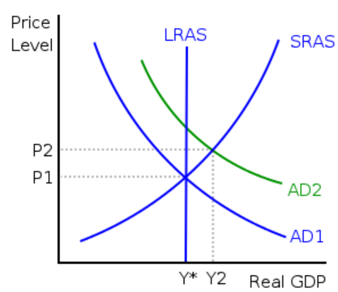
4.1 Inflation

Inflation

- Inflation can come from two sources, excess demand or increases in production costs.
- **Demand pull inflation**: when increases in demand cause inflation.
- **Cost push inflation**: when increases in production cost cause inflation.

Demand pull inflation

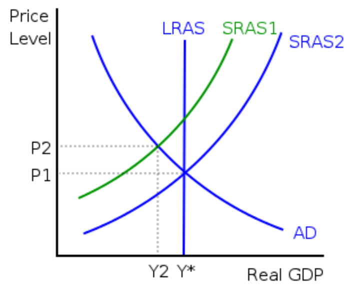
- Demand pull inflation begins when AD increases.
- Causes real GDP to increase and the price level to rise.
- Recall: **inflationary gap**: when aggregate expenditures is equal to real GDP above potential GDP.



Cost push inflation

- Cost-push inflation begins when an increase in production cost shifts SRAS to the left.

- Causes real GDP to fall and price level to rise.
- **Stagflation**: when there is unemployment and high inflation at the same time.

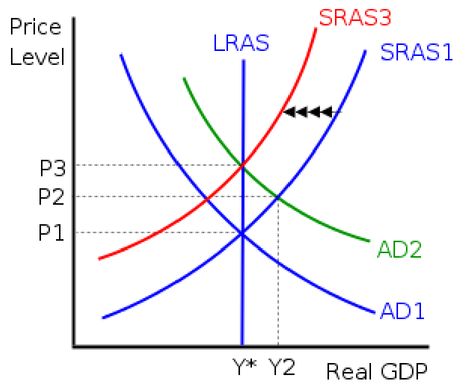


4.2 Long-run equilibrium

Long-run equilibrium

- Suppose AD shifts to the right.
- Firms will be able to sell more goods. Firms hire more labor and produce more goods.
- Per-unit labor costs do not increase (wages are fixed in the short run).
- In the long run, there is an excess demand for labor, wages will increase.
- Increase in wages shifts the SRAS curve to the left.

Long-run equilibrium



5 Monetary Policy

5.1 Short-run effects of monetary policy

Ripple effects of the interest rate

The Fed has recently lowered the Federal Funds rate to between 0% and 0.25%.

1. Investment increases.

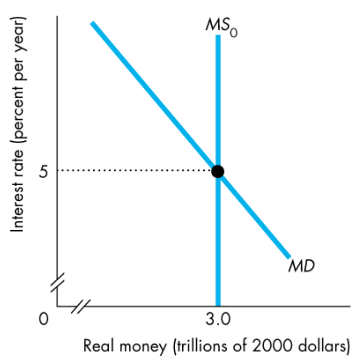
2. Consumption increases.

3. Net exports increase.

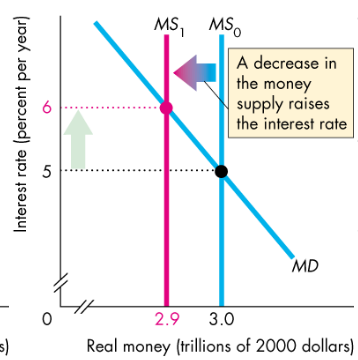
   - What happens to demand for dollars vs. other currencies?
   - Lower return in the U.S., lower demand for dollars.
   - Value of the dollar falls.
     - U.S. residents buy fewer foreign goods → decrease in imports.
     - U.S. goods become relatively less expensive → increase in exports.

4. Multiplier effect What happens in the goods market?

Controlling the inflation rate



(a) Money market



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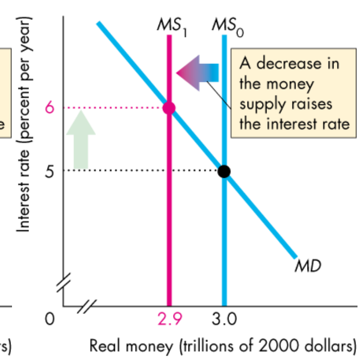

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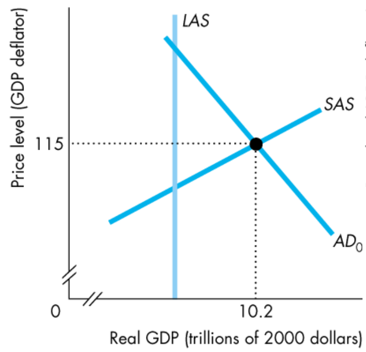
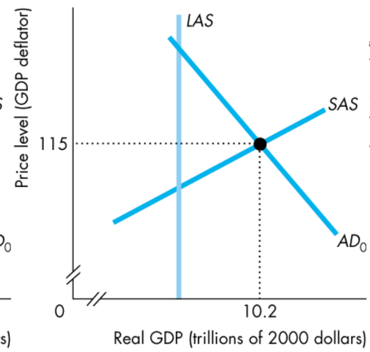


(c) Real GDP and the price level



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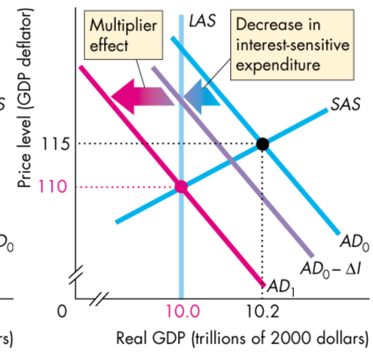
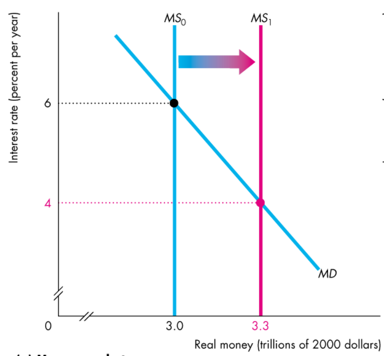


(c) Real GDP and the price level

5.2 Long run effects of monetary policy

Increase in money supply



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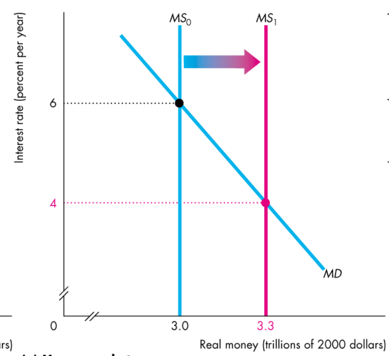

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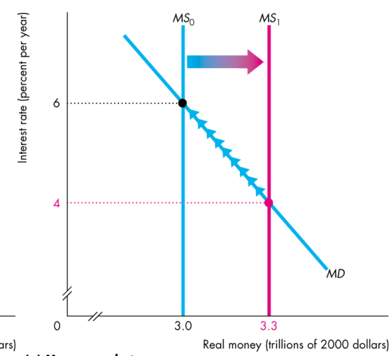

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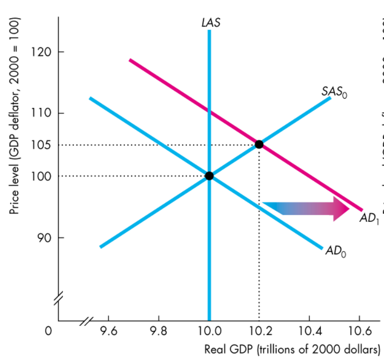
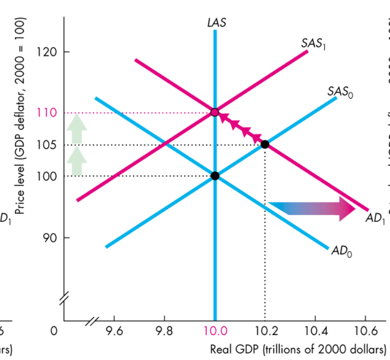


(b) *AS–AD*



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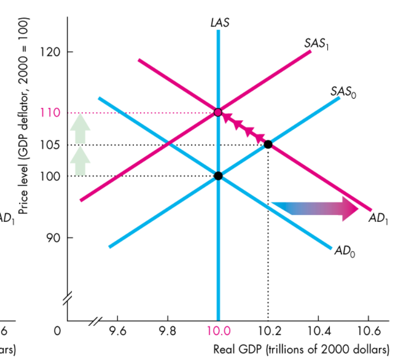

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