Macroeconomic Dynamics and Monetary Economics

ECO 301: Money and Banking

Goals

- Specific Goals
  - Explain causes and consequences for changes in macroeconomic outcomes including real GDP, employment, and inflation.
  - Describe and illustrate how monetary policy affects interest rates, inflation, and real GDP in the short run and long run.
  - Evaluate an economy's performance and suggest appropriate monetary policy.
- Learning Objectives
  - LO7: Identify and analyze macroeconomic problems using graphical and computational models and prescribe appropriate monetary policy solutions.

Reading and Exercises

- Aggregate demand Chapter 17, pp. 597-601
- Aggregate supply Chapter 17, pp. 601-609
- Equilibrium and market dynamics Chapter 17, pp. 609-616
- Monetary policy Chapter 17, pp. 616-625
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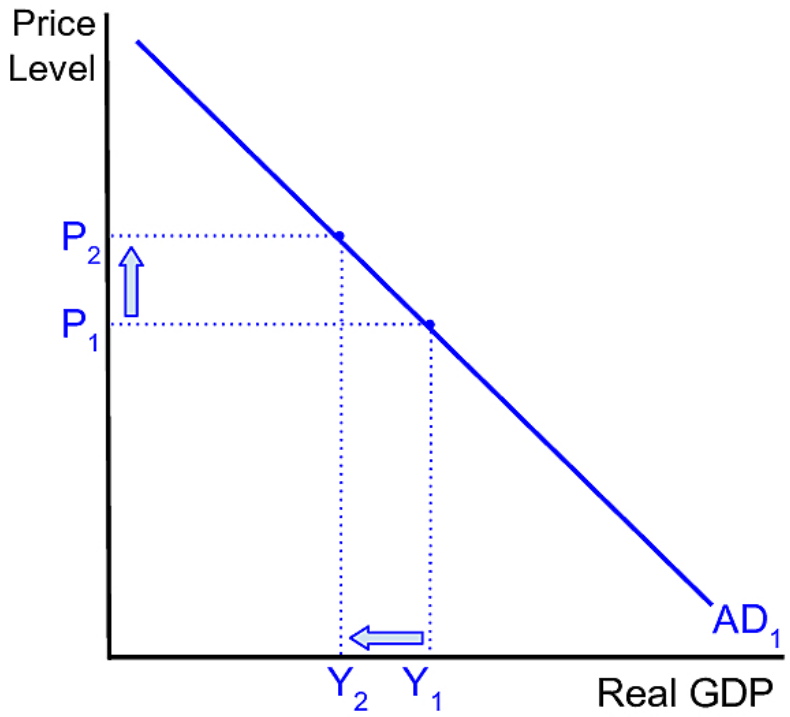
Aggregate Demand

- **Aggregate demand**: schedule or curve that shows the quantities of real GDP that buyers collectively desire to purchase at each price level.
- Aggregate demand is downward sloping in both short-run and long-run due to the *real balances effect* and the *foreign purchases effect*.
- **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.

Aggregate Demand



Determinants of Aggregate Demand

When something *besides the price level* affects the AD, AD shifts to the left. 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.

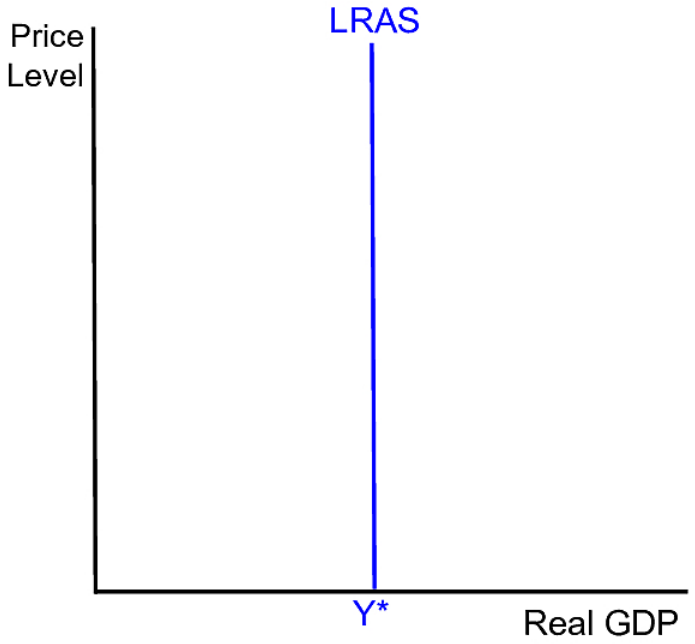
  When consumer wealth increases, aggregate demand increases, causing it to shift to the right
- Household indebtedness: if household debt increases, AD shifts to the left.
- Taxes: Increase in taxes decreases consumption, AD shifts to the left.
- Consumer expectations: expectations about future income or future taxes can shift AD.
- Interest rate: an increase in the interest rate decreases consumption which shifts AD to the left.

Determinants of Aggregate Demand

- 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.
- Imports and Exports:
  - Foreign incomes: higher foreign incomes increase exports, shifts AD right.
  - Depreciation: Makes U.S. currency cheaper for foreign buyers, causes exports to increases → AD shifts right
  - Depreciation: Makes foreign currency more expensive for U.S. buyers, causes imports to decreases → AD shifts right

Long-Run Aggregate Supply

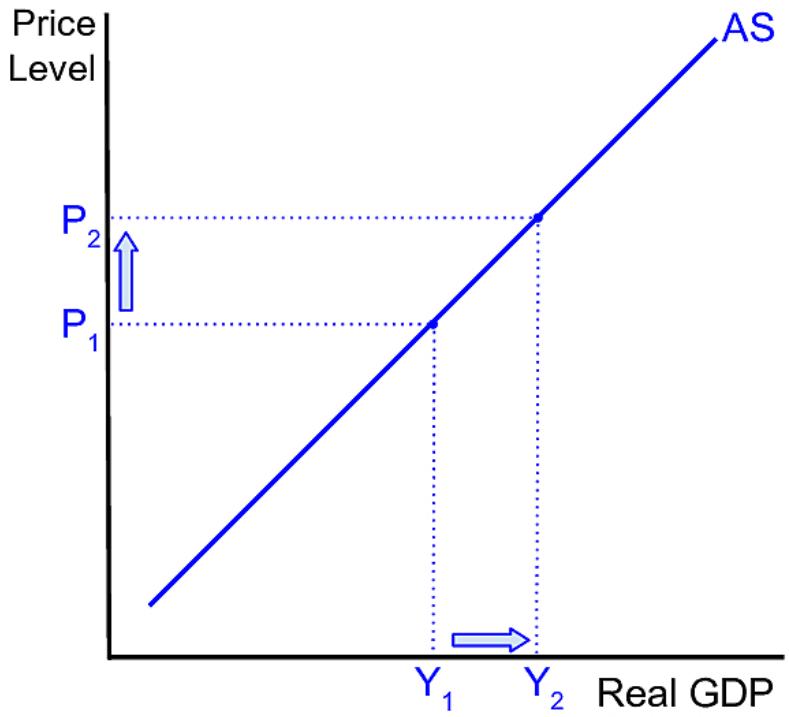
- **Long-run aggregate supply**: In the long run the economy uses all factors of production efficiently.
- **Potential GDP**: Maximum *sustainable* level of production *possible* when using all factors of production efficiently.
- Vertical line at **potential GDP**.
- Price level does not affect production *possibilities.*



Short-Run Aggregate Supply

- In the short run, wages in labor markets are slow to adjust.
- Increases in price level lead to higher marginal revenues for firms
- Sticky wages: Biggest chunk of firms' marginal costs do not change
- Higher marginal revenue + sticky marginal costs → increase production
- Short-run aggregate supply curve is upward sloping.

Short-Run Aggregate Supply

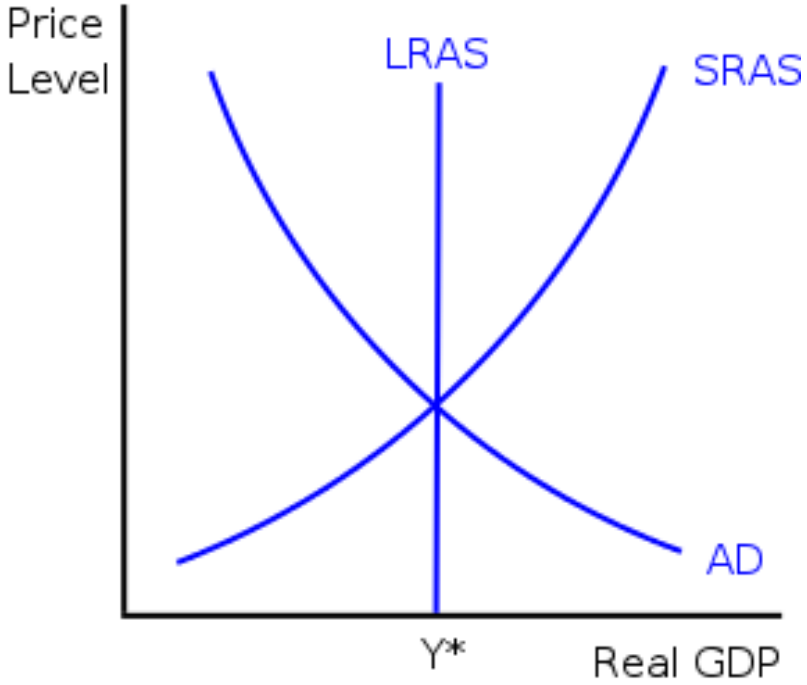


Determinants of Aggregate Supply

- When something *besides the price level* affects AS, this shifts AS.
- 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 on businesses:
  - Environmental regulations, occupational safety regulations, finance regulations, etc. can affect production costs.
  - Doesn't imply business regulations are bad (there are costs and benefits), but they usually do affect production costs.
- Improvements in technology: shift *both LRAS and SRAS* to the right.
  - This is not the most convenient model for increases in production possibilities

Equilibrium

Equilibrium real GDP and the price level: Intersection of AS and AD

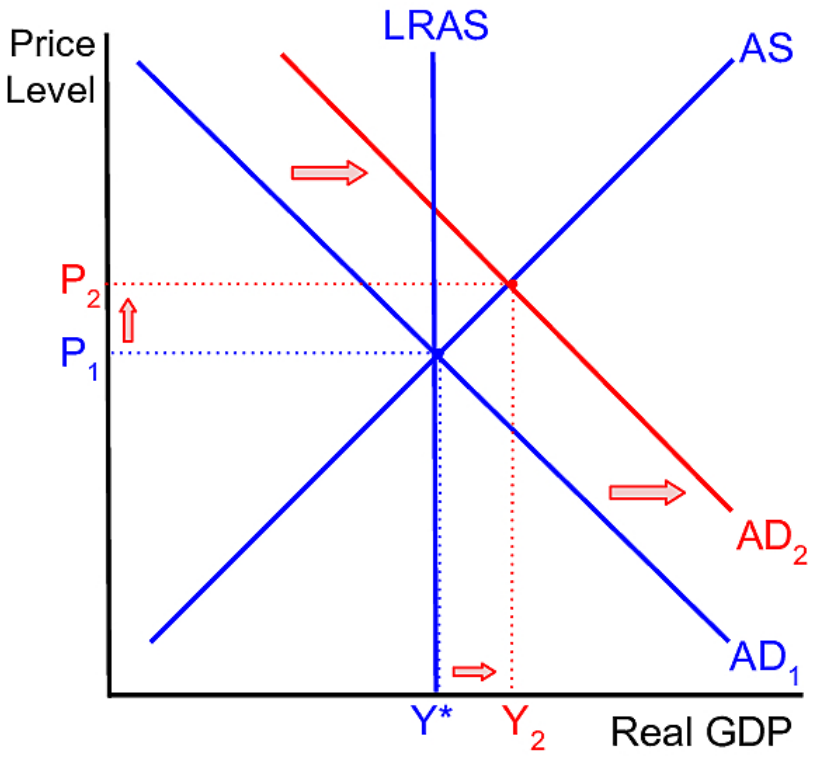


Inflation

- 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.

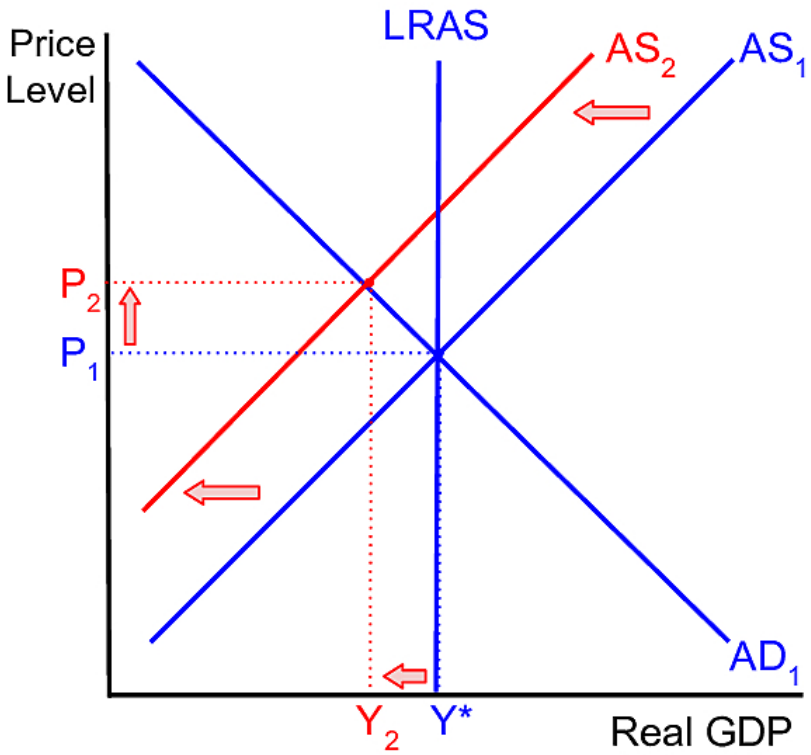
Demand-Pull Inflation

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



Cost-push Inflation

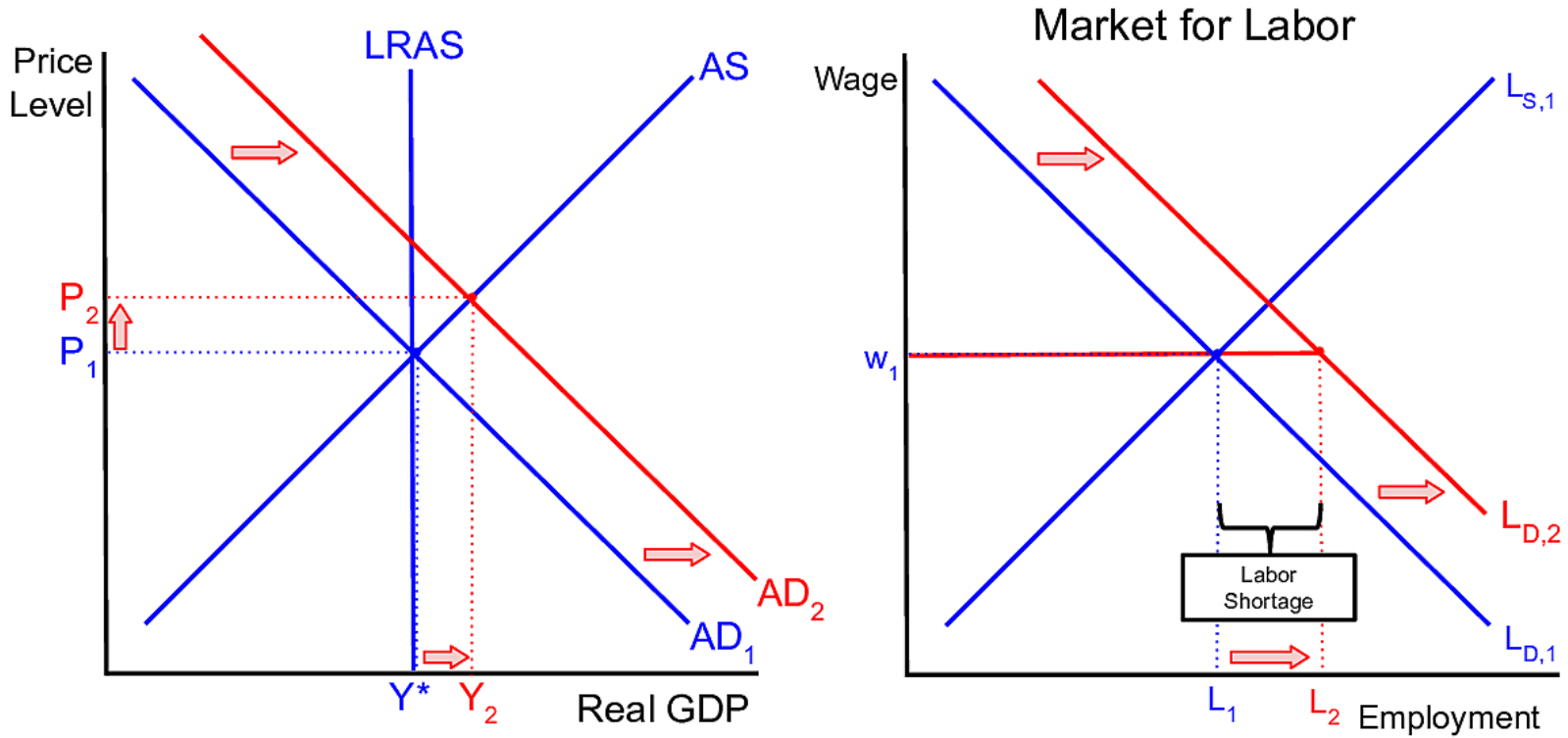
- Cost-push inflation begins when an increase in production cost shifts SRAS to the left.
- Causes real GDP to fall and price level to rise.
- **Stagflation**: when there is unemployment and high inflation at the same time.



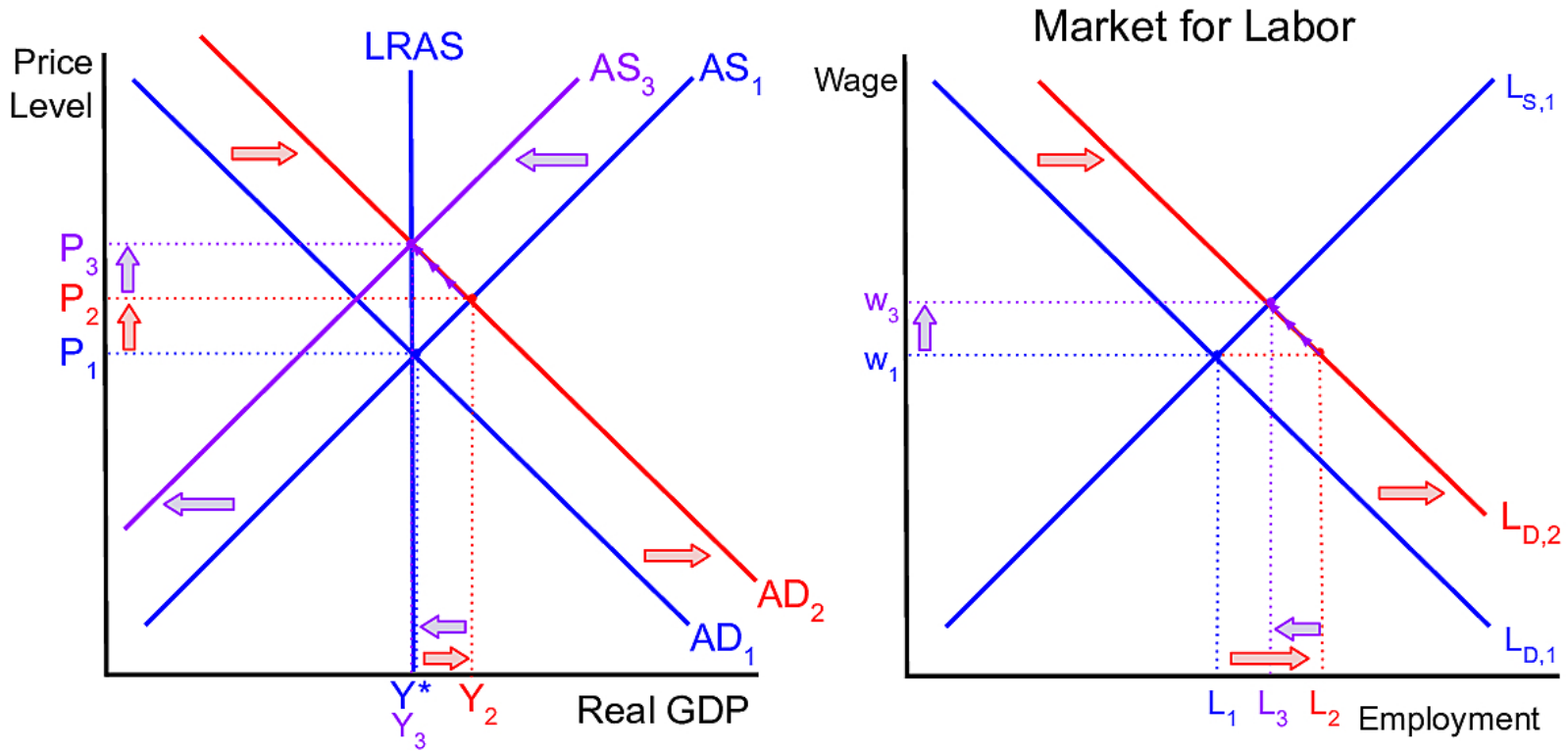
Long-run equilibrium

- Aggregate supply curve is upward sloping because wages are sticky.
- Suppose AD shifts to the right.
- Firms will be able to sell more goods. Firms hire more labor and produce more goods.
- Firm's per-unit labor costs do not increase because wages are fixed in the short run.
- In the long run, there is an excess demand for labor, wages will increase.
- This shifts the SRAS curve to the left.

Short Run: Increase in Aggregate Demand



Long Run: Increase in Aggregate Demand



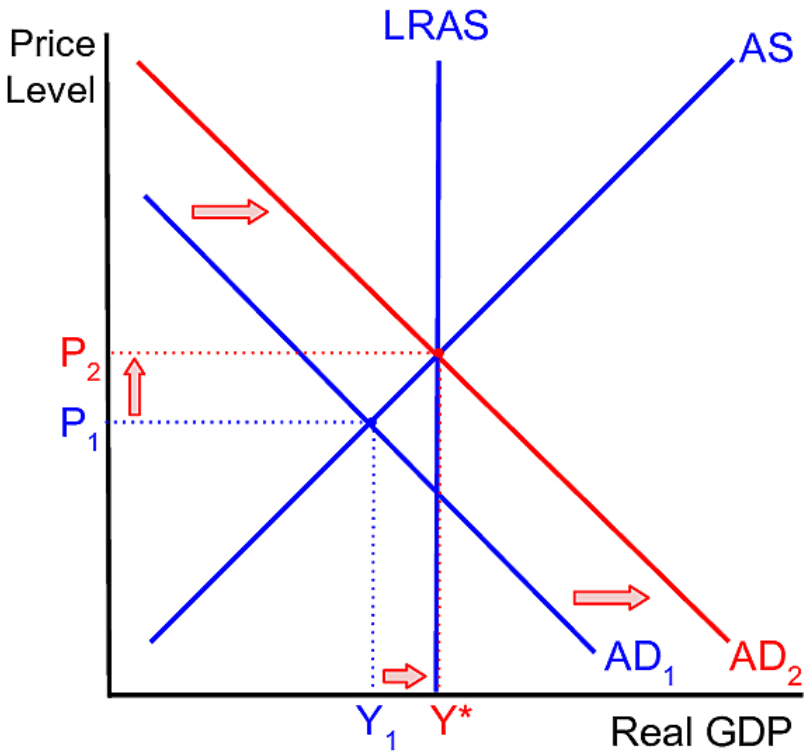
Interest Rates and Aggregate Demand

Suppose the Fed decreases interest rates:

1. Investment increases
2. Consumption increases
3. Net exports increase
    - Lower interest rates → lower return on financial investments in the U.S., decrease in 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. All of these things cause AD to shift right

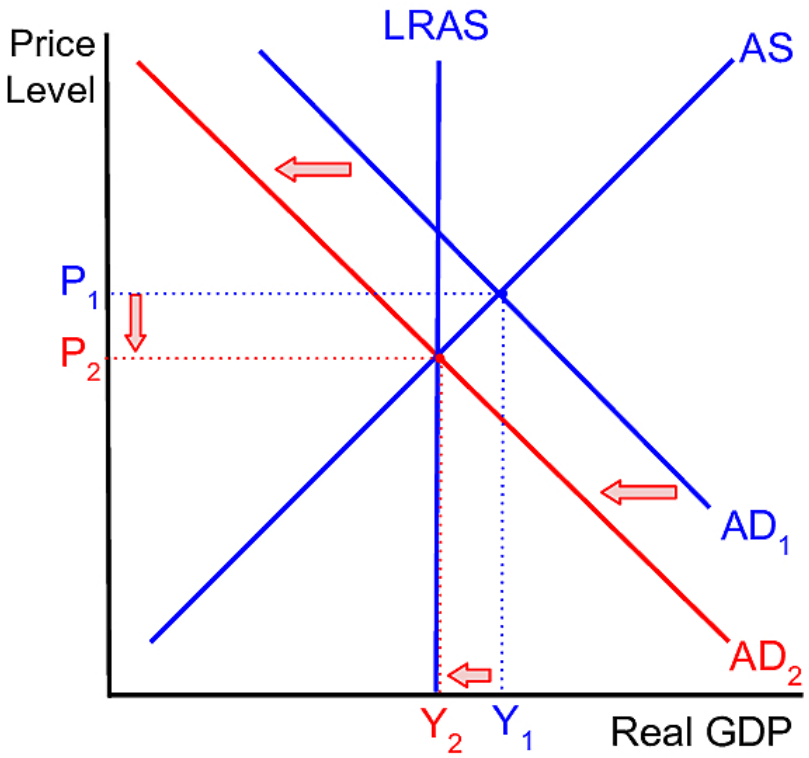
Monetary Policy to Counteract Recession

- Suppose the economy is in a recession with low inflation.
- Real GDP is below potential GDP (look only at blue lines)
- Fed responds by decreasing interest rates
- Aggregate demand shifts to the right
- Real GDP increases, fixing the recession (Yay!)
- Price level increases, but that's OK if inflation was low



Monetary Policy to Reduce Inflation

- Suppose the economy is experiencing high inflation and is in an expansionary gap
- Real GDP is above potential GDP (look only at blue lines)
- Fed responds by increasing interest rates
- Aggregate demand shifts to the left
- Price level decreases, fixing the inflation problem (Yay!)
- Real GDP decreases, but that's OK if it was at unsustainable levels, anyway



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