

## Topic 16 – Long-Run Growth and Short-Run Fluctuations

### I. Long Run Economic Growth

$$Y = A \cdot f(L, K, H, N)$$

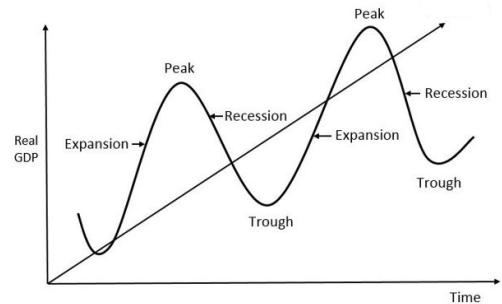
We care about other things...

Video: 200 Countries, 200 Years, 4 Minutes – The Joy of Statistics

### II. Short-Run Economic Fluctuations

a. What do we know?

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b. Output and Unemployment

Output Gap = \_\_\_\_\_ - \_\_\_\_\_

Okuns Law: For every percentage point of cyclical unemployment, we expect a \_\_\_\_\_ increase in the output gap.

**Example:** Use the following information about 2011 to calculate the output gap in percentage terms.

Real output = \$15 trillion

Unemployment = 9%

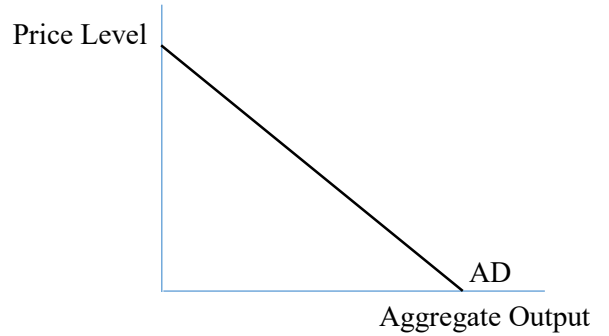
Natural unemployment = 6%

III. Aggregate Supply and Aggregate Demand Model

a. Aggregate Demand (AD)

A curve describing the relationship between the \_\_\_\_\_ and the quantity of goods and services that people want to purchase.

$$AD = C + I + G + NX$$

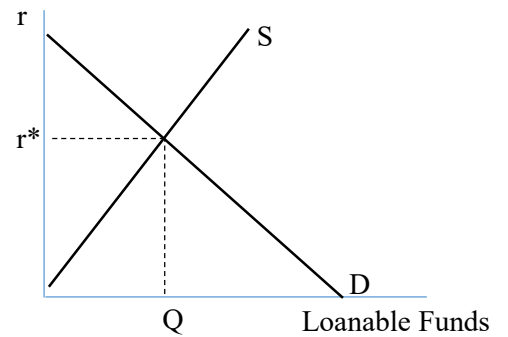


i. Why is Aggregate Demand downward sloping?

1. The Wealth Effect

2. The Interest Rate Effect

3. The Exchange Rate Effect



ii. What shifts Aggregate Demand?

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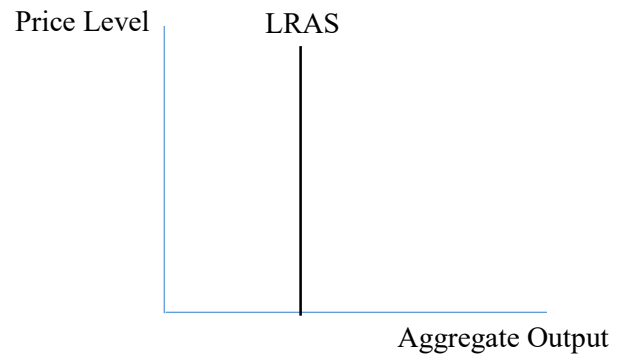
b. Aggregate Supply

A curve describing the relationship between the \_\_\_\_\_ and the economy's total supply of goods and services.

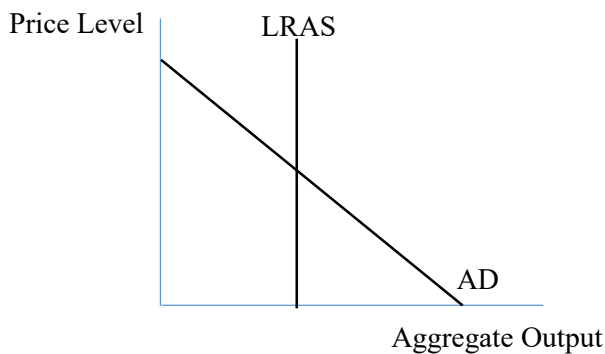
i. Long-Run Aggregate Supply (LRAS)

In the long-run, aggregate supply is \_\_\_\_\_.

Long-Run Economic Growth



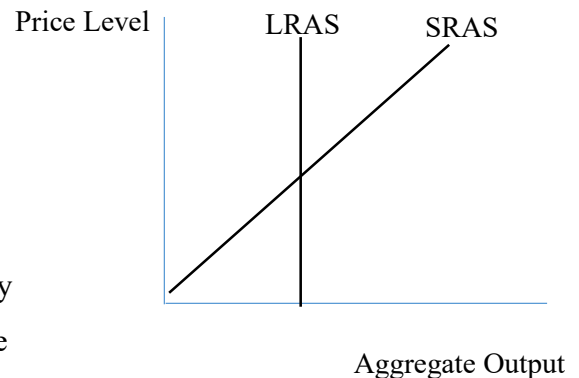
ii. Graphical Representation of Money Neutrality



iii. Short-Run Aggregate Supply (SRAS)

Why would short-run aggregate supply deviate from the economy's long-run potential output?

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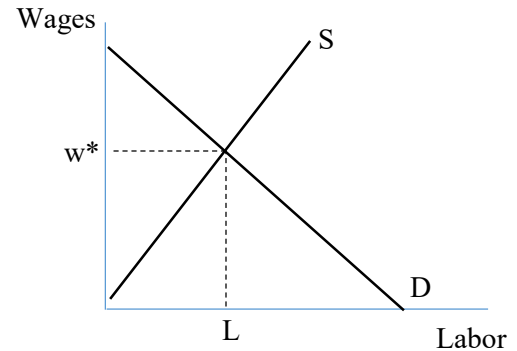


These theories explain why short-run aggregate supply might deviate from long-run potential output when the price level differs from the \_\_\_\_\_ price level.

Why might SRAS be lower than LRAS when prices are lower than expected?

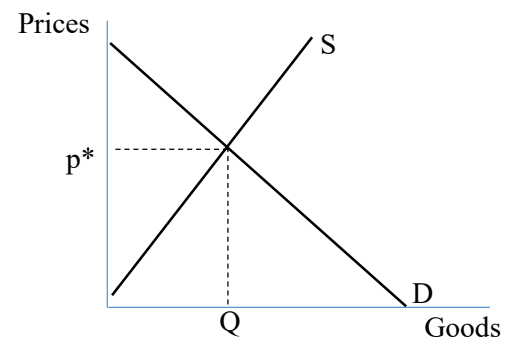
1. Sticky Wage Theory

Wages are \_\_\_\_\_ in the short-run, while prices and profits fluctuate.



2. Sticky Price Theory

Prices are \_\_\_\_\_ in the short-run, while wages and profits fluctuate.

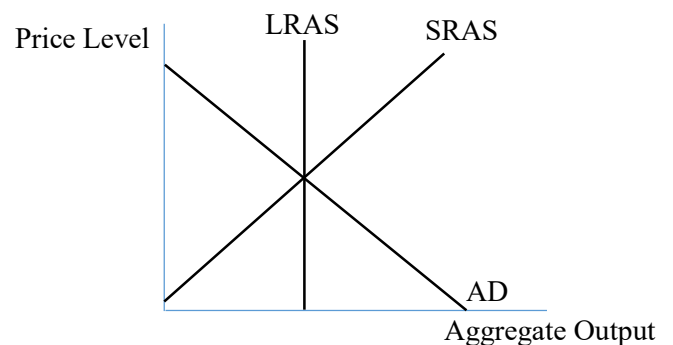


3. Misperceptions Theory

c. Modeling LR Growth and SR Economic Fluctuations using the AD/AS Model

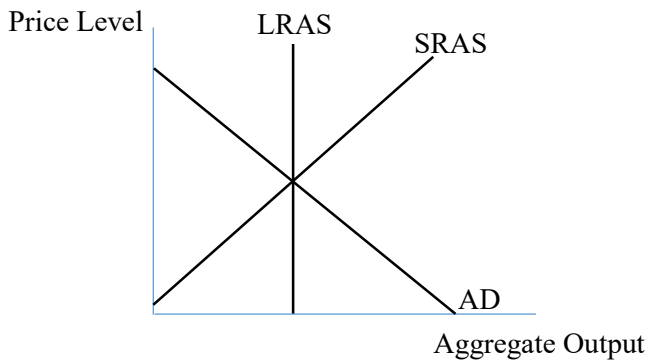
i. Long-Run Economic Growth / Decline

**Example:** In 2017, hurricane Harvey caused extensive flooding in the Houston area, resulting in estimated damages exceeding \$100 billion.



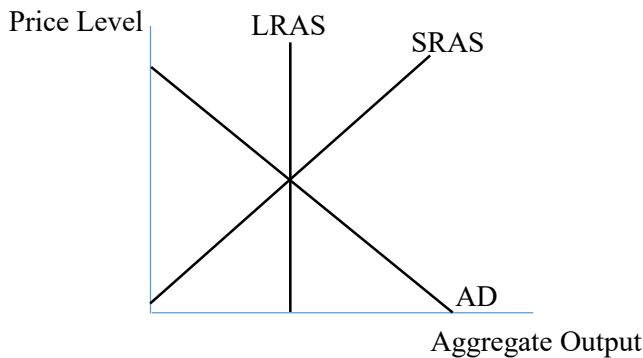
ii. Aggregate Demand Shocks

**Example:** Suppose a recession in Europe decreases demand for goods produced in the US.



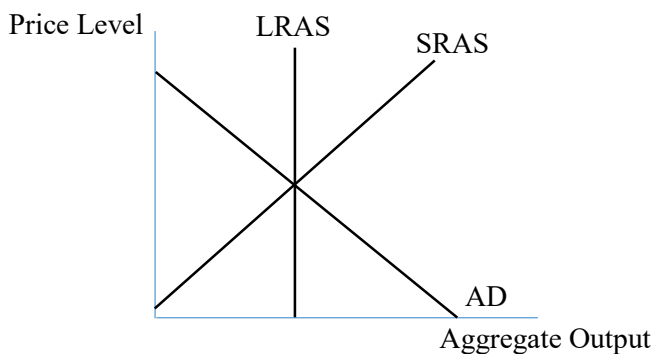
- Steps to Model Short-Run Fluctuations
1. Decide whether an event shifts AD or SRAS, and which direction the curve will shift.
  2. Use the diagram to show the SR impact on price level and output. (SRAS = AD)
  3. Determine how the economy moves back to a long-run equilibrium. (SRAS = LRAS = AD)

**Example:** Suppose that businesses are feeling optimistic about the economy and increase investment spending.



iii. Short-Run Aggregate Supply Shocks

**Example:** In the 1970s, the OPEC embargo dramatically increased the price of oil in the US.



IV. Counter-Cyclical Economic Policy

$$AD = C + I + G + NX$$

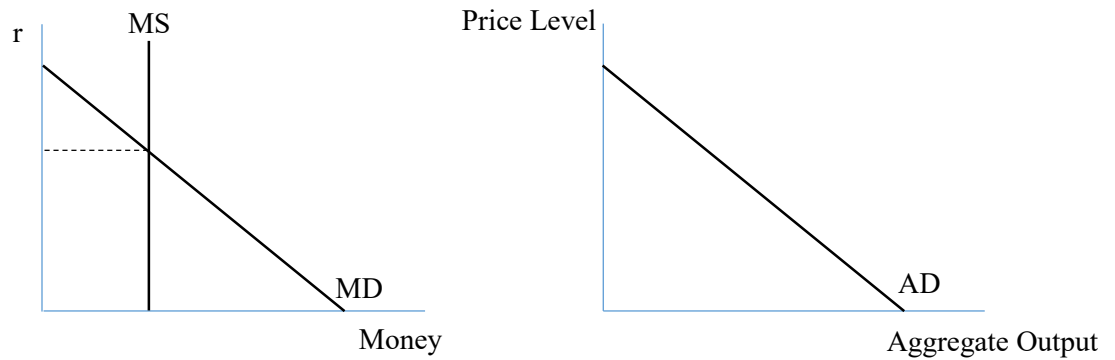
Goal: Reduce the size of short-term business cycle fluctuations.

Expansionary Policy: \_\_\_\_\_ during an economic contraction.

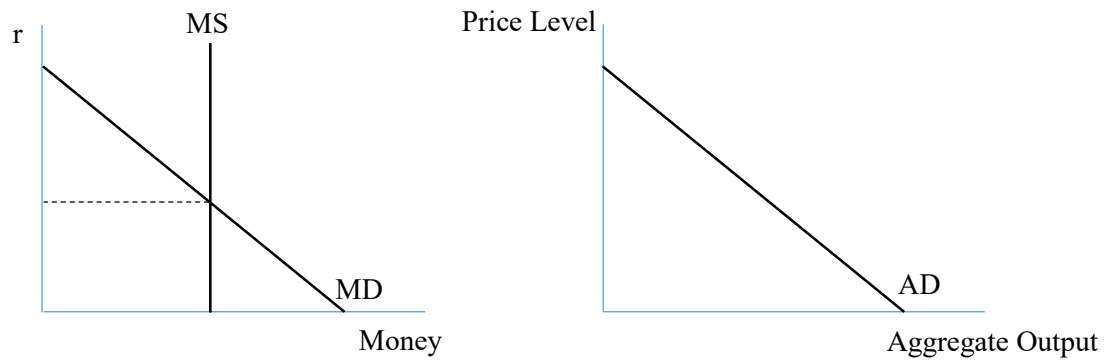
Contractionary Policy: \_\_\_\_\_ during an economic expansion.

a. Monetary Policy – Control of Money Supply

*Expansionary Monetary Policy*



*Contractionary Monetary Policy*



b. Fiscal Policy – Control of the Federal Budget

Expansionary Fiscal Policy

Contractionary Fiscal Policy

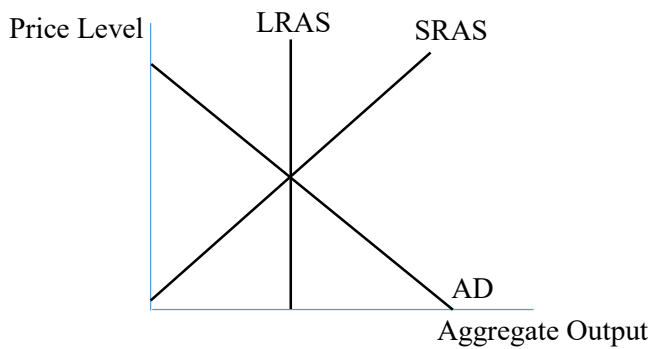
i. Fiscal Multiplier - How effective is Fiscal Policy?

Spending Multiplier

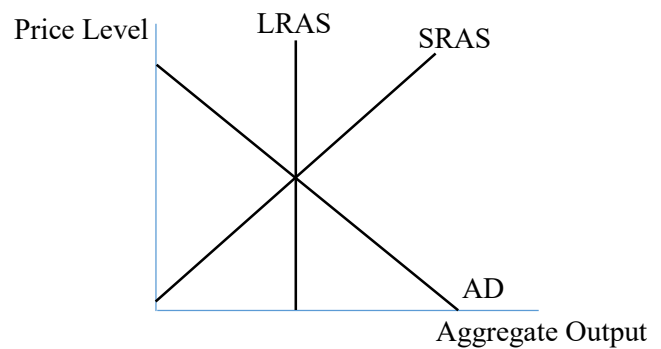
Crowding Out

V. Application: Is War Good for the Economy?

*Short-Run Impacts*



*Long-Run Impacts*



VI. Assignments

1. Video Assignment due on 12/5/19
2. Problem Set 16 due in class on 12/4/19

*The End*