ECONOMICS 116a

AGGREGATE SUPPLY
Outline for today

I. Relationship of AS and Potential Output

II. Four fundamental macroeconomic relationships
Reminder on Potential Output

• Potential output is the maximum level of GDP that can be sustained with a given technology and inputs without rising inflation.
• Today, it is generally taken to be equivalent to the level of output corresponding to the lowest sustainable u rate, or NAIRU.
  – Potential output is sustainable, not maximum output (think marathoner)
  – Actual Q can > potential Q temporarily. This will lead to rising inflation.
Relationship between AS and potential output

• AS based on both pot output and costs

• Aggregate supply:
  – Refers to the total quantity of goods and services that the nation's businesses are willing to produce and sell in a given period.
  – It is determined by potential output and the prices of inputs and outputs.

• Major determinants of AS:
  – Technology: level of potential output
  – Prices of inputs determine the supply price

• Recall difference between short-run and long-run AS
Assumptions behind short-run AS curve

Standard wage set by contract, minimum wage, or custom
Firm hires workers at standard wage until full employment or hits capacity ("potential output")
When demand rises above potential output, firm increases prices to ration the existing output.
Note: The "fixed price" assumption is an oversimplification, but useful for understanding Keynesian AS.
Key distinction in modern macro: auction prices v. contract prices

Food prices

Physicians prices
Change in structure: exchange rates

U.S. foreign exchange rate
AS for Sticky-price Economy

\( P_i \)

\( P_{\text{fix}} \)

\( S_i \)

Potential output

\( Q_i \)
Original equilibrium
Equilibrium with AD increase with unemployment
Equilibrium with AD increase with full employment
AS shifts: cost v. pot Q

1 Ξ 2 is a cost increase
1 Ξ 3 is a potential output increase
<table>
<thead>
<tr>
<th>Issue</th>
<th>Keynesian economy</th>
<th>Classical economy</th>
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<tbody>
<tr>
<td>1. Prices/wages</td>
<td>Sticky</td>
<td>Flexible</td>
</tr>
<tr>
<td>2. Unemployment</td>
<td>Yes, sometime high and persistent</td>
<td>No</td>
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<tr>
<td>3. AS curve</td>
<td>Upward sloping</td>
<td>Vertical</td>
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<td>4. Effect of AD increase</td>
<td>Raises Q, lowers U</td>
<td>No effect on Q or U</td>
</tr>
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<td>5. Impact of higher saving</td>
<td>Lower Q in short run</td>
<td>Higher I, K, and Q in long run</td>
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What is the controversy about the current stimulus program?

- **Elements of the stimulus**
  - Primarily cut business taxes
  - Effect: $S_{gov} \downarrow$ by $80$ billion

- **Impacts:**
  - Short run through impact on $I$ and $AD$
  - Long run through impact on $S$ and $AS$

- **See AS and AD diagram (in class)**
Four fundamental macroeconomics laws relating potential and actual output

1. Business cycles
2. Cyclical unemployment
3. Inflation
4. Economic growth
1. Interaction of Actual and Potential Output

**Business cycles:** contractions occur when actual output grows more slowly than potential; vice versa for expansions.

![Graph of Ratio of Actual to Potential Output](image)

*Note: shaded areas are recessions*
2. Okun's Law

When actual output rises relative to potential, unemployment falls; and vice versa when output falls.
3. Inflation

- When output is above potential, inflation tends to rise; inflation falls when output below potential.
- This is the “Phillips curve” that we will study next week.
4. Long-run economic growth

In long run, output growth primarily due to growth in potential output. This was subject of economic growth sections.
The “History” of the 2001 Recession

1. Business cycle: current output decline due to stock market and dot.com meltdown (I ↓) and current fear psychology (C ↓)
2. Unemployment is rising because actual Q is growing slower than potential Q
3. Inflation is slowing because of higher U
4. Potential Q is likely to grow more slowly as more of output is devoted to security rather than growth-producing K