Lecture 2: Basic Definitions

- GDP
- Inflation Rate
- Unemployment Rate
- Trade and Budget Deficits
Gross Domestic Product

• First thing we look at (its rate of growth)
• Aggregate output: Not easy!
  – Sum of apples and oranges
  – Double-counting
• Example
A Simple Economy

• Steel Company
  – Revenue from sales $100
  – Expenses (wages) 80
  – Profit 20

• Car Company
  – Revenue from sales $210
  – Expenses
    • Wages $70
    • Steel purchases 100
  – Profit 40

• What is this economy’s GDP?
Calculating GDP

• Method 1: GDP is the value of the final goods and services produced by the economy during a given period

• Method 2: GDP is the sum of valued added produced....

• Method 3: GDP is the sum of incomes in the economy...
Nominal vs Real GDP

• Nominal GDP: sum of final goods produced times their current price
  – Growth due to quantity (production)
  – Growth due to prices
• Real GDP: … times their base year price
• Example (next trp.)
• GDP Growth: \( \frac{Y(t) - Y(t-1)}{Y(t-1)} \)
## Nominal vs Real GDP

### Year 0

<table>
<thead>
<tr>
<th>Q</th>
<th>P</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potatoes</td>
<td>100,000</td>
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<tr>
<td>Cars</td>
<td>10</td>
<td>$10,000</td>
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<tr>
<td>Nominal GDP</td>
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</tbody>
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### Year 1

<table>
<thead>
<tr>
<th>Q</th>
<th>P</th>
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</table>
The Inflation Rate

• More than one…. \( \frac{(P(t)-P(t-1))}{P(t-1)} \)
• GDP deflator and CPI
• GDP deflator = Nominal GDP / GDP
  - \( P_0 = 1 \)
  - \( P_1 = \frac{230,000}{210,000} = 1.1 \) (approx.)
• NGDP growth = GDPg + Inflation (defl)
• Why do we care?
The Unemployment Rate

- Labor force (L) = Empl. (N) + Unemployed (U)
- Unemployment Rate (u) = U/L
- Willing to work? Looking for work?  L < Pop.
  - Not in the labor force
  - Discouraged workers (recessions)
- High unemployment often comes hand on hand with low participation rate:
  - L/Pop of working age
- U.S. (u = 4%, pr = 80%)  France (u=13%, pr = 65%)
- Why do we care? Too high and…. too low??
Deficits

- Expenditure > Income
- Trade Deficit:
  - Imports > Exports
  - U.S. today (FED, Treasury, Japan)
- Budget deficit
  - Gov. Expenditure > Gov. Revenue
- Why do we care? Smoothing; Argentina… the US
First Model: The Goods Market

Production → Income

Demand