INTRODUCTION

ECON 302
Plan

1. Areas of Macroeconomics.
2. Important questions in macroeconomics.
3. Inspecting macroeconomic time series data – logarithmic scale.
Micro vs. Macro

- Microeconomics - the study of individual behavior of consumers and firms.
- Macroeconomics – the study of aggregate behavior of consumers and firms.
Examples of Questions Addressed

<table>
<thead>
<tr>
<th>Micro</th>
<th>Macro</th>
</tr>
</thead>
<tbody>
<tr>
<td>What affects the price of individual good?</td>
<td>What affects the “aggregate price level”?</td>
</tr>
<tr>
<td>What causes changes in output of particular firm or industry?</td>
<td>What causes changes in the “aggregate output level”?</td>
</tr>
</tbody>
</table>
Areas of Macroeconomics

- Macroeconomics
  - Business cycles
    - Real business cycles
  - Growth
    - Monetary economics
    - International macro economics
Real GDP Per Capita

Real gross domestic product per capita

Source: US. Bureau of Economic Analysis/FRED
Real GDP Per Capita

Real gross domestic product per capita

Growth trend based on pre-recession

Source: US. Bureau of Economic Analysis/FRED
Questions

• What causes growth in output?
• What causes business cycles?
• Can government policies affect growth? Business Cycles?
• Can government policies “smooth out” the business cycles?
• Why the recovery from the last recession is slow and incomplete (in Q2-2016, we are 20.7% below the pre-recession trend)?
• Who cares?
Logarithmic scale

• **Main point** – if you want to examine the **growth trend** of any time series, plot the natural logarithm (\( \ln(\cdot) \)) of the data, instead of the original data.

• For more details, see the notes on [Rates of Change](#).
Real GNP per capita (USA)
What about other countries?
In(Real GDP per capita)
Questions

- Why are some countries so rich while others are so poor?
- Why some countries grow fast, while other grow slow or not at all?
The U.S. Unemployment Rate

Jul 2016: 4.9%

Source: US. Bureau of Labor Statistics
fred.stlouisfed.org
Deviations from Trend in the Unemployment Rate (black line) and Percentage Deviations from Trend in Real GDP (colored line)
Questions

• Why do we always have unemployment?
• Can/should the government do something about it?
The Inflation Rate

Consumer Price Index for All Urban Consumers: All Items

Source: US. Bureau of Labor Statistics/FRED
Nominal Interest and Inflation Rates

![Chart illustrating nominal interest and inflation rates from 1950 to 2010. The chart shows the relationship between interest rates and inflation rates over the years with two lines representing different data sets.](chart.png)
Questions

- What causes Inflation?
- Can/should the government (or central bank) do something about it?
Government Spending and Tax Revenues

Percentage of GDP

Year


Spending

Taxes
Public Debt and Deficit.

Public Debt is the money that the government owes to non-government entities, excluding within government debt. Public debt as a fraction of GDP is the figure we need to monitor and compare with other countries.

Source: Federal Reserve Bank of St. Louis, US. Office of Management and Budget
fred.stlouisfed.org
Public Debt and Deficit.

Government deficit is what fuels the debt. The deficit has declined since the recession -
## Public Debt and Deficit

<table>
<thead>
<tr>
<th>Rank in the World</th>
<th>Country</th>
<th>Public Debt as % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Japan</td>
<td><strong>227.90</strong></td>
</tr>
<tr>
<td>3</td>
<td>Greece</td>
<td>171.30</td>
</tr>
<tr>
<td>5</td>
<td>Italy</td>
<td>135.80</td>
</tr>
<tr>
<td>19</td>
<td>France</td>
<td>98.20</td>
</tr>
<tr>
<td>25</td>
<td>United Kingdom</td>
<td>90.60</td>
</tr>
<tr>
<td>28</td>
<td>European Union</td>
<td>86.80</td>
</tr>
<tr>
<td>39</td>
<td>United States</td>
<td><strong>72.70</strong></td>
</tr>
<tr>
<td>45</td>
<td>Germany</td>
<td>71.70</td>
</tr>
<tr>
<td>161</td>
<td>China</td>
<td>16.70</td>
</tr>
</tbody>
</table>

Source: CIA, The World Factbook
Public Debt and Deficit.

Interest payments is the cost of the public debt. Due to low interest rates, the cost of debt has been relatively low in recent years.
Questions

• What is the impact on the economy of fiscal policies (changes in gov. spending or taxes)?
• What are the consequences of government deficit?
Questions

• Is more trade good or bad?
• What are the consequences of trade deficit?
Exchange Rates

U.S. / Euro Foreign Exchange Rate

Source: Board of Governors of the Federal Reserve System (US)/FRED
Questions

• What causes changes in exchange rates?
• Can we predict future exchange rates?
Our Approach

In order to answer the questions we asked in this presentation (and other questions), we
1. Develop economic theory (models)
2. Test these our theories against data (evidence)
3. Refine models,
4. Test again…
How to do well in ECON 302

1. **Do the math.** You must practice deriving and proving the results in the notes. *Reading the notes is not enough.*

2. **Attendance.** Attending all the classes *on time* is crucial.

3. **Read the notes in advance.** Prepare for each class.

4. **Review previous material before every class.**

5. **Homework.** You must solve all the homework.

6. **Ask me.** Highlight parts of the notes that you did not understand, and visit me during office hours.

7. **Understand, not Memorize.**