Intro: What is this Course About? 

and

Lecture I: Where was the Economy pre-COVID?
Course Outline

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Date</th>
<th>Topics Covered</th>
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<tbody>
<tr>
<td>1</td>
<td>6-Nov</td>
<td>Where was the economy before COVID, where is economy now, and what are the prospects post-COVID?</td>
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<tr>
<td>2</td>
<td>13-Nov</td>
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<tr>
<td>3</td>
<td>20-Nov</td>
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Note: Varying amounts of time will be spent on each topic
A Look Ahead from Today’s NY Times

Job growth has slowed in recent months
Cumulative change in all jobs since October 2016

What does this mean?
Unemployment Rate Announced Today
1) Economics is a **social** science, not a natural science!

- There aren’t labs to “test” hypotheses, only economic statistics and inferences drawn from those “observations,” which are based on measures that may be frequently revised.

- This is more true for macroeconomics because of the number of potential variables involved to fully model a national economy
  - And, in macroeconomics, much of the data is quarterly, beginning after World War II, limiting the number of observations.
  - Macroeconomics involves many analyses that directly involve public policies which economists and the public have strong priors about. In particular:

**The Role of Government in Managing the Economy**

**Most Importantly: Tax & Spending Policies**
Many critical questions in macroeconomics (e.g., size of fiscal multiplier) rely on time series data

- For quarterly data 1947Q1-2020Q4, # of observations = 292
- How many observations are there when there is significant fiscal stimulus to test how federal stimulus impacts economic growth?
- Results are usually sensitive to nuanced statistical assumptions and models used to test hypotheses.

Real world: **prior biases** of researchers, model construction and data transformation choices can be a material factor in estimation of the impacts of critical policy questions.
As a consequence ...

1) There are and will be ongoing debates within the economics profession over the effect of macroeconomic policies and whether they will improve or harm the economy in various economic conditions.

2) The media doesn’t help: In setting up point-counter-point formats makes these disagreements appear more material than they actually are within the economics profession.

Surveys of Economists’ Opinions

Surveys of professional economists indicate that about 70% of them trained in macroeconomics will agree with what I’ll be teaching in this course.
Economic Stimulus (revisited)

Question A: Because of the American Recovery and Reinvestment Act of 2009, the U.S. unemployment rate was lower at the end of 2010 than it would have been without the stimulus bill. (The experts panel previously voted on this question on February 15, 2012. Those earlier results can be found here.)

Source: IGM Economic Experts Panel
www.igmchicago.org/igm-economic-experts-panel
Two Quotes Illustrate the Internal Dynamics within the Economics Profession

Robert Lucas and Tom Sargent in 1978 (both Nobel Prize winners)

“Modern macroeconomic models are of no value in guiding economic policy and this condition will not be remedied by modifications…”

Paul Krugman in 2012 (Nobel Prize winner)

“Freshwater economics became a kind of cult, ignoring and ridiculing any ideas that didn’t fit its paradigm. By 1980 Robert Lucas, wrote approvingly of how people would giggle and whisper when facing a Keynesian. What’s remarkable about that is that this was all based on the presumption that freshwater logic would provide a plausible, workable alternative to Keynes – a presumption that was not borne out by anything that had happened in the 1970s. And in fact it never happened.”
Economists and the Political Spectrum

% of Total Economists

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Bar chart showing the distribution of economists across the political spectrum, with categories including Harvard, MIT, UC, Me, Political Center, and Right. The chart indicates a concentration of economists in the center with a smaller presence on the left and right ends.
It’s not a coincidence that Keynes wrote the “General Theory of Employment Interest and Money” in 1936.
Keynes and Macroeconomic Policy

Macroeconomic policies implemented post-Keynes have made a huge socially meaningful and positive difference to macroeconomic performance and improving the lives of human beings in virtually all industrialized economies.

Recessions have not been eliminated, but they have been less frequent and of shorter duration.

Gray shaded areas are recessions

Note: the recession this spring hasn’t yet been announced
Recession Stats Pre vs. Post Keynes

We live in a Post-Keynesian Macroeconomy!

* Counts 2020Q2 as a recession
“Inflation Targeting” will be discussed in more detail later.

<table>
<thead>
<tr>
<th>Period</th>
<th>Annual Inflation Rate</th>
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<tbody>
<tr>
<td>1891-1947</td>
<td>Avg. 1.9, Stand Deviation 5.3</td>
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<tr>
<td>1948-1993</td>
<td>Avg. 4.1, Stand Deviation 3.3</td>
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<tr>
<td>1994-2020(Sep)</td>
<td>Avg. 2.2, Stand Deviation 1.0</td>
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The Macroeconomic System Pre-Pandemic

The Macroeconomy: it’s an interconnected System
The Pandemic poses is a major macroeconomic challenge
Macroeconomic Policy Matters!

Well Designed Macroeconomic Policies

- Faster economic growth
- Stable economic growth
- Lower unemployment rates
- Low inflation rates
- Lower levels of poverty

Poorly Designed Macroeconomic Policies

- Slower economic growth
- Significant economic fluctuations
- Higher unemployment rates
- Higher inflation rates
- Higher levels of poverty

OR

Poorly Designed Responses to a Pandemic
Where was the Economy in Feb 2020 and Why was it Performing so Well?
Key Economic Performance Metrics

Positive Results

- Unemployment rates were at historical lows
- Inflation was at just under 2%
- Interest rates were low
- Family incomes were rising
- The economy had been growing virtually uninterrupted since June 2009 or for over 10 years
Unemployment through Feb 2020

Historical note: the lowest unemployment rate since the end of WWII was 2.5% in 1953
GDP Growth Prior to 2020Q1

Annual
% \(\Delta\)
Real
GDP

2020Q1 excluded because it includes pandemic impacts
Potential Real GDP vs. Actual Real GDP

Real Potential and Real GDP in $Trillions Constant 2020 Dollars

Gray shaded areas are recessions
GDP GAP

Real Potential and Real GDP in $Trillions Current Dollars

= $4.9 Trillion in Lost Output
Periods following troughs are usually when Real GDP grows faster than potential and the unemployment rate is lowered.
Inflation Rate – Through Feb 2020

<table>
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<tr>
<th>Period</th>
<th>Inflation Rate (%)</th>
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<tr>
<td>Jan48 - Jan94</td>
<td>Avg: 4.0, St Dev: 3.3</td>
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<tr>
<td>Jan94 - Feb20</td>
<td>Avg: 2.2, St Dev: 1.1</td>
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Announced Target has been 2%. Average over 20 years has been 2.2%
Inflation Rates in Advanced Economies

Inflation Rates (%)

[Graph showing inflation rates for advanced economies from 1970 to 2020, with lines for USA, GB, SWI, CAN, JAP, Fr, and Ger.]
# Inflation Rates in Advanced Economies

## 1960-95 and 1995-2020

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<tr>
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<tbody>
<tr>
<td>USA</td>
<td>4.7</td>
<td>2.2</td>
<td>4.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Gr Britain</td>
<td>7.2</td>
<td>2.0</td>
<td>7.2</td>
<td>0.8</td>
</tr>
<tr>
<td>Japan</td>
<td>4.8</td>
<td>0.2</td>
<td>4.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Germany</td>
<td>3.4</td>
<td>1.4</td>
<td>3.4</td>
<td>0.7</td>
</tr>
<tr>
<td>France</td>
<td>5.9</td>
<td>1.3</td>
<td>5.9</td>
<td>0.8</td>
</tr>
<tr>
<td>Switz</td>
<td>3.7</td>
<td>0.5</td>
<td>3.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Canada</td>
<td>4.9</td>
<td>1.7</td>
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*If inflation rates were the same the marks would be on this line.*

*If SDs were the same the marks would be on this line.*
It’s a Macroeconomic Policy Success Story

Central banks in the advanced economies have been following a coordinated policy of “inflation rate targeting”

- This policy has led to a material reduction in inflation rates and inflation rate volatility for over 20 years
- The central banks are not going to “give it up” any time soon
- In one country (Japan) it has been too successful
- During the pandemic the U.S. is challenged by too little inflation.
Theoretical Note about Inflation

Current "Thinking"

Deflation is Very Bad

High Inflation is Bad

Low Inflation is Better than High Inflation

Fed Policy Target = 2%

Social Costs

Inflation Rate (%) -2 0 2 4 6 8

Social Benefits
Benefits of a Low Unemployment and Low Inflation Economy

Low unemployment benefits the last to be employed

U6 is an unemployment rate measure that captures discouraged workers

Low unemployment benefits ALL ethnic groups
Interest Rates
Other rates are priced off the Treasury curve

The Treasury Yield Curve is referred to a Benchmark Curve
"Yield Curve": 10Y – 3M Rate (%)

Rate levels have declined, but not the volatility between longer and shorter term rates.
Concept “Real Interest Rates”

Interest Rate (%)

Rate of Inflation (%)

3M Tr Rate – Inflation Rate
Why have real interest rates declined over the past 30 years?
The “Natural” Real Rate of Interest (R*)

Easy to describe

Definition: the *real* short term risk free interest rate that occurs when GDP is equal to Potential GDP

- Since the economy is only at full employment “occasionally” the estimate of R* is based on a “theoretical” model
- This means that measurement is highly sensitive to modeling assumptions, involving non-directly observable parameters
  - Academics refer to these as “posited parameters.”
The “Natural” Real Rate of Interest

Implications

If Central Banks believe the trend in $R^*$, the impacts on the performance of the national economies could be material

- Measurement was conducted and published in a paper by the current President of the FRB of NY
  - It has influenced the thinking among the staff of the Fed and contributed to the reduction of interest rates in the fall of 2018.

- Central banks will have less power to mitigate the impacts of recessions UNLESS they are willing to generate even lower nominal rates

- This means there is the potential for **negative nominal interest rates** in the US at some point in the future.
Estimate Posted on FRB – NY Website

The Natural Rate of Interest, or R-star

Note to Investors: this has material implications for equity vs. bond returns