

# Chapter 1 Lecture -Introduction to Macroeconomics

## Chapter 1

### Introduction to Macroeconomics



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### What Macroeconomics Is About

- Macroeconomics: the study of structure and performance of national economies and government policies that affect economic performance
- Issues addressed by macroeconomists:
  - Long-run economic growth
  - Business cycles
  - Unemployment
  - Inflation
  - The international economy
  - Macroeconomic policy

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### Quick Intro to GNP and GDP

- **GNP – focused on nationality**
  - Sum of value of finished (or final) goods and services (as opposed to intermediate outputs) produced by a country's economic agents (firms and households) during one year, regardless of whether production takes place within or outside the country.
- **GDP – geographically focused**
  - Sum of value of finished (not intermediate) goods and services produced in a country during one year, regardless of whether foreigners or that country's economic agents are doing the production.
- **Alternative definition of GDP (or GNP) – national income**
  - Instead of determining the size of the economy by counting up the value of all finished goods and services, one can estimate GDP by summing value added, industry/sector by industry/sector. The single industry's value-added is distributed as income to the suppliers of labor, capital, and other factors of production. Accordingly, the summation of all value added in an economy equals national income.

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### The Growth Rate – What it Means

- The growth rate between two years, such as 2014 and 2013, is given by the formula:

$$\text{growthrate} = \frac{GDP_{2014} - GDP_{2013}}{GDP_{2013}}$$

where  $GDP_{2014}$  is the GDP in 2014 and  $GDP_{2013}$  is the GDP in 2013

- If you know the growth rate and, for example, if the rate of growth between 2013 and 2014 is 1.3%, then to find the GDP in 2014, multiply the GDP in 2013 by 1.013.
- In order to figure out the GDP over a longer period of time, say between 2009 and 2014 (a period of 5 years):

$$GDP_{2014} = GDP_{2009} \times (1.013)^5$$

- notice that the growth rate is the average annualized rate (exactly 1.3% growth probably doesn't occur every year; it is the average annual growth rate or more exactly, the rate that would generate the end year result if one growth rate had obtained for the entire time)

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$$\begin{aligned} \text{GROWTH RATE} &= \left( \frac{\text{present}}{\text{past}} \right)^{\frac{1}{n}} - 1 \\ &= \left( \frac{310}{205} \right)^{\frac{1}{10}} - 1 \\ &= 0.0422 = 4.22\% \end{aligned}$$

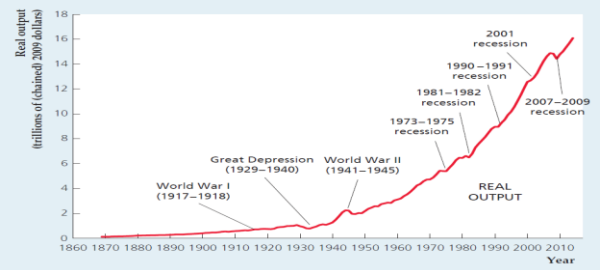
We will show Excel Examples in class

<http://www.moneychimp.com/features/rule72.htm>

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**Figure 1.1: Output of the U.S. economy, 1869–2014**

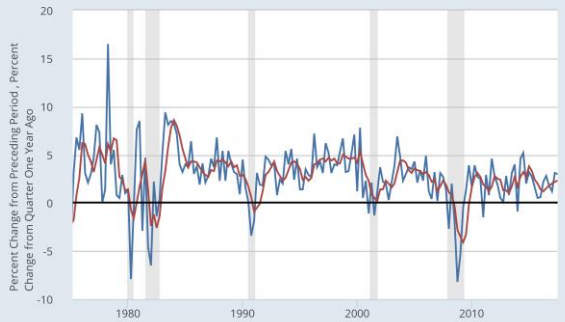
Long-run economic growth - Note decline in output in recessions; increase in output in some wars



Sources: Real GNP 1869–1928 from Christina D. Romer, "The Prewar Business Cycle Reconsidered: New Estimates of Gross National Product, 1869–1908," *Journal of Political Economy*, 97, 1 (February 1989), pp. 22–23; real GDP 1929 onward from FRED database, Federal Reserve Bank of St. Louis, [research.stlouisfed.org/fred2/series/GDP](https://research.stlouisfed.org/fred2/series/GDP). Data from Romer were rescaled to 2009 prices.

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**FRED** — Real Gross Domestic Product; Seasonally Adjusted Annual Rate  
— Real Gross Domestic Product; Seasonally Adjusted



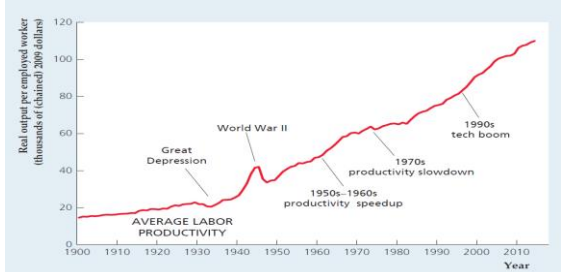
Source: U.S. Bureau of Economic Analysis  
[fred.stlouisfed.org](https://fred.stlouisfed.org)

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**Figure 1.2: Average labor productivity in the United States, 1900–2014**



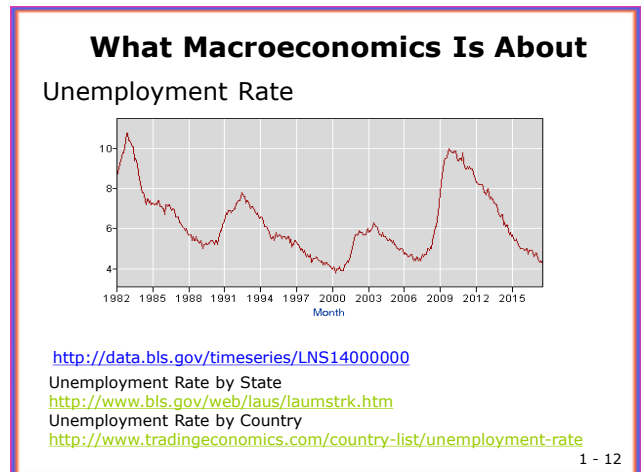
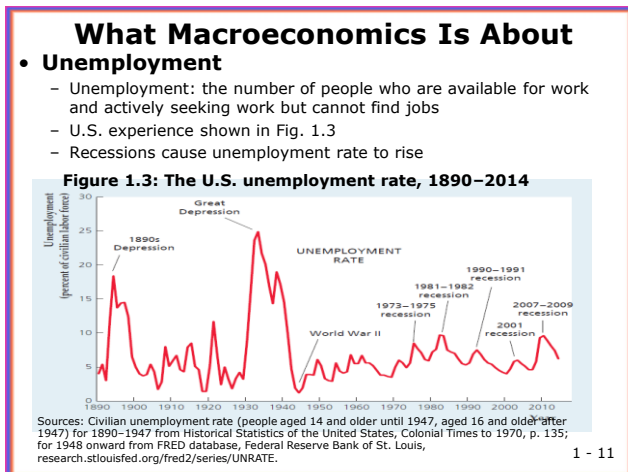
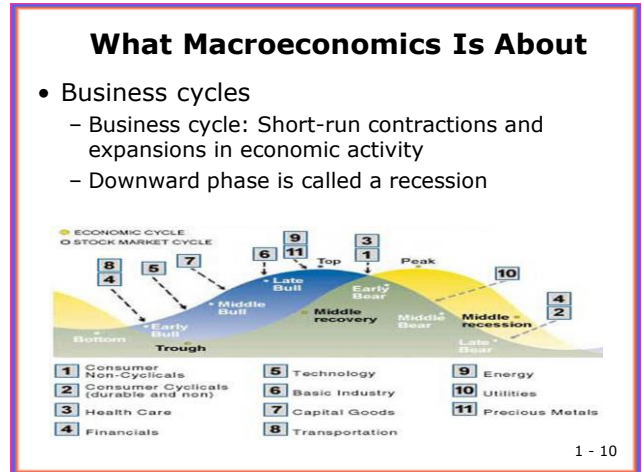
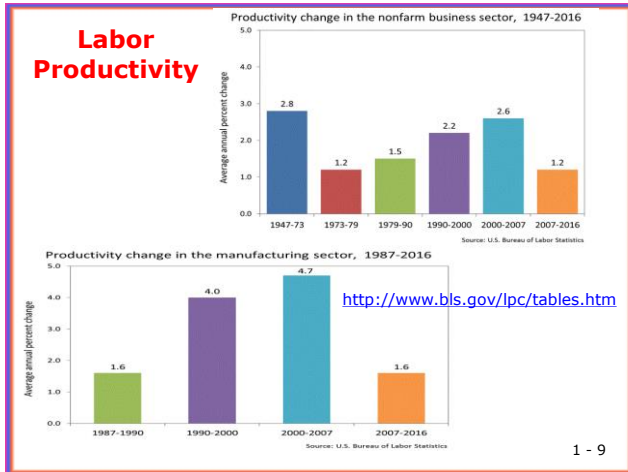
Sources: Real GNP 1869–1928 from Christina D. Romer, "The Prewar Business Cycle Reconsidered: New Estimates of Gross National Product, 1869–1908," *Journal of Political Economy*, 97, 1 (February 1989), pp. 22–23; real GDP 1929 onward from FRED database, Federal Reserve Bank of St. Louis, [research.stlouisfed.org/fred2/series/GDP](https://research.stlouisfed.org/fred2/series/GDP). Data from Romer were rescaled to 2009 prices.

<https://tradingeconomics.com/united-states/gdp-growth>

<https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>

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# Chapter 1 Lecture -Introduction to Macroeconomics



# Chapter 1 Lecture -Introduction to Macroeconomics

## Inflation

- Deflation: when prices of most goods and services decline
- Inflation rate: the percentage increase in the level of prices
- Hyperinflation: an extremely high rate of inflation
- What is disinflation?

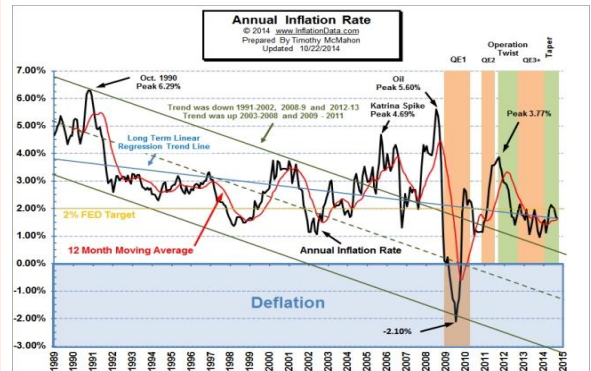
### History of Hyperinflation

No	Country	Year(s)	Highest Inflation per month (%)	No	Country	Year(s)	Highest Inflation per month (%)
1	Argentina	1989-90	196.60	16	Hungary	1945-46	1.295 x 10 <sup>16</sup>
2	Armenia	1993-94	438.04	17	Kazakhstan	1994	57.00
3	Austria	1921-22	124.27	18	Kyrgyzstan	1992	157.00
4	Azerbaijan	1991-94	118.09	19	Nicaragua	1986-89	126.62
5	Belarus	1994	53.40	20	Peru	1988-90	114.12
6	Bolivia	1984-86	120.39	21	Poland	1921-24	187.54
7	Brazil	1989-93	84.32	22	Poland	1989-90	77.33
8	Bulgaria	1997	242.70	23	Soviet Union	1922-24	278.72
9	China	1947-49	4,208.73	24	Taiwan	1945-49	398.73
10	Congo(Zaire)	1991-94	225.00	25	Tajikistan	1995	78.10
11	France	1789-96	143.26	26	Turkmenistan	1993-96	62.50
12	Georgia	1993-94	196.72	27	Ukraine	1992-94	249.00
13	Germany	1920-23	29,525.71	28	Yugoslavia	1990	58.82
14	Greece	1942-45	11,288.00	29	Yugoslavia	1992-94	313,000,000.00
15	Hungary	1923-24	62.18				

Note: 1.295 x 10<sup>16</sup> equals 12,950,000,000,000,000.  
Sources: Peter Bernholz, *Monetary Regimes and Inflation*, Cheltenham, UK: Edward Elgar Publishing, 2003; and Steve H. Hanke

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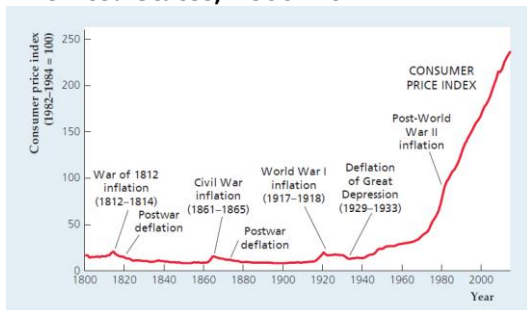
## What Macroeconomics Is About



<http://www.usinflationcalculator.com/inflation/current-inflation-rates/>

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**Figure 1.4: Consumer prices in the United States, 1800–2014**



Sources: Consumer price index, 1800–1946 (1967 = 100) from *Historical Statistics of the United States, Colonial Times to 1970*, pp. 210–211; 1947 onward (1982–1984 = 100) from FRED database, Federal Reserve Bank of St. Louis, [research.stlouisfed.org/fred2/series/CPIAUCSL](https://research.stlouisfed.org/fred2/series/CPIAUCSL). Data prior to 1971 were rescaled to a base with 1982–1984 = 100.

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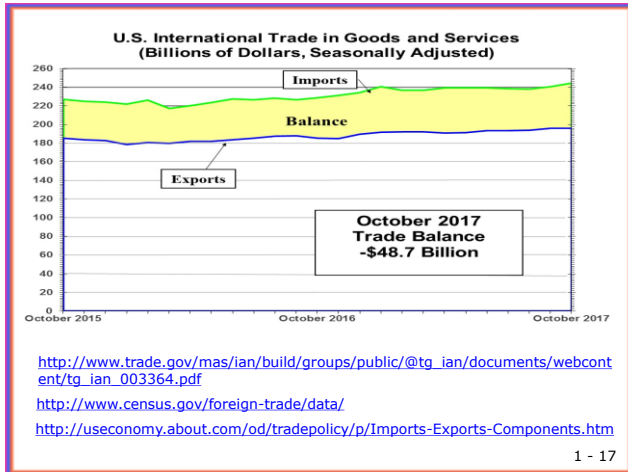
## What Macroeconomics Is About

The international economy

- Open vs. closed economies
  - Open economy: an economy that has extensive trading and financial relationships with other national economies
  - Closed economy: an economy that does not interact economically with the rest of the world
- Trade imbalances
  - Trade surplus: exports exceed imports
  - Trade deficit: imports exceed exports

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## What Macroeconomics Is About

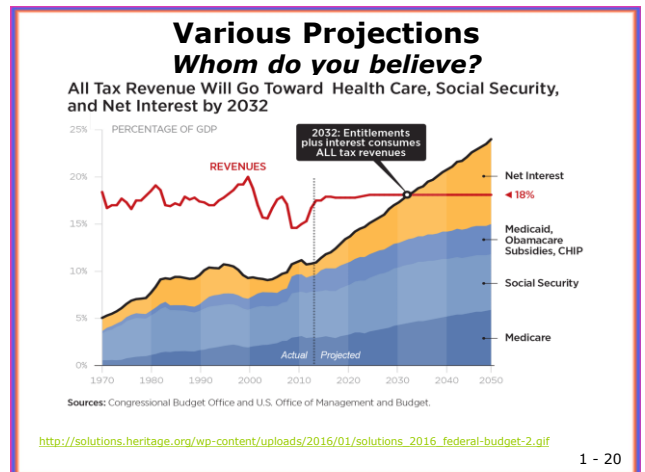
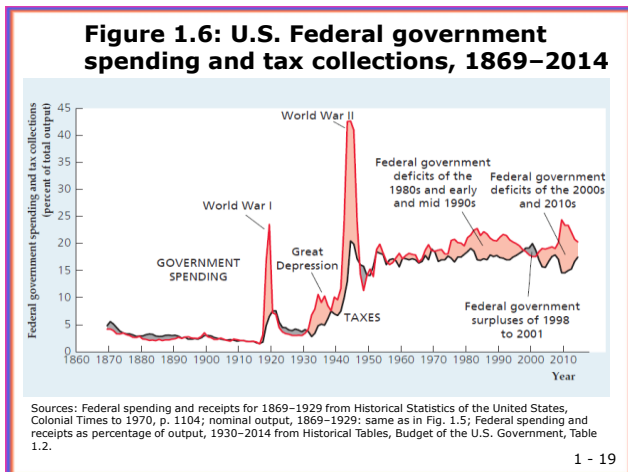
Macroeconomic Policy

- Fiscal policy: government spending and taxation
  - Effects of changes in federal budget
  - U.S. experience in Fig. 1.6
  - Relation to trade deficit?
- Monetary policy: growth of money supply; determined by central bank; the Fed in U.S.

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    graph TD
      GP[Government Policy] --> M[Monetary]
      GP --> F[Fiscal]
      M --> IR[Interest Rates]
      M --> MS[Money Supply]
      F --> T[Tax]
      F --> S[Spend]
    
```

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# Chapter 1 Lecture -Introduction to Macroeconomics

## Why Macroeconomists Disagree

- Positive vs. normative analysis
  - Positive analysis: examines the economic consequences of a policy
- Normative analysis: determines whether a policy should be used
- Solved Problem: Positive or Normative
  - A tax cut will raise interest rates.
  - Payroll taxes should not be cut unless capital gains taxes are cut also.
  - A reduction in the payroll tax would primarily benefit poor and middle-class workers.
  - Payroll taxes are too high.
  - A cut in the payroll tax would improve the President's popularity ratings.

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## Why Macroeconomists Disagree

- **Classicals vs. Keynesians**
  - The classical approach
    - The economy works well on its own
    - The "invisible hand": the idea that if there are free markets and individuals conduct their economic affairs in their own best interests, the overall economy will work well
    - Wages and prices adjust rapidly to get to equilibrium
      - Equilibrium: a situation in which the quantities demanded and supplied are equal
      - Changes in wages and prices are signals that coordinate people's actions
  - Result: Government should have only a limited role in the economy

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## Why Macroeconomists Disagree

- **Classicals vs. Keynesians**
  - The Keynesian approach
    - The Great Depression: Classical theory failed because high unemployment was persistent
    - Keynes: Persistent unemployment occurs because wages and prices adjust slowly, so markets remain out of equilibrium for long periods
    - Conclusion: Government should intervene to restore full employment
  - The evolution of the classical-Keynesian debate
    - Keynesians dominated from WWII to 1970
    - Stagflation led to a classical comeback in the 1970s
    - Last 30 years: excellent research with both approaches

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## What Are Society's Major Economic Problems Today?

Rank the importance to them of the following economic issues:

- (1) Unemployment
- (2) inflation
- (3) economic growth
- (4) stagnant incomes
- (5) the trade deficit
- (6) Social Security
- (7) the government budget
- (8) income inequality.

What are some other issues?

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