

Intermediate Macroeconomics

Introduction

The background is a solid teal color. At the bottom right, there is a silhouette of a mountain range in a slightly darker shade of teal.

Micro vs. Macro

- ◆ Microeconomics - the study of individual behavior of consumers and firms.

- ◆ Macroeconomics – the study of aggregate behavior of consumers and firms.

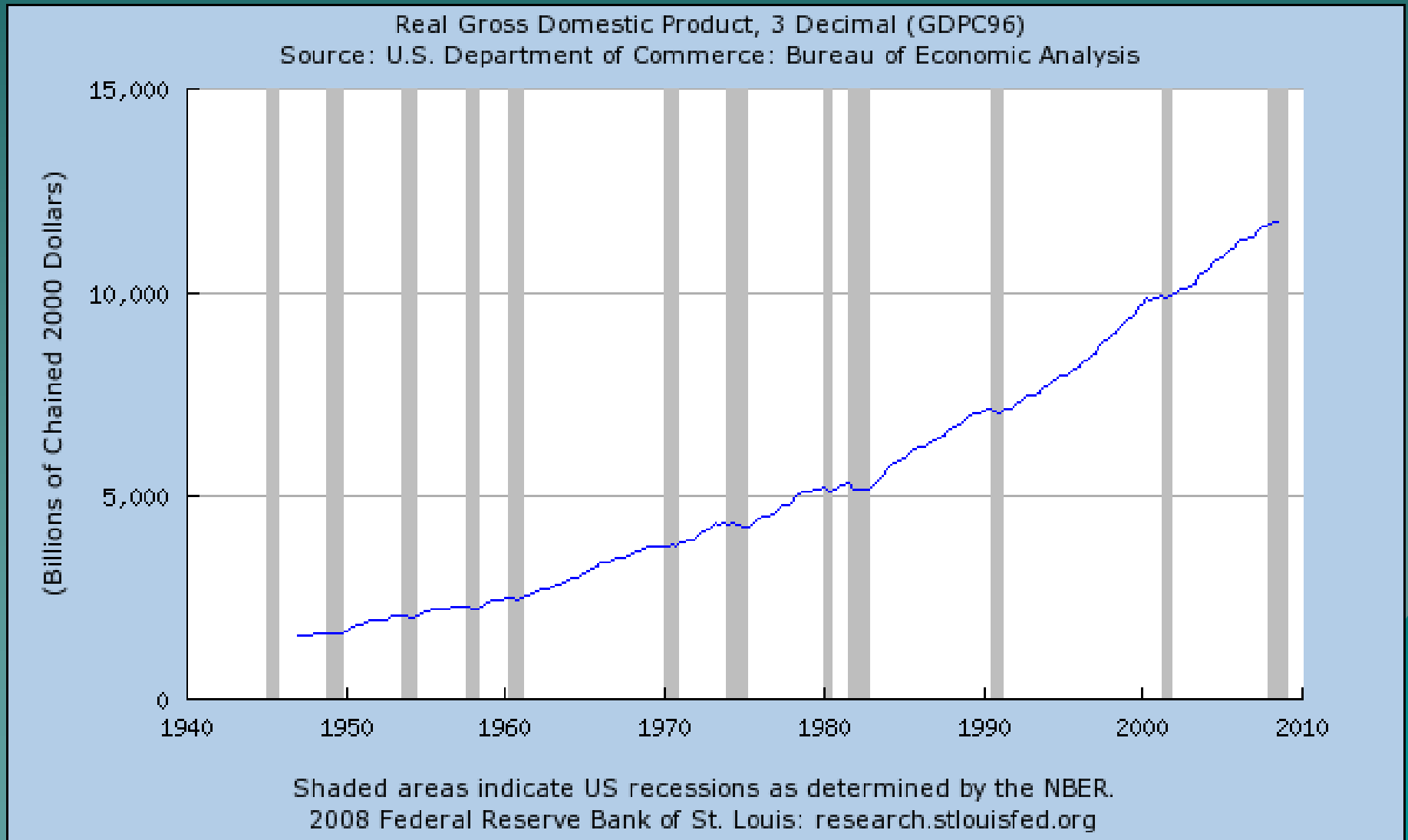
Examples of Questions Addressed

Micro	Macro
What affects the price of individual good?	What affects the "aggregate price level"?
What causes changes in output of particular firm or industry?	What causes changes in the "aggregate output level"?

Macroeconomic Issues

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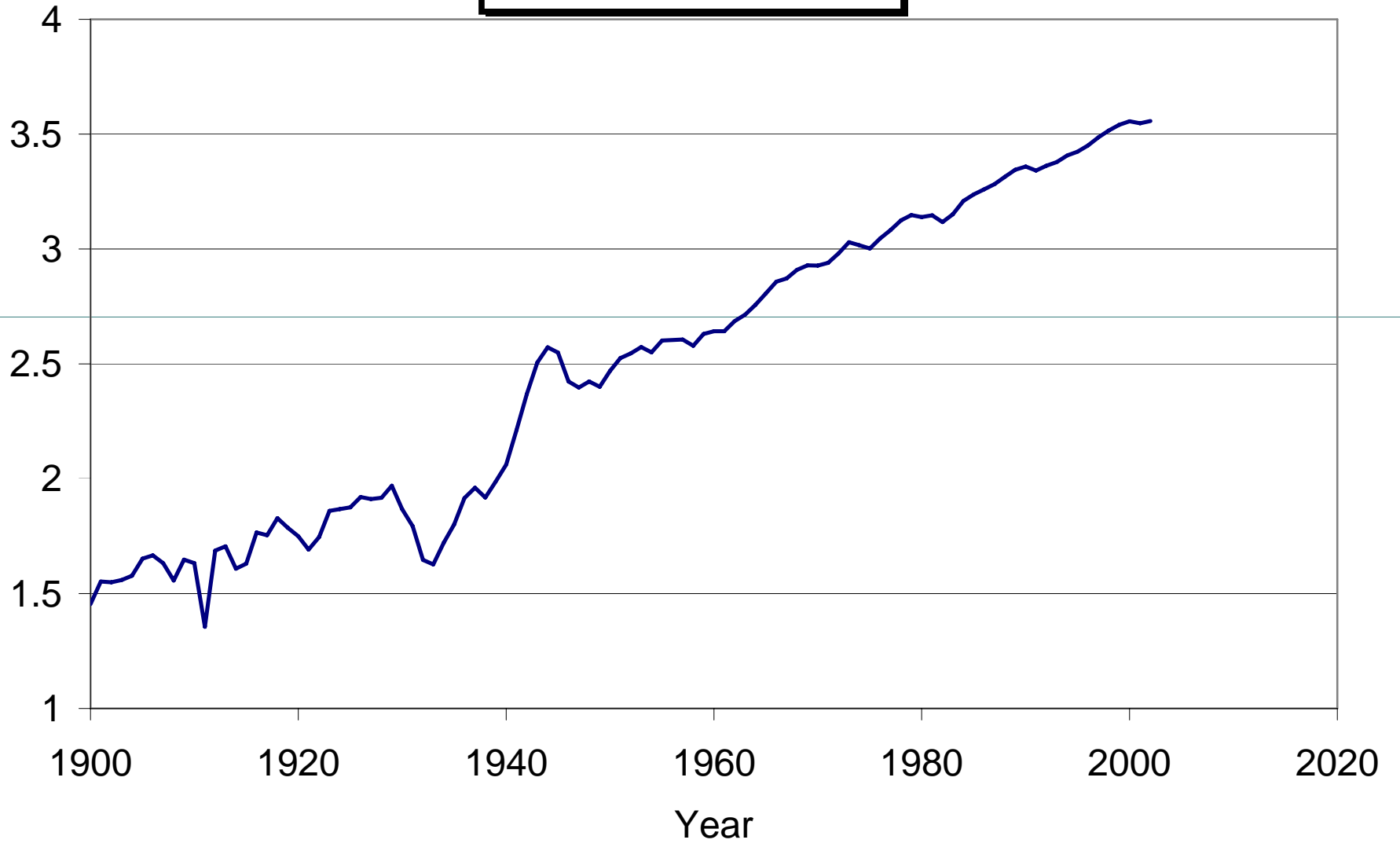
Growth vs. Business Cycles



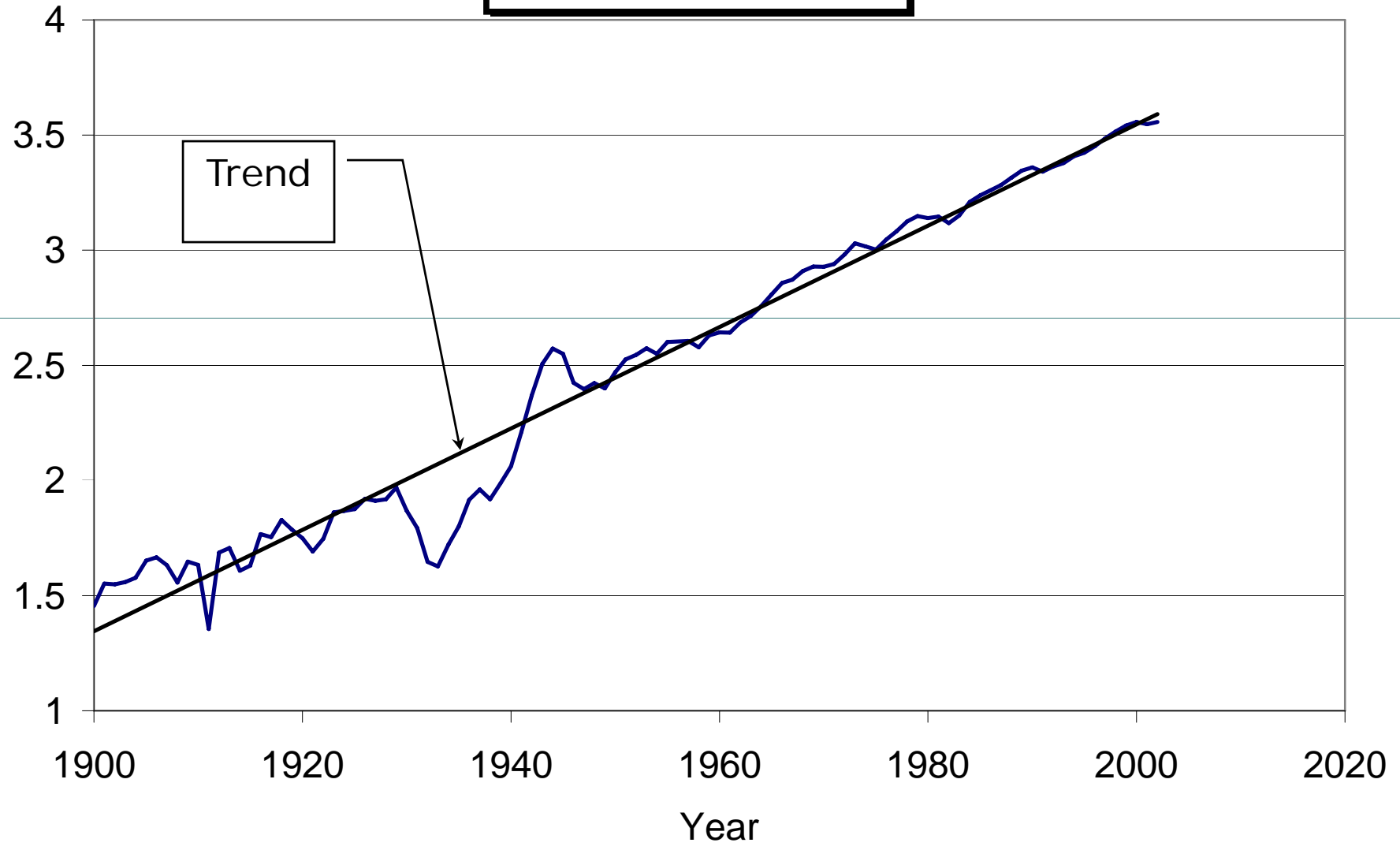
- ◆ From the last slide we see that the real GDP (gross domestic product) in the U.S. has been growing during the 20th century, with fluctuations around the growth trend.
- ◆ The two main fields of macro-economics are **growth** and **business cycles**, which study the growth trend and fluctuations around it respectively.

- ◆ We can say more about the data if we plot the $\ln(\)$ of the data instead of the data itself. Recall that if a variable grows at constant rate, then the \ln of the variable is a linear function of time. Also, for small growth rates, the slope of the \ln of the variable is approximately equal to the growth rate of the original variable. See the notes "Rates of Change", section 3.

In(Real GNP per capita)

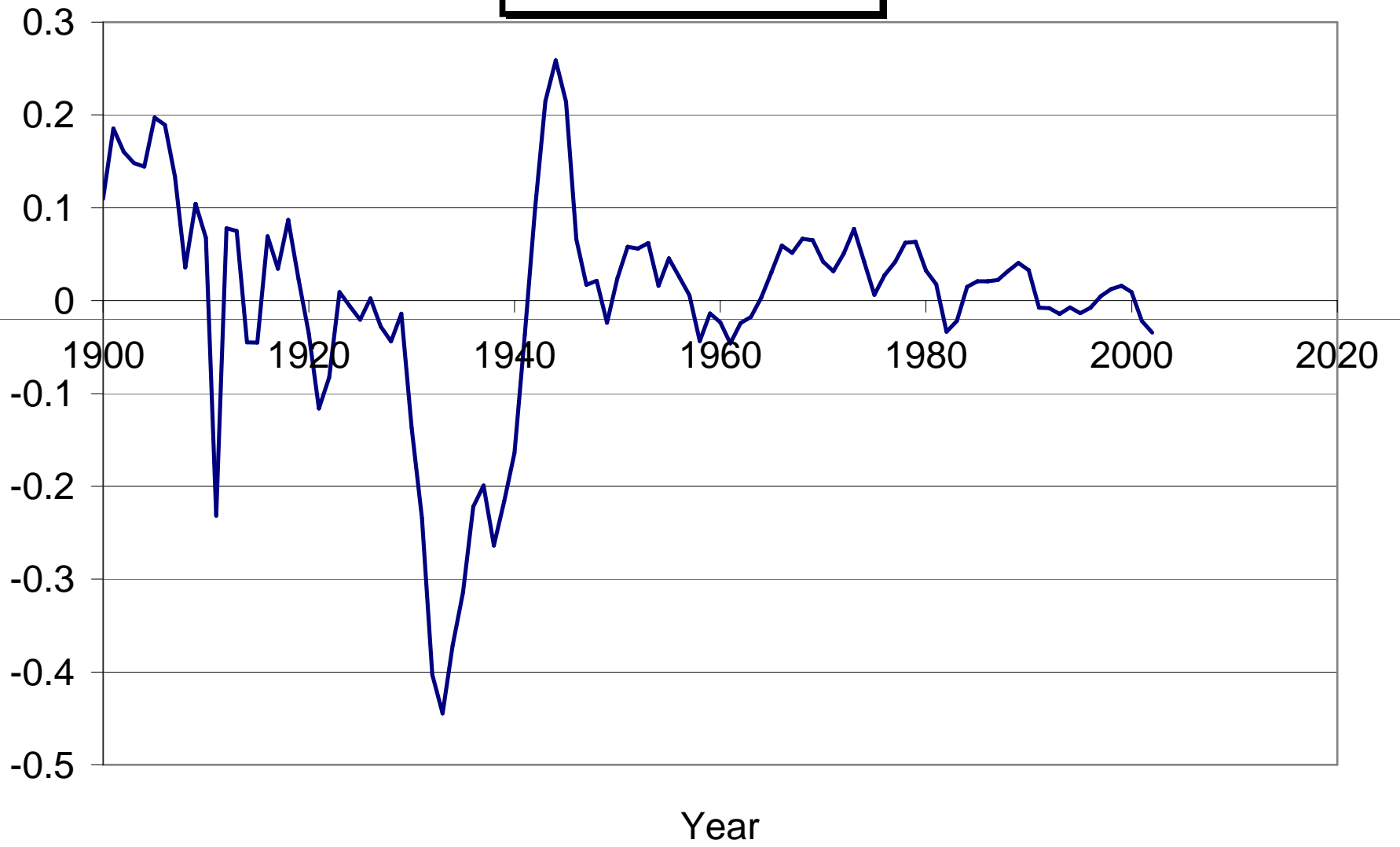


In(Real GNP per capita)




- ◆ From the above graph we see that the \ln of real GNP per capita fluctuates around a linear trend. We conclude that the original variable – real GNP per capita, was growing at a constant rate during the 20th century.
- ◆ Moreover, we can see that the growth rate of the real GNP per capita was approximately $(3.5 - 1.5)/100 = 2\%$.

Deviations from trend



- ◆ The last graph shows the deviations of the $\ln(\text{real GNP per capita})$ from the linear trend. It is constructed by subtracting the linear trend from the \ln of the original variable. This procedure is called **detrending**, and is widely used in the study of business cycles.

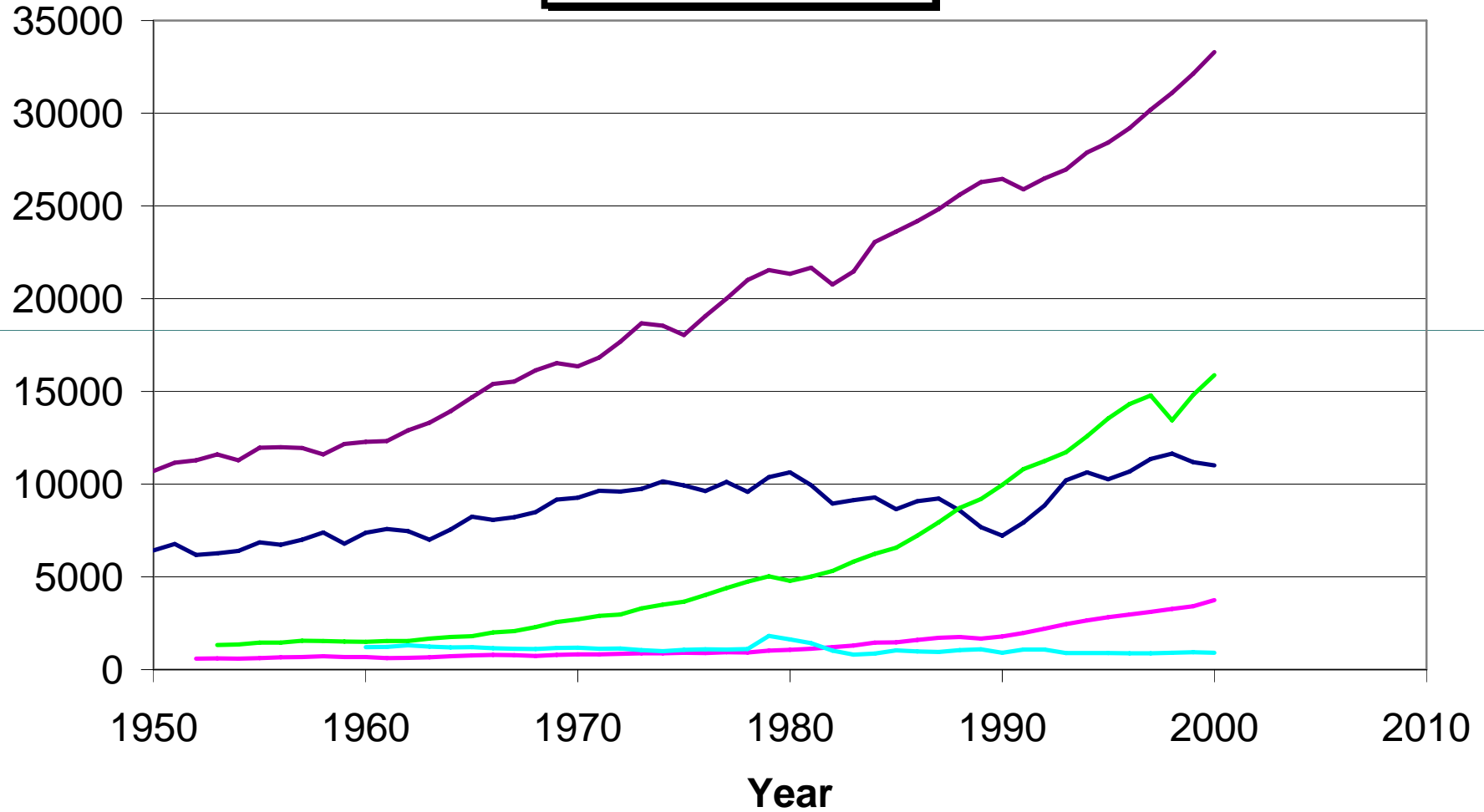
Questions

- ◆ What causes growth in output?
 - ◆ What causes business cycles?
 - ◆ Can government policies affect growth? Business Cycles?
 - ◆ Can government policies “smooth out” the business cycles?
 - ◆ Who cares?
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What about other countries?

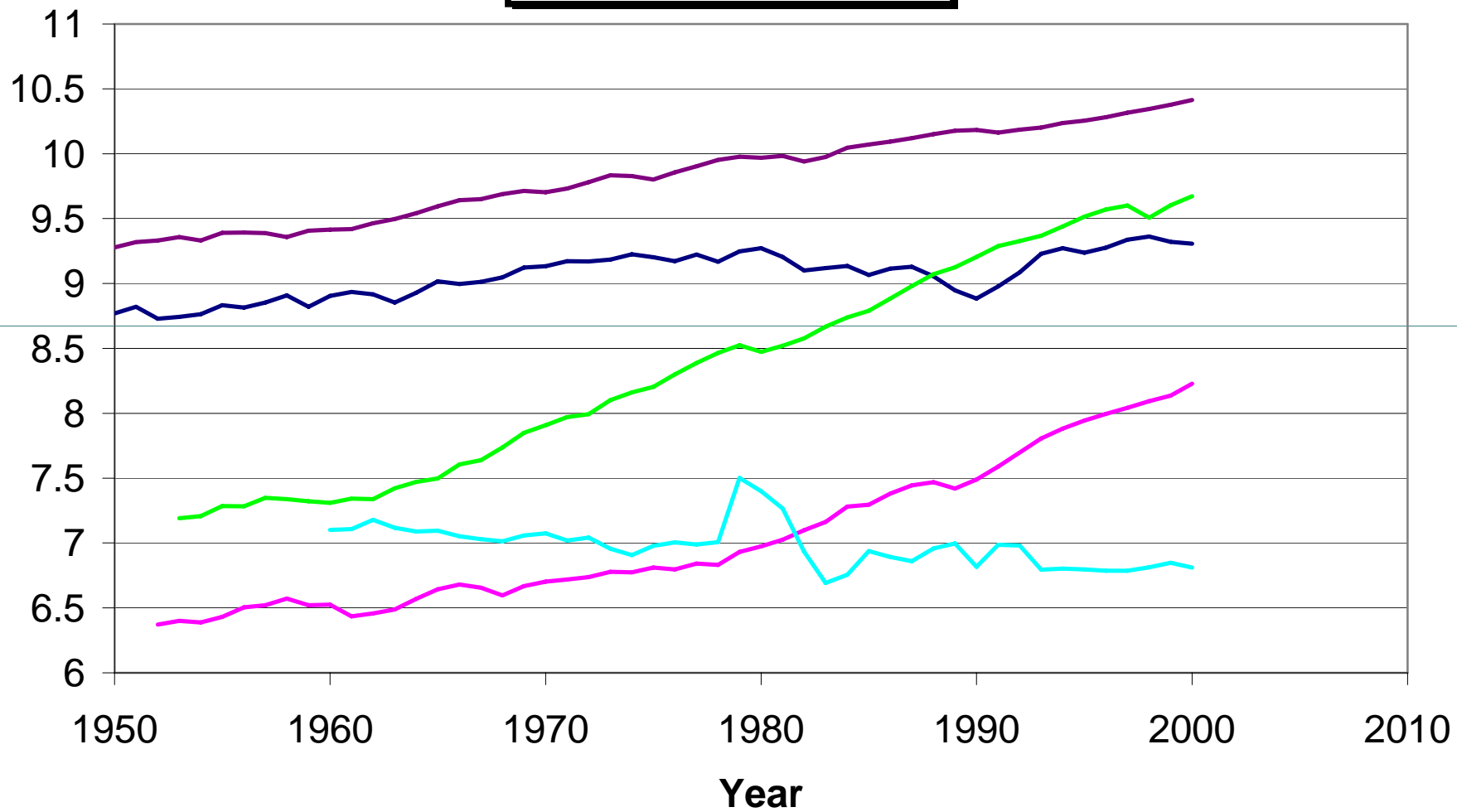


Real GDP per capita



— ARG — CHN — KOR — TCD — USA

In(Real GDP per capita)



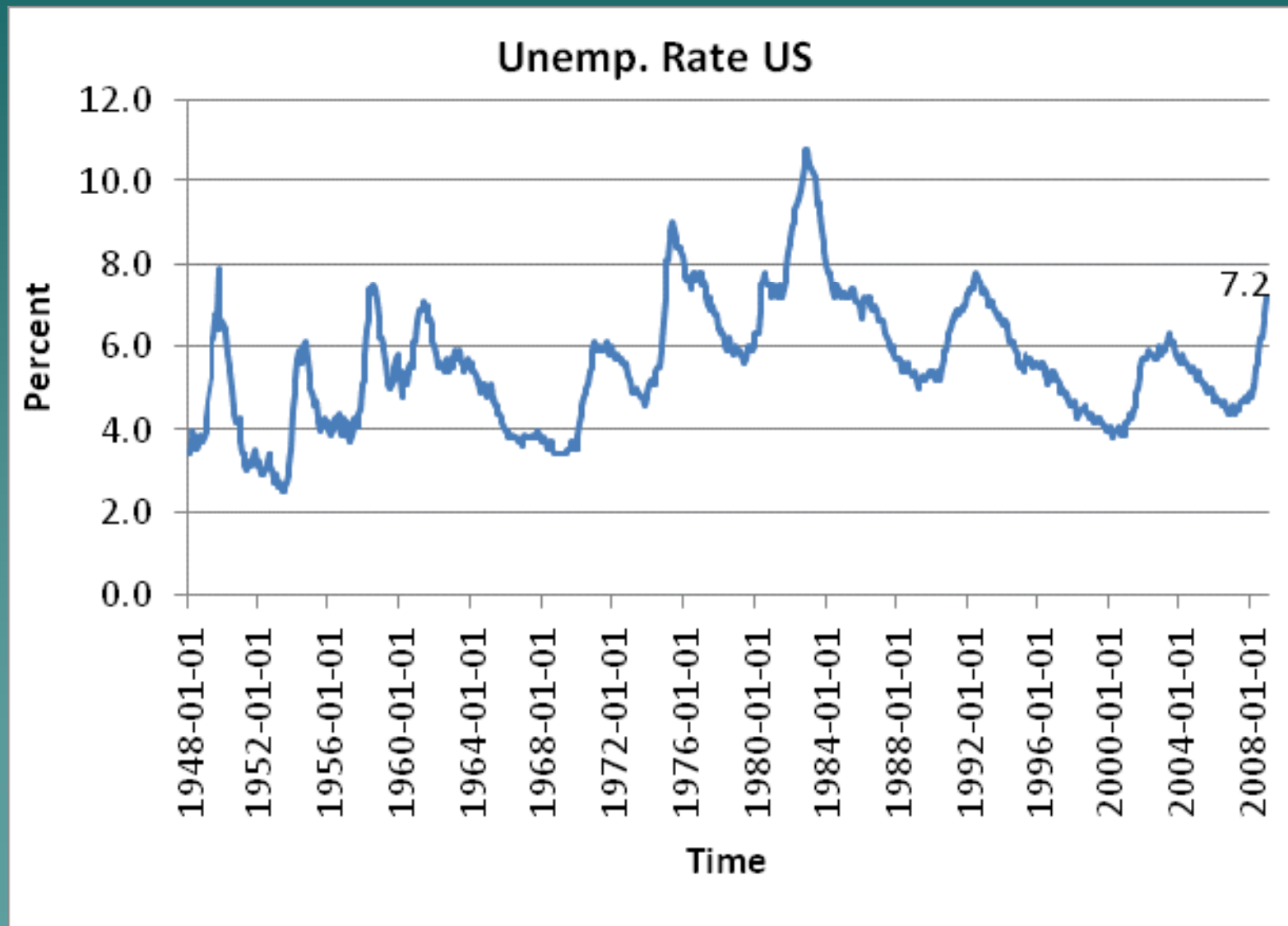
— ARG — CHN — KOR — TCD — USA

- ◆ From the above graph we see that prior to mid 70s, real GDP (gross domestic product) per capita in Argentina and the U.S. was growing at about the same rate. We can say that because the \ln of real GDP per capita in the two countries is linear and parallel until the mid 70s.
- ◆ Also notice that we can see the takeoffs of Korea and China, as they switch from low growth to fast growth. The takeoff of Korea takes place in early 60s while the takeoff of China takes place in late 70s.

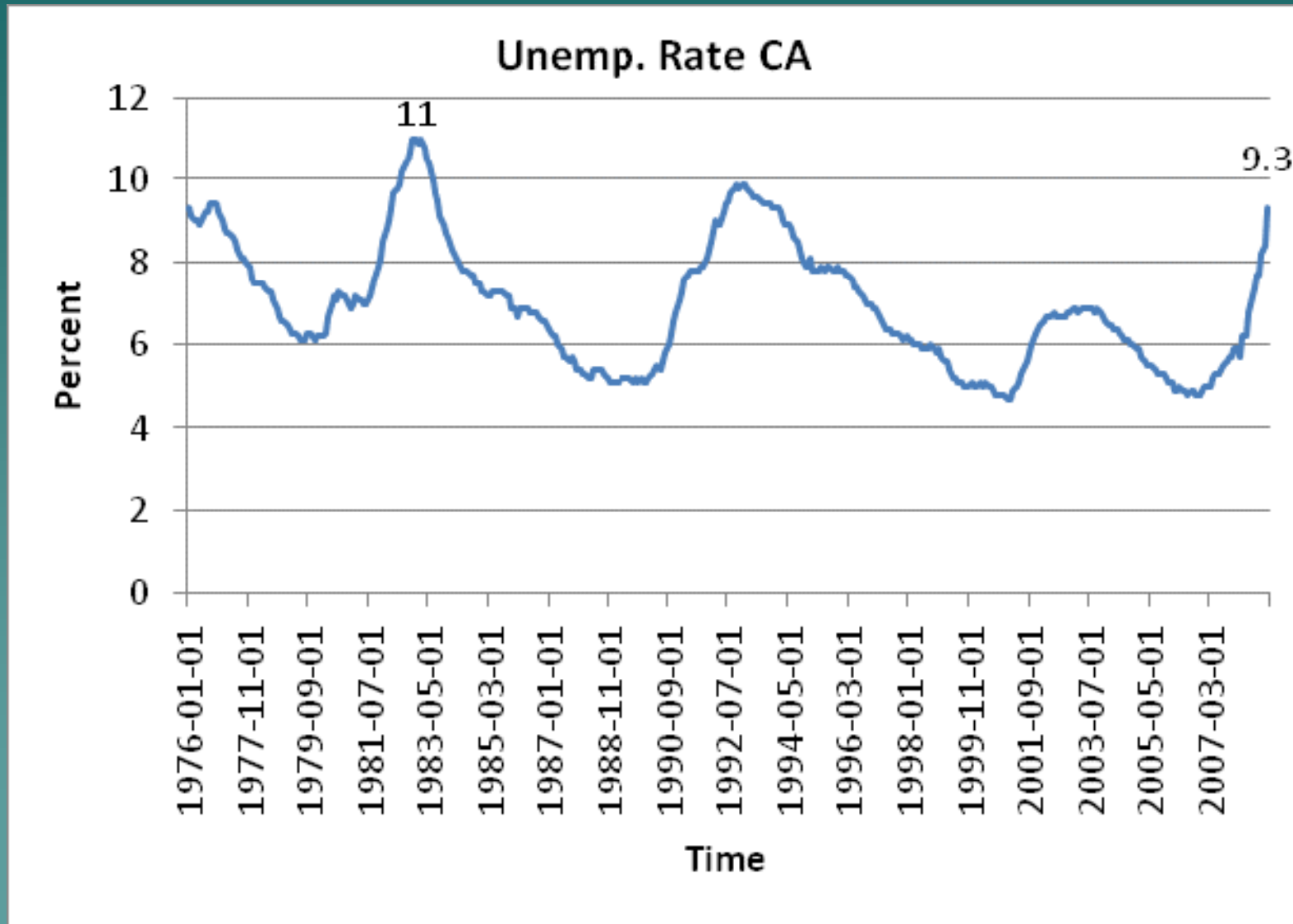
Questions

- ◆ Why are some countries so rich while others are so poor?
- ◆ Why some countries grow fast, while other grow slow or not at all?

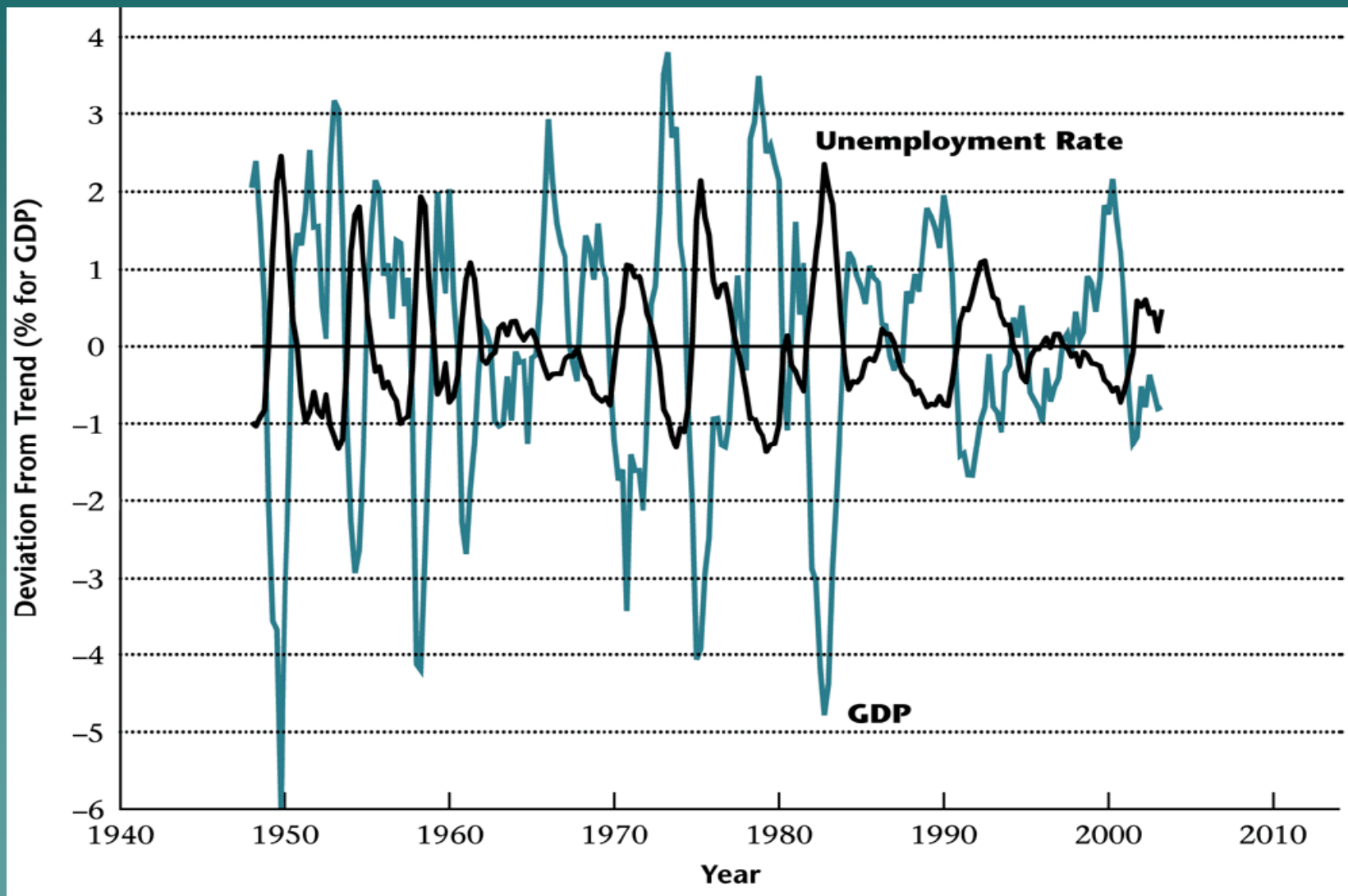
The U.S. Unemployment Rate



The CA Unemployment Rate



Deviations from Trend in the Unemployment Rate (black line) and Percentage Deviations from Trend in Real GDP (colored line)

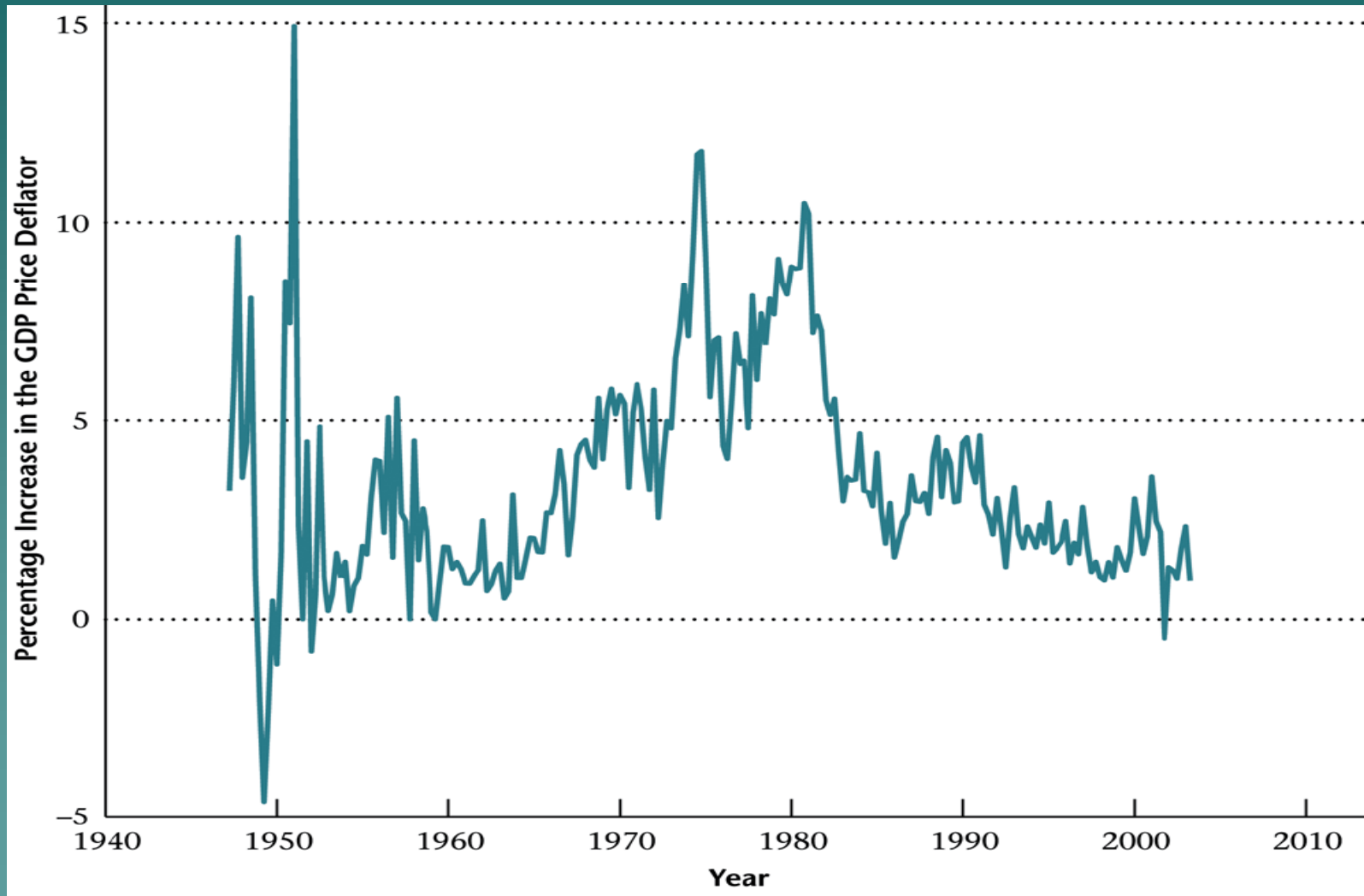


- ◆ The last graph shows that unemployment deviates from its trend in the opposite direction from GDP. That is, when GDP is below the trend (recession), the unemployment tends to be high, and when GDP is above the trend (boom), unemployment tends to be low.
- ◆ We call such a variable **countercyclical**, as it moves in the opposite direction from the GDP. Another example of a countercyclical variable is enrollment in graduate schools.
- ◆ A variable that moves in the same direction as the GDP about the trend is called procyclical. Examples include investment, consumption, hours worked.

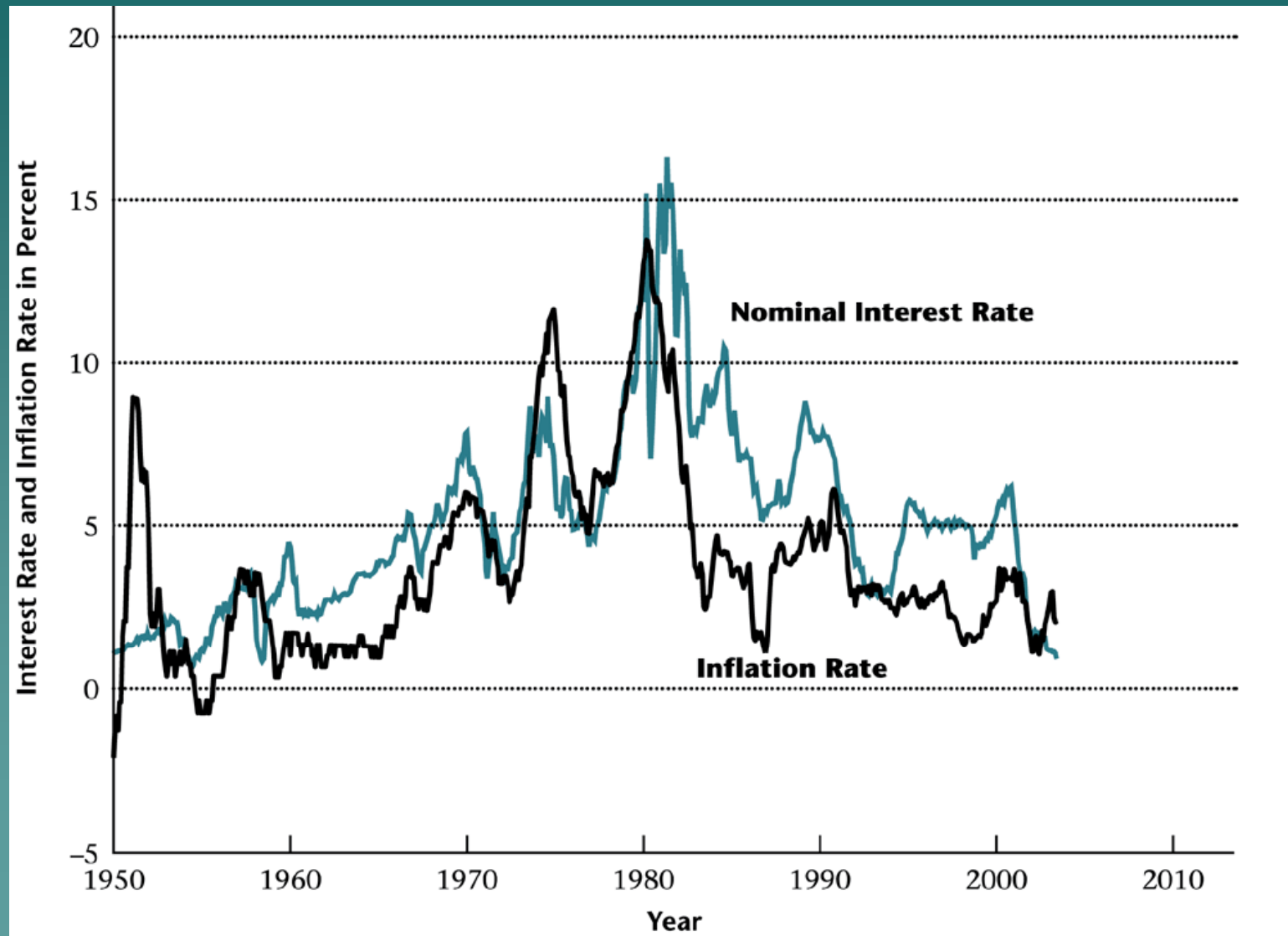
Questions

- ◆ Why do we always have unemployment?
- ◆ Can/should the government do something about it?

The Inflation Rate



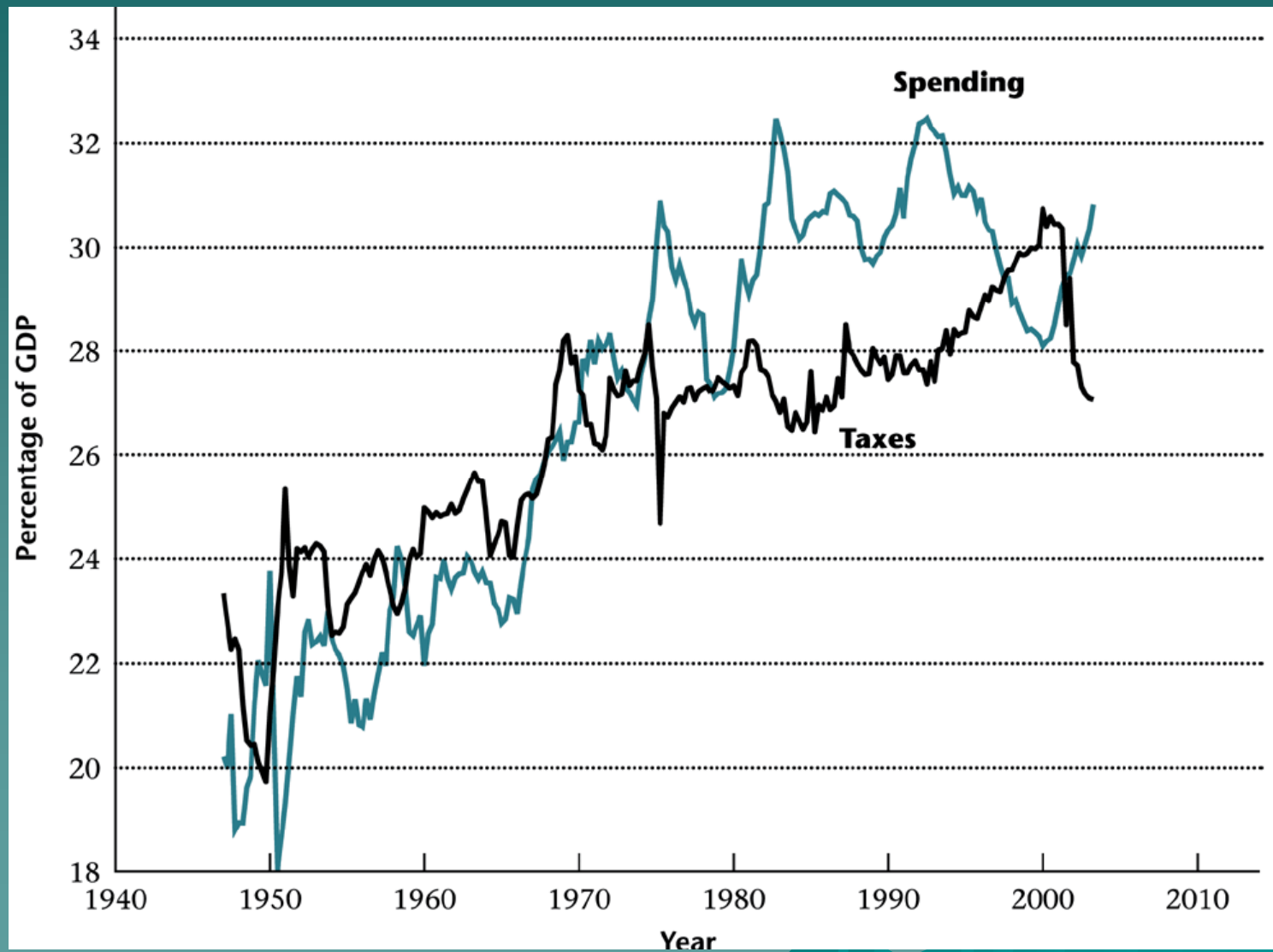
Nominal Interest and Inflation Rates



Questions

- ◆ What causes Inflation?
- ◆ Can/should the government do something about it?

Government Spending and Tax Revenues

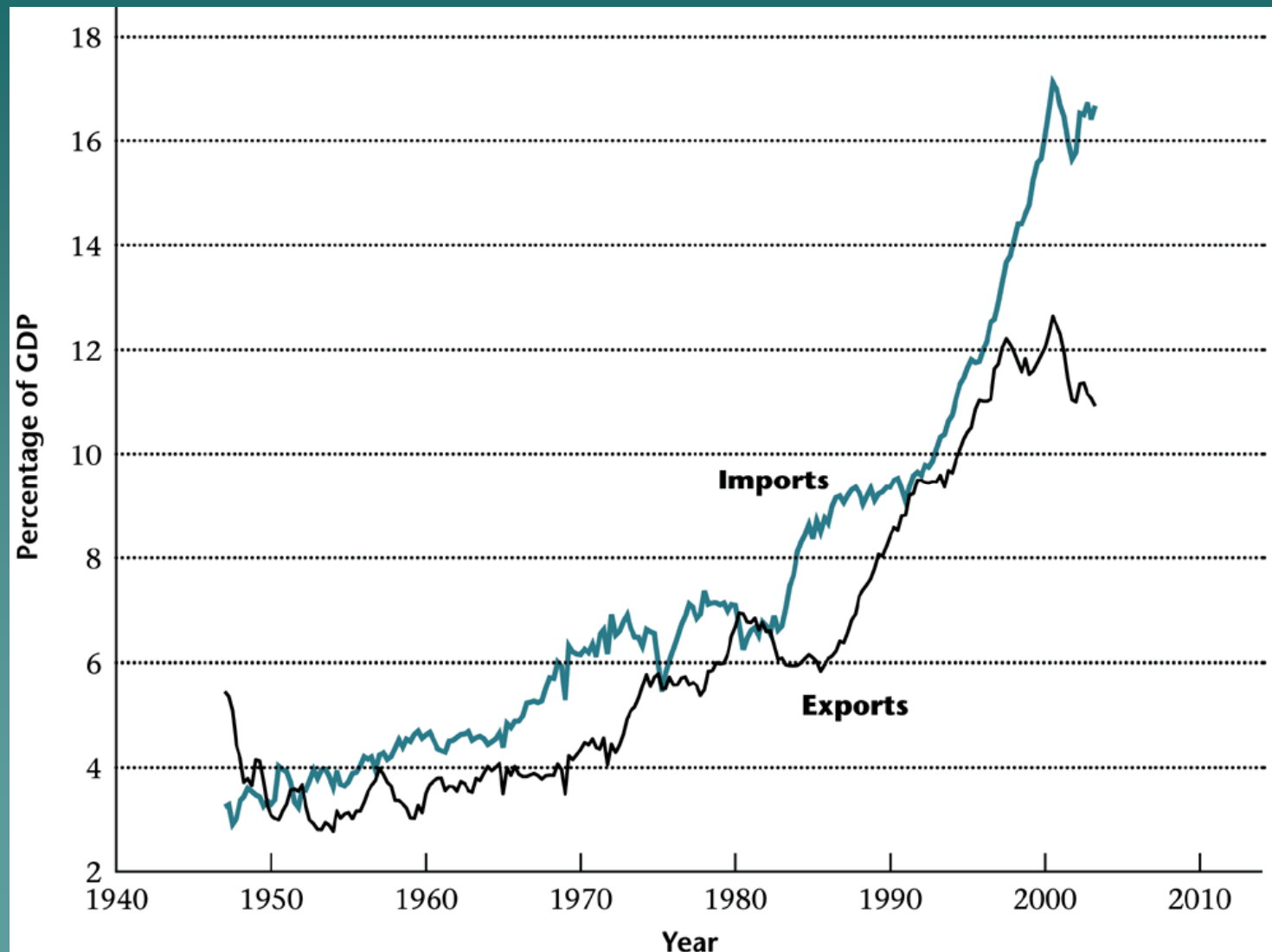


- ◆ The last graph shows that the size of the government has been increasing over time in the U.S. That is, both spending and taxes exhibit increasing pattern as a fraction of GDP.
- ◆ There are prolonged periods of time when the government is running deficits, i.e. the spending exceeds revenues from taxes.

Questions

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

Exports and Imports as Percentage of GDP

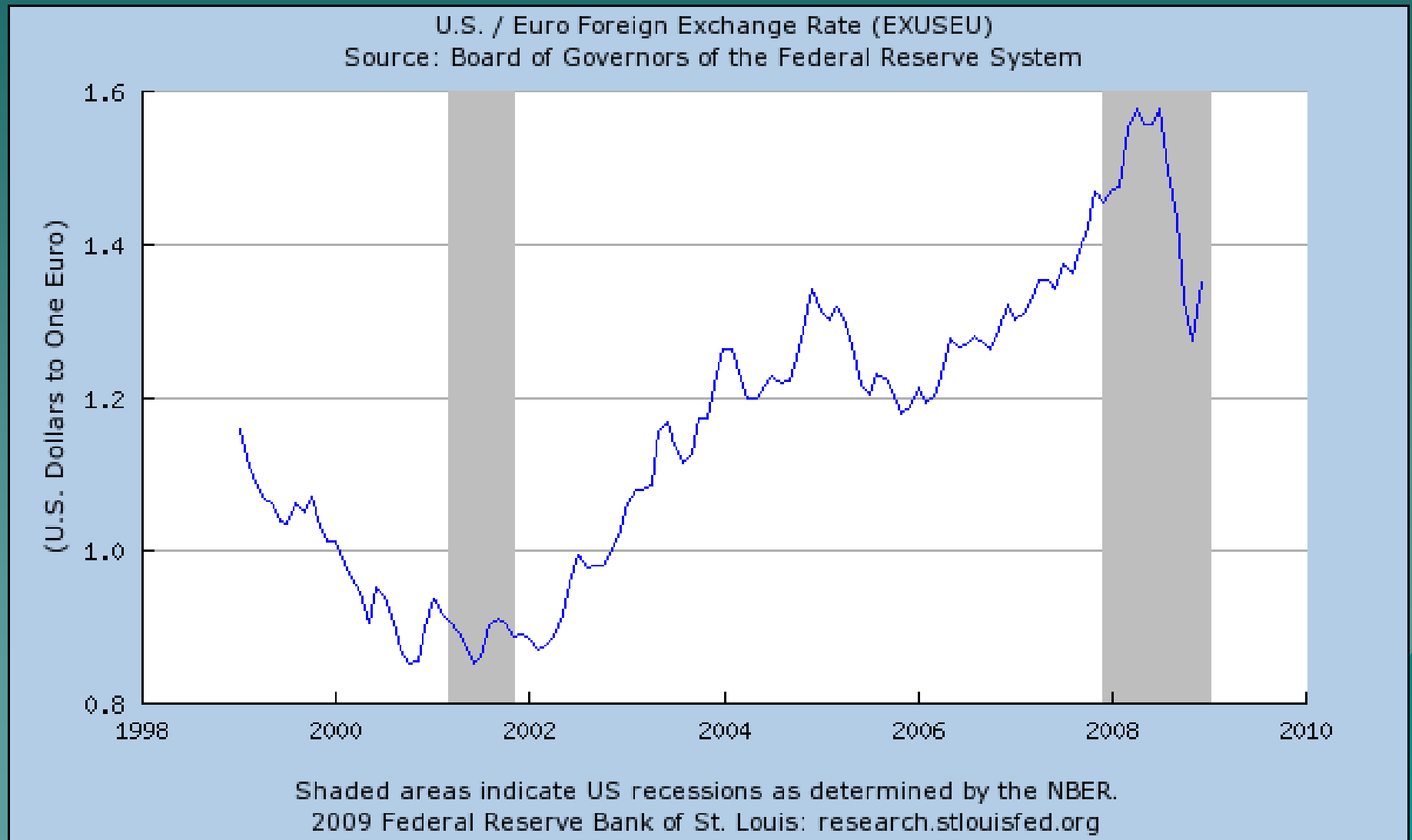


- ◆ The last graph shows the U.S. economy is becoming increasingly open. The common measure of openness is $(\text{exports} + \text{imports}) / \text{GDP}$. We see that both exports and imports are generally increasing as a fraction of GDP.
- ◆ We also observe that there are prolonged periods of time when the imports are higher than exports.

Questions

- ◆ Is more trade good or bad?
- ◆ What are the consequences of trade deficit?

Exchange Rates



- ◆ The last graph shows that the relative value of currencies (exchange rate) changes over time.

Questions

- ◆ What causes changes in exchange rates?
- ◆ Can we predict future exchange rates?